The 10-second briefing

Green-car market set to bloom

- With stricter measures for fuel efficiency and emissions controls on the horizon, green cars look poised for exponential growth
- Fuel-cell vehicles should ultimately be the green-car standard, but hybrid electric vehicles are likely to set the pace initially
- Toyota is our top pick for next 6 months and 3 years; we highlight HMC on a 3-month horizon, and Mobis and Denso in auto parts

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We expect Asia's major automakers and auto-parts makers to continue honing their internal green-car expertise in the coming years in order to meet ever-stricter fuel efficiency and emissions control standards. These companies' enhanced skills are an emerging earnings driver, in our view.

■ What's the impact

Our central premise is that, despite their best efforts to boost fuel efficiency and cut emissions from internal combustion engines, the major automakers globally won't be able to meet regulations from 2025 onward. We forecast these tougher standards to drive the take-up of green-car technologies, and the global green-car market to see a 12.5% CAGR in shipments over 2013-25, strongly outpacing our 2.5% forecast for the global auto industry. On our forecasts, green cars will account for 6.3% of the global market by 2025, from 2.1% in 2013.

There are 4 green-car technologies readily available today: hybrid electric vehicles (HEVs), electric vehicles (EVs), plug-in hybrid electric vehicles (PHEVs) and fuel cell vehicles (FCVs). We believe sales of HEVs will lead the pack out to 2025, spurred by their: 1) lower prices supported by mass production, 2) proven technology and greater customer awareness, and 3) better performance relative to other types of green cars.

Longer term, we expect FCV sales to take the baton, as we believe that, relative to other green-car types, they will provide: 1) a better driving performance, 2) similar refuelling times to petrol and diesel, and 3) longer ranges (500km-plus upon refuelling). And with developed countries now putting in place more hydrogen stations, we expect FCVs to be seen ultimately as the best way to improve fuel economy and cut emissions. Only 6 global major automakers have FCV tech through various alliances: Toyota Motors, General Motors, Renault-Nissan, Hyundai Motor Company (HMC), Honda Motors, and Daimler.

■ What we recommend

Out of our Pan-Asia coverage of major automakers, **Toyota (7203 JP, JPY6,712, Outperform [2])** is our top pick on 6-month and 3-year views, as we believe: 1) it has a more favourable earnings-revision cycle and cash-management policy than the Korea automakers, and 2) it will retain its competitive advantage in green cars, backed by its large number of patent applications for hydrogen storage and compression tech, early-mover advantage in FCVs and edge in green-car components, and brand equity in HEVs.

Also, we recommend bottom-fishing **HMC (005380 KS, KRW166,500, Buy [1])** after its recent share-price correction due to a real-estate deal. We continue to forecast a cyclical earnings upturn for HMC in 2016, with 39% of its global shipments due for model refreshes in the interim.

Among the parts makers, **Hyundai Mobis (012330 KS, KRW238,000, Outperform [2])** and **Denso (6902 JP, JPY5,274, Outperform [2])** look well placed to ride the expansion of the green-car market, while **Halla Visteon Climate Control (Not rated)** is seeking to parlay its climate-control and thermal-energy-management expertise in this emerging market.

■ How we differ

Reflecting our positive stance, our FY15-16 EPS forecasts for Toyota and HMC are respectively 3-5% and 6-10% above the consensus forecasts.

Key stock calls

	New	Prev.
Toyota (7203 JP)		
Rating	**Outperform**	Outperform
Target	**8,300**	8,300
Upside	**▲ 23.7%**	

	New	Prev.
Hyundai Motor (005380 KS)		
Rating	**Buy**	Buy
Target	**220,000**	220,000
Upside	**▲ 24.3%**	

Source: Daiwa forecasts.

Executive summary

Green-car market set to bloom

Spurred by tougher efficiency and emissions standards, growth of the green-car market should accelerate in the coming decade. Among the Pan-Asia auto majors, we expect Toyota to benefit the most from this growth on 6-month and 3-year views.

Investment thesis

Driven by stricter fuel efficiency and emissions control standards, the global green-car market should see a 12.5% CAGR in shipments for 2013-25, strongly outpacing a 2.5% CAGR for the global auto industry for the period, on our forecasts. We expect HEVs to set the pace in sales growth through to 2025, with FCVs taking over thereafter.

On a 6-month view, the upward earnings-revision cycle for Toyota looks the most favourable among the Pan-Asia auto majors, due to: 1) its more flexible cost structure from the adoption of the Toyota New Global Architecture (TNGA) programme, an integrated production platform, from 2015 onward, 2) depreciation of the JPY against the USD, and 3) stronger shipment growth from emerging markets through its integrated motor assist (IMA) platform. We reaffirm our Outperform (2) rating and 12-month TP of JPY8,300, equivalent to an 11x PER on our FY15E EPS.

Following the recent share price sell-down triggered by HMG's acquisition of a site for its headquarters, HMC trades at a 2015E PER of 5.3x, a trough level (1.5SD) in the context of its past-5-year average range of 5.1-11.3x, and at a 40.4% discount to its global peers' 2015E PER of 8.9x. We believe HMC's PER has the most potential to normalise over the next 3 months, ie, in the run-up to 4Q14, when we expect HMC to post the strongest QoQ improvement in earnings of the major Pan-Asia auto players we cover.

In our universe of auto parts makers, Denso and Mobis look the best-placed to benefit from an expansion of their addressable market to include components for green cars. Meanwhile, HVCC, Korea's leader and world No. 2 in climate-control systems for cars, is looking to develop its business of thermal-energy-management systems for green cars.

Stock calls

On a 6-month horizon, Toyota is our top pick, given our view of its more favourable earnings-revision cycle and cash management policy vs. the Korea automakers. Also, we believe Toyota is well placed to retain its edge in green cars, from HEVs to FCVs, long term, given its: 1) number of patent applications covering hydrogen storage and compression technology, 2) early-mover advantage in FCVs and competitive advantage in green-car components, and 3) strong brand equity in HEVs.

Toyota is our top pick on both a 6-month and 3-year basis. However, on a 3-month view we highlight HMC's risk/reward profile, which we see as highly appealing

Sector stocks: key indicators

Company Name	Stock code	Share Price	Rating New	Rating Prev.	Target price (local curr.) New	Target price (local curr.) Prev.	Target price (local curr.) % chg	EPS (local curr.) FY1 New	EPS (local curr.) FY1 Prev.	EPS (local curr.) FY1 % chg	EPS (local curr.) FY2 New	EPS (local curr.) FY2 Prev.	EPS (local curr.) FY2 % chg
Hyundai Mobis	012330 KS	238,000	Outperform	Outperform	280,000	280,000	0.0%	39,345	39,345	0.0%	44,242	44,242	0.0%
Hyundai Motor	005380 KS	166,500	Buy	Buy	220,000	220,000	0.0%	29,079	29,079	0.0%	31,515	31,515	0.0%
Toyota Motor	7203 JP	6,712	Outperform	Outperform	8,300	8,300	0.0%	686.4	686.4	0.0%	752.8	752.8	0.0%
Denso	6902 JP	5,274	Outperform	Outperform	6,000	5,600	7.1%	322.3	332.3	-3.0%	356.1	371.2	-4.1%

Source: Daiwa forecasts

Korea Auto Sector:
An autonomous rerating driver

10 June 2014

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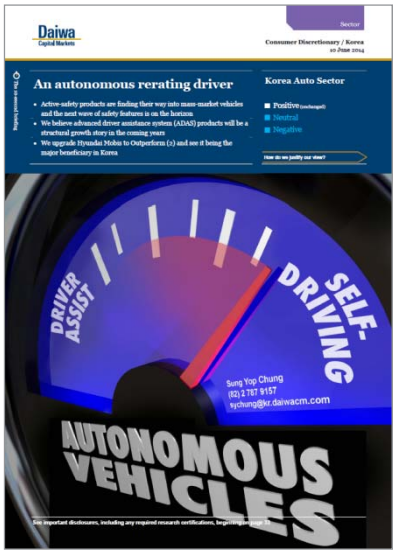


Banking on fuel cell vehicles to drive future growth

Taming the auto industry with regulatory measures

Environmental regulations are the driving force behind green cars

The global auto industry makes more than 80m cars and trucks globally, employs millions of people, is responsible for almost half of the world's oil consumption (through its finished products), and uses nearly half of the world's annual output of rubber in manufacturing, 30% of glass and 20% of its steel.

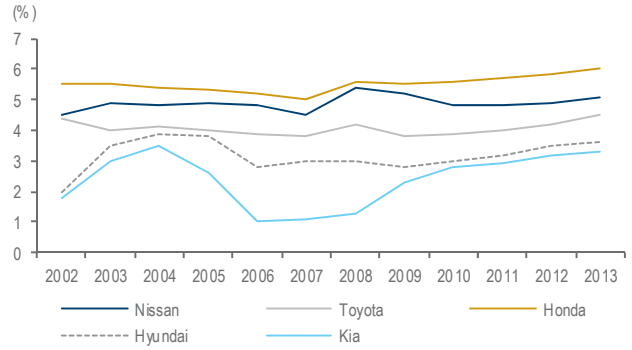
Over the next few decades, we expect the global auto industry landscape to change rapidly, with the likely introduction of stricter regulatory measures for fuel economy and emissions, as well as tougher safety standards for passengers and pedestrians.

These are emerging themes that global auto and component makers will have to address over the next few decades. Back in June 2014, we examined how the global auto industry is responding to ever-tougher safety requirements, particularly in developed countries. We also highlighted how Advanced Driver Assistance Systems (ADAS) could emerge as long-term earnings growth drivers for global auto parts makers, eventually paving the way for autonomous driving (See *An autonomous rerating driver* of 10 June 2014).

On the other hand, global automakers have been focusing on developing technologies to improve fuel economy for internal combustion engines (ICE) or green cars in order to comply with stricter regulatory requirements for fuel-economy/emissions targets.

Given this backdrop, it is not surprising that major automakers' R&D expenses as a percentage of revenue have been increasing in recent years, as shown in the following chart.

■ **Big 3 Japan automakers plus HMC/Kia: R&D expenses to revenue ratios**



Source: Companies, Daiwa estimates

The various CO2 emissions and fuel-efficiency targets set to be rolled out in major markets globally in the coming years underline the challenges facing the automakers (see the tables below). In our view, by 2025, only green cars will be able to meet the standards of the day. Hence, we believe that a combination of falls in battery prices and efforts to build out more charging/refuelling infrastructure could spur demand for green cars over 2013-25.

■ **CO_2 emissions targets: major markets**

Year (g/km)	US	EU	Japan	China	S. Korea
2005	212	162	153	n.a.	325
2010	188	140	128	180	175
2015	167	130	110	161	153
2020	126	95	105	117	153
2025	103	68~78	105	117	153
5-YoY (%)	**US**	**EU**	**Japan**	**China**	**S. Korea**
2010	-11.3%	-13.6%	-16.3%	n.a	-46.2%
2015	-11.2%	-7.1%	-14.1%	-10.6%	-12.6%
2020	-24.6%	-27.0%	-4.5%	-27.3%	0.0%
2025	-18.3%	-17.9~-28.4%	0.0%	0.0%	0.0%
Improvement (%)	**US**	**EU**	**Japan**	**China**	**S. Korea**
2010-25	-45.2%	-51~-58%	-18.0%	-35.0%	-12.6%
2015-25	-38.3%	-44~-51%	-4.5%	-27.3%	0.0%

Source: The International Council on Clean Transportation (ICCT)

Note: No emissions guidelines have been provided for Korea (from 2015), Japan (from 2020), or China (from 2020)

■ **Summary of fuel-efficiency targets for major markets**

km/l (mpg)	US	EU	Japan	China	S. Korea
2005	12.4 (29.0)	15.8 (37.2)	16.7 (39.3)	11(25.87)	12.3 (28.9)
2010	13.9 (33.0)	18.0 (42.3)	19.6 (46.1)	14.4 (33.9)	14.8 (34.8)
2015	15.4 (36.0)	19.7 (46.3)	21 (49.4)	15.7 (36.9)	16.7 (39.3)
2020	19.9 (47.0)	25.8 (60.7)	23.4 (55.0)	21.3 (50.1)	16.7 (39.3)
2025	23.9 (56.0)	30.8(72.4)~35.0 (82.3)	23.4 (55.0)	21.3 (50.1)	16.7 (39.3)
5-YoY	**US**	**EU**	**Japan**	**China**	**S. Korea**
2010	12.1%	13.9%	17.4%	30.9%	20.3%
2015	10.8%	9.4%	7.1%	9.0%	12.8%
2020	29.2%	31.0%	11.4%	35.7%	0.0%
2025	20.1%	19.4~35.7%	0.0%	0.0%	0.0%
Improvement	**US**	**EU**	**Japan**	**China**	**S. Korea**
2010-25	71.9%	71~94%	19.4%	47.9%	12.8%
2015-25	55.2%	47~67%	11.4%	35.7%	0.0%

Source: ICCT

Note: No official fuel efficiency guidelines have been provided for Korea (from 2015), Japan (from 2020), or China (from 2020)

Regulations: country-by-country

The US

In the US, the Environment Protection Agency (EPA) and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) jointly established a national programme to oversee new emissions and fuel economy standards, in response to a call by President Obama for a strong and coordinated federal Green House Gas (GHG) and fuel economy programme.

Based on a Regulatory Announcement by the 2 agencies in 2010, the national programme requires US vehicles to achieve fuel economy of 36.0mpg (15.4km/l) by 2015. In 2012, the 2 regulatory bodies released an updated Regulatory Announcement extending the programme to 2016-25.

The new standards are more aggressive, requiring US vehicles to achieve fuel economy of 56.0 mpg (23.9km/l) by 2025 – representing an improvement of 55.2% through to 2025, or 5.5% pa, compared with the original 2015 requirements. We believe the automakers are unlikely to meet these standards in the absence of a significant increase in green-car shipments.

Automakers that do not comply with the scheduled fuel-economy requirements are subject to a civil penalty of USD55/car for each missed mile per gallon, albeit only for cars produced in the US.

Hence, if in 2014 an automaker sells 500,000 units of a US-made model with an average fuel economy of 33mpg, compared with a regulatory target of 30mpg, it would be subject to a civil penalty totalling USD82.5m.

■ US: example of how civil penalties are calculated

Penalty calculation	
Target mpg (mile)	33
Current mpg (mile)	30
Shortage (mile)	3
Penalty per 1mpg (USD)	55
Fine for 1 model (USD)	165
Yearly sales in US (unit)	500,000
Total fine (USDm)	82.5

Source: US Department of Energy (DOE), US Corporate Average Fuel Economy (CAFÉ)

Such penalties are not without precedent: from 1983 to 2004, automakers in the US paid more than USD618m in civil penalties.

Europe

The European Parliament and the Council of the European Union have introduced CO2 targets for vehicles. Mandatory CO2 standards for passenger cars were first introduced in 2009, and a 2015 target of 130g/km for the fleet average of all manufacturers combined, from about 160g /km in 2006, was put in place.

Implementation of the CO2 emissions targets resulted in a significant improvement in the average CO2 emissions of new cars, which fell by 17% from 160g/km in 2006 to 132g per km in 2012. As a result, the 2015 target of 130g per km was nearly reached 2 years ahead of schedule. The automakers met these targets through supplementary measures, such as downsizing and introducing variants of valve trains.

However, we believe it will be very challenging for automakers in Europe to meet the emissions requirements scheduled for future years unless there is a significant rise in green-car shipments in the run-up to 2020.

■ EU: effective CO_2 emissions standard requirements for key EU passenger car manufacturers

		CO_2 (g per km)		
Company	Average weight (kg)	2012 (Actual)	2015E (Target)	2020E (Target)
Daimler	1,583	143	140	101
BMW	1,563	138	139	100
GM	1,445	134	133	96
Volkswagen	1,417	133	132	96
Ford	1,322	129	128	92
Renault-Nissan	1,329	128	128	93
Fiat (including Chrysler)	1,209	124	123	89
Toyota	1,325	122	128	92
PSA (Peugeot-Citroen)	1,374	122	130	94

Source: ICCT

If an automaker does not meet the emissions standards shown in the preceding table, it will be subject to a fine. Based on the most recent guidelines, car manufacturers who sell their products in Europe that fail to meet these targets are liable to a fine of EUR95 (USD117) for every excess 1g/km per vehicle sold.

Europe: penalties imposed for CO_2 emissions standards

Penalty calculation	
Target emissions (g/km)	140
Current emissions (g/km)	142
Excess (g/km)	2
Penalty per 1 g/km (EUR)	95
Fine for 1 model (EUR)	190
Yearly sales in Europe (no. of vehicles)	500,000
Total fine (EURm)	95

Source: The European Commission (EC), ICCT

China

In China, the Ministry of Industry and Information Technology (MIIT) is responsible for setting fuel-economy standards. Since 2004, the MIIT has introduced various timelines for regulatory measures on fuel economy. Phase I was introduced in 2005-06, followed by Phase II in 2008-09. Under these regulatory requirements, every model that was sold in China had to comply with fuel-consumption regulations prior to launch.

This approach is in marked contrast to the policies in the US and the EU, for which the fuel efficiency requirements were applicable to each automaker's product range, as opposed to each model prior to launch.

Through Phases I and II, under the regulatory requirements, fuel economy standards improved by approximately 9% to 14.4km/l in 2010, from 11km/l in 2005. In Phase III, which runs from 2015-19, has China put in place corporate average fuel consumption (CAFC) targets for all car manufacturers present in China, in addition to specific fuel consumption limits for each vehicle segment.

Under Phase III, each of an automaker's new vehicles is required to meet a fuel-efficiency target of 15.7 km/l by 2015. For Phase IV, which is currently under discussion, fuel-economy standards will be established out to 2020. We believe that a fuel-efficiency target of 21.3km/l is being considered for Phase IV.

■ China: fuel efficiency standards for passenger car makers

	Phase I	Phase II	Phase III	Phase IV
Year	2005	2010	2015	2020
Fuel efficiency targets (km/l)	11.0	14.4	15.7	21.3

Source: MIIT, Daiwa estimates for Phase IV

Unlike in developed markets such as the US and Europe, automakers in China are not subject to penalties if they do not comply with the above-mentioned standards. As such, we expect China will continue to lag the US and Europe in terms of its regulatory requirements for both fuel efficiency and emissions control standards, which could translate to the demand for green cars in China accelerating more slowly.

Global automakers: green-car strategies

The current state of play

While all the major global automakers have launched green cars, their focus areas appear to be very different.

■ Global automakers: priorities in green-car strategies

Prioritising less-polluting fuels (such as biofuels)	Prioritising entirely hybrid line-ups	Prioritising PHEVs and EVs	Prioritising pure EVs	Prioritising FCVs
Fiat	Toyota	GM	Nissan	Toyota
Chrysler	Honda	Mitsubishi	Tesla	Honda
Volvo	Mazda	BYD	Mainly newcomers	Hyundai
Russian carmakers	Porsche			

Source: OECD

For example, Toyota, Honda Motors (Honda) (7267 JP, Hold [3]), JPY3,589) and Ford Motors (Ford) (not rated) are concentrating on HEVs by releasing new models with better specifications and fuel economy to expand their market share in the HEV segment.

On the other hand, Nissan Motors (Nissan) (7201 JP, Hold [3]), JPY1,041), GM (not rated), BMW (not rated) and Volkswagen Group (VW) (not rated) appear to be focusing more on PHEVs and EVs. Nissan, GM and BMW are only launching new PHEV/EV models or improving the specs of their existing models in the near term, while VW is launching EV versions of its volume-sellers.

Despite being a late entrant to the green-car segment, Hyundai Motor Group (HMG) has started focusing on green cars, specifically HEVs. With its HEV technology, HMC is targeting to become the No.2 player globally in terms of shipments by going head-to-head with the industry leaders in launching HEV cars based on their existing compact, mid-sized and large-sized sedan models.

On 14 October, HMG announced plans to develop its own dedicated HEVs to go up against Toyota's best-selling Prius and models from Ford. It aims to launch these HEVs in 2019.

HMG has already launched EVs based on its existing models and plans to launch PHEVs from 2015 onward. Meanwhile, in June 2014, the company launched an FCV variant of its Tucson compact-sized CUV for commercial reasons, and it is targeting to become a major FCV maker in the long term.

Japanese OEMs

In terms of competitiveness in green cars, Toyota stands out among its global peers in having already produced a third-generation Prius, from which profits are now similar to those from its more conventional ICE-based models.

Toyota is focusing on expanding its HEV sales in Europe and China by releasing new models. It launched small wagon-type hybrid models under the Auris and Yaris names in Europe, and plans to launch an HEV model in the China market in 2015.

In addition, Toyota is aiming to boost sales of its large and luxury HEV sedans (eg, Avalon hybrid and Lexus IS hybrid) to further improve its profitability in the HEV segment.

By leveraging its competitive advantages in the HEV market in terms of technology and flexible cost structure, Toyota is also seeking to expand its presence in the PHEV and FCV markets. For example, in the US, it has lowered the price of its 2014 Prius PHEV by USD2,000/car relative to the manufacturer's suggested retail price (MSRP) of USD24,200/car. Meanwhile, the company is targeting to unveil a passenger-car FCV in August 2015.

Honda, for its part, has shifted gears to drive HEV sales by launching new models with better fuel efficiency and specifications, such as the Accord and Fit HEV in 2013. Nissan, on the other hand, continues to focus on EVs – it recently launched its new EV, the e-NV 200, and has started offering free fast-charging credits (80% of total power in 30 minutes) to new buyers of its Leaf model in 21 US cities.

Toyota Motors: market leader in HEVs, also ahead in FCV technology

In 1997, Toyota launched the Prius, the world's first mass-produced HEV. Following the launch of Prius, automakers around the world showed keen interest in the Toyota Hybrid System (THS), which became a major topic of discussion at the 1998 Detroit Motor Show. Toyota moved on to develop a number of HEVs (eg, the Estima Hybrid and Crown Mild Hybrid) by mounting further-evolved hybrid systems (THS-C, THS-M) on existing models.

In 2003, the company released the second-generation Prius, introducing the characteristic "triangle silhouette" that remains a feature today. This Prius model was equipped with the THS-II hybrid system, a refinement of the original THS.

In 2005-06, Toyota added 2 hybrid models (the RX400h and GS450h) to its Lexus product line-up and around the same time launched a hybrid version of the Camry, the company's best-selling sedan in North America. The flagship Lexus LS600h came out in 2007.

In 2008, Toyota launched the "FCHV-adv," an advanced version of the FCV the company had been developing since the 1990s. This model extended the single-fill-up cruising range to around 690km (from 50 km for its first prototype model, FCHV-1, in 1997).

The third-generation Prius debuted in 2009 and greatly boosted Toyota's overall HEV sales volume with the aid of tax breaks introduced that year to encourage eco-car purchases. When Toyota released the third-generation Prius, the car was immediately compared to the second-generation Insight that Honda had just released. At the time, Toyota continued selling the second-generation Prius (rebadged as the Prius EX) alongside the new version. Toyota's HEVs recorded cumulative registrations of 1.3m in 2007.

Since then, Toyota has added 3 dedicated hybrid vehicles – the Lexus HS250h, SAI, and Lexus CT200h – and has continued to install hybrid systems on existing models, creating cars like the Auris Hybrid.

The Prius α, the first vehicle in the Prius line-up to use Li-ion batteries vs. Nickel batteries, was launched in 2011. Toyota also launched the Prius Aqua in the same year.

Like the third-generation Prius, the Aqua features a Toyota Hybrid System II (THS II), offering fuel efficiency of 35.4 km/litre. Since October 2012, the Aqua has ranked ahead of the Prius as the best-selling car in Japan.

Toyota's first PHEV, the Prius PHEV, was launched in 2012. Toyota also launched the RAV4 EV, an electric vehicle developed jointly with the US-based Tesla Motors (Tesla), during this year.

Meanwhile, Toyota has looked at ways to offer a full HEV product line-up for its existing ICE-based models, installing hybrid systems on key models such as the Yaris and Corolla. As a result, Toyota's HEV cumulative shipments reached 6m vehicles in 2013.

Toyota's FCV's concept car was first unveiled to the public during the 2013 Toyota Motor Show, and we expect the first Toyota's FCV to be launched in 2H15.

■ Toyota: FCV concept car

Source: Toyota

In 2015, Toyota intends to release a fourth-generation Prius, featuring the Toyota Hybrid System III (THS-III). The fourth-generation Prius will be built under the TNGA programme. As a result of the adoption of the TNGA programme, we expect the profitability of the Prius to improve further by increasing the efficiency of the development process while reducing costs.

Honda: the second-largest HEV producer, ready to compete in FCVs

Honda's involvement in HEVs dates back to 1999, when it launched the first-generation Insight. This was the first vehicle to use Honda's Integrated Motor Assist (IMA) technology, featuring a single motor parallel hybrid system installed with the internal combustion engine.

Honda has also been a pioneer in developing FCVs. Its first FCV, the FCX, was leased to municipalities in Japan and the US, and the company followed up with the FCX Clarity in 2008.

In 2009, the company launched the second-generation Insight as a five-door hatchback similar to Toyota's Prius. This new Insight featured an improved IMA system and enhanced fuel economy (27.2km/l in the JC08 test cycle). With an MSRP of only JPY1.8m/car in Japan, it became a strong competitor for Toyota's Prius in the domestic market.

Honda released several more IMA-equipped HEVs over the course of 2010-11, including the CR-Z (its first experiment with a sports-type HEV), and the Fit Hybrid, Fit Shuttle Hybrid, and Freed Hybrid (all based on the second-generation Fit). In 2012, the ILX Hybrid became the first HEV released under the luxury Acura brand, and in the same year Honda began offering the Fit EV as a lease-only proposition. By October 2012, Honda's cumulative HEV sales volume to 1m units.

Since the introduction of Honda's next-generation "Earth Dreams Technology Powertrain", the company has developed 3 HEVs, but has not been successful in terms of each model's retail shipments compared with Toyota.

Honda is scheduled to launch a FCV at an affordable price in 2015 for the mass market. Also, it recently announced plans to collaborate with GM on next-generation fuel cell technology.

Nissan: stronger focus on EVs, but lags competition for HEVs and FCVs

Nissan is renowned for its strong presence in EVs, globally with its compact EV, known as the Leaf. Unlike Toyota and Honda, Nissan has focused on EV production instead of HEVs, due to its weaker competitiveness in HEVs compared with its Japan peers.

Nissan started to produce HEVs in 2004 and launched the Altima HEV for the US market in 2006. The Altima HEV was not equipped with the company's own technology, but rather featured a THS supplied by Toyota. In order to address its weaker competitive edge compared with Toyota and Honda, Nissan moved into the EV segment in 2010, when it launched its Leaf model.

The second-generation Leaf was launched in 2012 with a driving distance of 228km once fully charged, up from 200km for the first generation. The new Leaf was initially priced at around JPY3.76m/car in Japan, but the price has since declined to JPY2.87m/car. As of January 2014, 100,000 Leaf cars had been registered globally.

■ Nissan: Leaf model

Source: Nissan

In terms of its FCV strategy, Nissan is devoting more resources to developing an FCV with an affordable price tag, which it targets to launch in 2017.

Other global major automakers

Europe and US OEMs: lagging the Japan automakers, adding HEV products to existing product lines

Environmental regulations continue to tighten in developed countries, as exemplified by the strict CO_2 emissions standards in Europe and zero-emissions vehicle (ZEV) regulations in the US. We expect these regulatory trends to prompt European and US automakers to accelerate the development of HEV/PHEV/EV models in order to close the gap with Japanese automakers.

GM, Daimler and BMW have jointly developed and are selling an advanced hybrid system used for large SUVs. In 2010, GM released the Chevrolet Volt in the US, which was followed by Opel/Vauxhall/Holden Ampera variants in Europe and Australia. Daimler worked with BMW to develop a mild HEV system that was installed in the Mercedes S400 Hybrid and BMW Active Hybrid 7, while VW and Porsche launched the Touareg Hybrid and Cayenne S Hybrid (featuring a shared drivetrain) in 2010.

GM and Ford Motors: adding more green-car products to existing product lines

Rather than targeting low fuel economy in absolute terms, GM has developed hybrid models based on more attractive pricing points and larger-sized light vehicles compared with those of Toyota and Honda.

GM's Chevrolet Impala Eco is arguably the best of the US makers' HEV/EV models in terms of price point and vehicle size. We believe this is due to the company's decision to base HEV models on its existing ICE cars, an approach that lowers development costs.

Although the Chevrolet Volt is built on a dedicated compact-car platform, it is inferior to the various Japanese models in fuel efficiency. GM plans to expand the number of models fitted with its eAssist mild hybrid system as part of its PHEV/EV strategy.

■ GM: Volt

Source: Company

Ford introduced 6 HEV/EV models in its 2012 line-up, but now appears to be basing its future development programme for hybrid SUVs on a full-size SUV platform.

GM recently reduced the price of its PHEV, the Volt, by USD5,000 (some 12%), from the 2013 level and is considering replacing its current 1.4L engine with a 1.0L or 1.2L engine to improve its fuel efficiency. In addition, it launched the Spark EV in June 2013 with an affordable monthly lease payment of USD199 in the US.

Korea automakers: Hyundai Motor Group

Among the Korean automakers, Hyundai launched its first LPG HEV, the Avante LPi Hybrid, in 2009, followed by the Sonata Hybrid gasoline HEV in 2011. Overseas automakers (including those from the US, Europe, and Korea) plan to sustain a steady flow of eco-car launches to comply with increasingly stringent environmental standards.

HMC and KIA expanded their HEV line-ups to large sedans (Grandeur and K7) from mid-sized sedans (Sonata and K5) in late 2013, and will further augment their HEV models using existing models in 2015-16.

HMG's sales of HEVs increased by 7% YoY for 1H14. For PHEVs, HMG plans to launch the LF Sonata and K5 PHEVs in 2015-16. HMG is currently selling only 2 EVs (Ray and Soul EVs) but plans to add new EV models such as the Avante and K3 in 2016.

Also, we note that HMG has been more proactive than its competitors in the FCV market with the commercial launch of the Tucson FCV in California in June 2014.

■ HMC: Sonata HEV

Source: HMC

■ HMC: Tucson FCV

Source: HMC

Recently, HMG disclosed a roadmap for its green car business (shown in the following table) to become the world's second largest green-car maker in terms of shipments by 2020, from the fifth-largest maker currently.

■ Hyundai Motor Group: green-car roadmap for 2020

	Current	2020 roadmap
HEV	**4 models** Sonata HEV, Grandeur HEV, K5 HEV, K7 HEV	**12 models** -focus on fuel efficiency -expand small & SUV line-up
PHEV	none	**6 models** -Sonata PHEV in 2015 -expand mid-size line-up
EV	**2 models** Soul EV, Ray EV	**2 models** -more R&D on battery improvements -tackle driving range issue
FCV	**1 model** Tucson FCV	**2 models** -Develop new FCV -establish market leader status

Source: HMG

Under this roadmap, HMG aims to launch 22 new green-car models out to 2020 (it currently has 7 models), covering a broad spectrum of vehicle types ranging from small-sized compact cars to SUVs.

As can be seen in the above table, HMG's green-car road map includes: 1) increasing its number of HEV models to 12, from 4 currently, 2) launching 6 PHEVs, starting with the Sonata PHEV scheduled in 2015, 3) improving the battery storage capabilities and driving range for EVs, and 4) increasing its number of FCV models to 2, from just 1 currently.

We believe that by increasing its portfolio of green-car models, HMG will be able to leverage its current platform of existing ICE volume-cars and thus save on vehicle development costs.

Will today's green cars meet future regulatory measures?

Major nations are converging in terms of fuel-economy targets (ie, CO2 emissions) to a target of around 100g/km by 2025.

Convergence of major countries' fuel-consumption restrictions, including emerging economies, has the following 3 implications: 1) it should lead to similar automobile designs for developed and emerging nations, and an exponential acceleration in automobile architecture evolution, 2) it should result in automobile cost structure convergence between developed and emerging nations, and 3) it should accelerate alliances between companies.

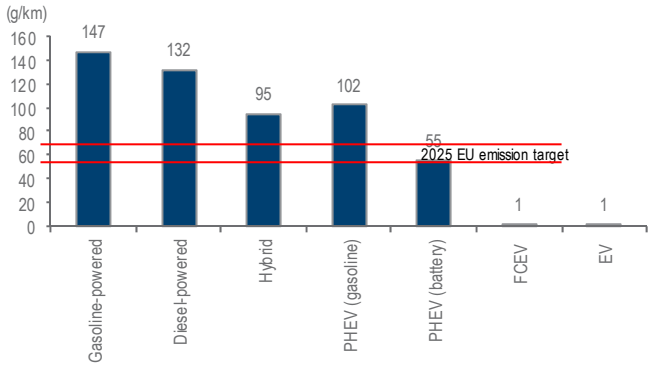
We have compared the average CO2 emissions for the world's leading automakers in the following charts on the next page. According to our findings, the vehicles of Fiat (Not rated) have the lowest emissions, while Daimler's vehicles have the highest due to the company's high proportion of heavy vehicles in its product mix.

Among the Japanese automakers, solid sales of the Prius and other hybrid vehicles have propelled Toyota to take the lead, where it ranks second only to Fiat on a global basis.

While the EU's overall target is to reduce CO2 emissions to 68-78g/km by 2025, the CO2 emissions goals of individual auto manufacturers are calculated based on the average vehicle weight, and as such it is difficult to get a picture of progress towards those goals.

Still, we believe that automakers are doing their utmost to reduce CO2 emissions through the launch of competent vehicles, as they otherwise face graduated penalties if their average emissions levels are above the target.

■ CO_2 emissions comparison by type of vehicle



Source: Japan Automobile Research Institute, Daiwa

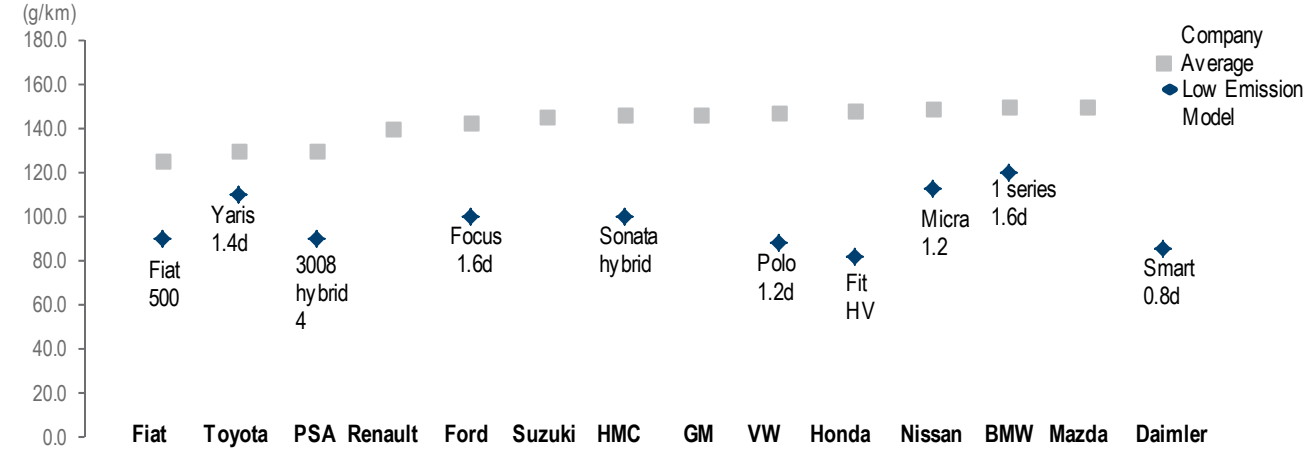
Note: 1) For EVs, the exhaustion effect is not considered in the calculation, 2) PHEV (battery) are battery only charged vehicles

To meet the 2020 target of 95g/km, and more stringent 2025 target of 68-78g/km, automakers will need to lower their average CO2 emissions volumes by 4% per year until 2020.

This will likely require improved fuel economy for larger vehicles currently emitting more than 130g/km; in addition, though, automakers would need to reduce average CO2 emissions for compact cars – the market's volume zone – to a level well below 95g/km.

We conclude that without a certain proportion of eco-friendly vehicles (using EV/FCV technologies) in their product line-ups, automakers are unlikely to meet the target going forward.

■ CO_2 emissions in Europe, by assembler and model



Source: Companies, Daiwa

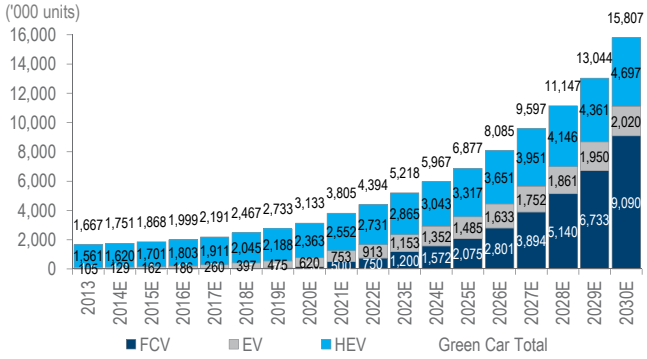
Green-car market should see exponential growth out to 2025

As shown in following table, we forecast sales of green cars to reach 6.9m units in 2025. This total includes 3.3m HEVs, 1.5m EVs and 2.1m FCVs. Our 2025 demand forecast is over 4x higher than the market's estimated green-car demand of 1.7m units in 2013.

Some 1,100 FCV units were sold in 2013, but unit sales are likely to remain lower than 150,000 units until 2020. Despite our assumption of stronger demand growth for both EVs and FCVs on stricter fuel efficiency and emissions control measures up to 2020, we estimate the total demand for EVs and FCs will remain smaller than that for HEVs, possibly constrained by higher prices and limited product offerings, vs. HEVs.

Thus, we still envisage HEVs to lead the green-car demand growth, primarily because HEVs are more affordable than EVs and FCVs. We forecast HEV shipments globally to more than double, reaching 3.32m units in 2025, from 1.56m units in 2013.

■ Global green car shipments outlook



Source: Automotive News for 2013 data, Daiwa forecasts from 2014 onward

■ Global retail sales volume of passenger vehicles

('000)	2013	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
FCV	1.1	1.6	5	10	20	25	70	150	500	750	1,200	1,572	2,075
EV	105	129	162	186	260	397	475	620	753	913	1,153	1,352	1,485
HEV	1,561	1,620	1,701	1,803	1,911	2,045	2,188	2,363	2,552	2,731	2,865	3,043	3,317
Green Car Total	**1,667**	**1,751**	**1,868**	**1,999**	**2,191**	**2,467**	**2,733**	**3,133**	**3,805**	**4,394**	**5,218**	**5,967**	**6,877**
ICE Total	78,639	80,884	83,576	86,778	90,048	92,078	93,892	95,521	96,921	98,346	99,475	100,610	101,512
Global Total	**80,306**	**82,635**	**85,444**	**88,777**	**92,239**	**94,545**	**96,625**	**98,654**	**100,726**	**102,740**	**104,693**	**106,577**	**108,389**

Proportion (%)	2013	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
FCV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.2%	0.5%	0.7%	1.1%	1.5%	1.9%
EV	0.1%	0.2%	0.2%	0.2%	0.3%	0.4%	0.5%	0.6%	0.7%	0.9%	1.1%	1.3%	1.4%
HEV	1.9%	2.0%	2.0%	2.0%	2.1%	2.2%	2.3%	2.4%	2.5%	2.7%	2.7%	2.9%	3.1%
Green Car Total	**2.1%**	**2.1%**	**2.2%**	**2.3%**	**2.4%**	**2.6%**	**2.8%**	**3.2%**	**3.8%**	**4.3%**	**5.0%**	**5.6%**	**6.3%**
ICE Total	97.9%	97.9%	97.8%	97.7%	97.6%	97.4%	97.2%	96.8%	96.2%	95.7%	95.0%	94.4%	93.7%
Global Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

YoY growth (%)	2013	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
FCV		45.5%	212.5%	100.0%	100.0%	25.0%	180.0%	114.3%	233.3%	50.0%	60.0%	31.0%	32.0%
EV		22.9%	25.6%	14.8%	39.8%	52.7%	19.6%	30.5%	21.5%	21.2%	26.3%	17.3%	9.8%
HEV		3.8%	5.0%	6.0%	6.0%	7.0%	7.0%	8.0%	8.0%	7.0%	4.9%	6.2%	9.0%
Green Car Total		**5.0%**	**6.7%**	**7.0%**	**9.6%**	**12.6%**	**10.8%**	**14.6%**	**21.4%**	**15.5%**	**18.8%**	**14.4%**	**15.3%**
ICE Total		2.9%	3.3%	3.8%	3.8%	2.3%	2.0%	1.7%	1.5%	1.5%	1.1%	1.1%	0.9%
Global Total		**2.9%**	**3.4%**	**3.9%**	**3.9%**	**2.5%**	**2.2%**	**2.1%**	**2.1%**	**2.0%**	**1.9%**	**1.8%**	**1.7%**

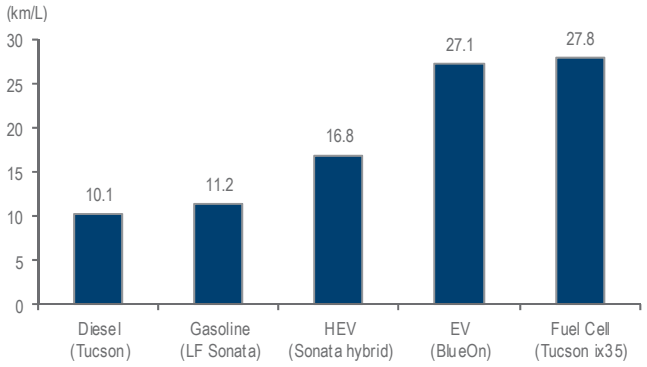
Source: Automotive News for 2013 data, Daiwa forecasts from 2014 onward

Which green-car technology is likely to lead the pack?

The fuel-savings potential of a green car is largely dependent on the extent to which it can operate on electric power, which in turn is limited by its battery capacity. Green cars manufactured today generally fall into one of 3 categories listed below in the order of increasing usage of electric power and battery characteristics.

We present a SWOT analysis for HEVs, EVs and FCVs that summarises our key findings for each segment on the next page. The snapshot of each vehicle shows each vehicle's business model, and serves as a support to our selection of our top stock picks for the green car theme.

■ Fuel-efficiency comparison by technology



Source: HMC, Daiwa

HEVs: SWOT analysis

	Strengths		Weaknesses
#	**Stronger competitive pricing power vs. peers**	#	**Fewer fuel efficiency gains than EVs and FCVs**
	Technology and infrastructure already there		100% for EVs and FCVs, 25-40% for HEVs
#	**Power and performance better than peers**	#	**Largest exhaust emissions compared to EVs/PHEVs**
	Equivalent of ICE vehicles		
#	**Mass production available**		
#	**Proven technology, high customer awareness**		

	Opportunities		Threats
#	**Fares relatively well in low oil price environment**	#	**More stringent emissions targets in major markets**
	Low oil prices give customers more incentive to choose an HEV over an EV or FCV		With HEV, cannot meet EU emissions target of 73g/km by 2025
#	**More profitability with technological advancements**	#	**Less government support in emerging markets**
	HEV profitability rising to levels near gasoline-powered vehicles on launch of new Prius		
#	**Exponentially growing market size**		
	Current leader Toyota is making the HEV business global		
	More OEMs have become involved		

Source: Daiwa

EVs: SWOT analysis

	Strengths		Weaknesses
#	**Lower emissions**	#	**Short driving range**
	EV reduces gas emissions, however many electricity-generation plants still		High weighting of domestic sales and overly extensive line-up
	Depend on burning coal and oil to generate power		Production system relies on exports, even amid stronger Yen
#	**Best eco-car for small distances**	#	**Lacks of infrastructure to support battery charging**
	With low maintenance costs, optimal for small deliveries and short distances		Station is needed for a quick charge
#	**Silence**	#	**Power and performance**
	Zero noise in operation		Reduced performance especially on mountainous roads compared to ICE vehicles.
		#	**Battery life and replacement costs**
			Average life of LI-ion battery is 200,000km
			Cost to replace battery pack is USD10,000-15,000

	Opportunities		Threats
#	**Strict exhaust-emissions regulations by the EU**	#	**Downward pressure from oil prices**
	Model cycle hit bottom, supply on the mend		Less incentive for customers to buy eco-friendly vehicles
	Targeting market share of 15% in the US (currently around 13%; 17% in 2009)		
		#	**Lack of industry-led support**
#	**Major government subsidies from China**		More R&D investments needed to increase battery energy density
	Chinese government plans to invest CNY100bn (USD15bn) in R&D during 2015-20		
		#	**High purchase prices**
#	**European makers investing heavily in EVs**		Currently cost parity can't be achieved without purchase subsidies
		#	**Longer time to recharge battery**
			Roughly 30 minutes to fully charge at a recharging station
			8 hours from standard household plug

Source: Daiwa

FCVs: SWOT analysis

	Strengths		Weaknesses
#	**Faster refuelling**	#	**Cost sustainability**
	3 minutes to fully recharge		Expensive parts such as electrolyte membrane
#	**Drive distance**	#	**More infrastructure needed**
	Long drive range available as ICE vehicles (6-700km)		Station construction, maintenance costs take up to 60%
#	**Zero emissions**		
	Tailpipe only produces a small amount of water vapour		
	Hydrogen made from natural gas has nearly zero criteria pollutants		

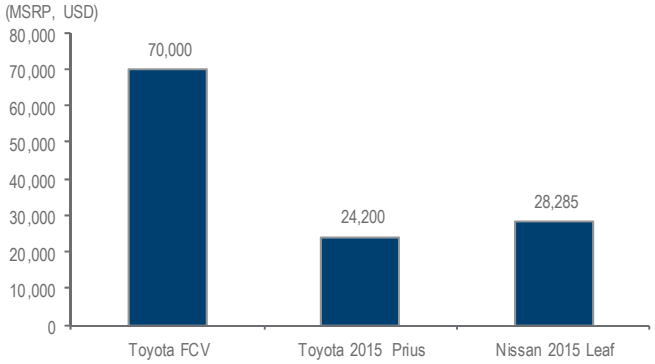
	Opportunities		Threats
#	**More durable compared to EVs**	#	**Lack of common requirements for its FCV standard among OEMs**
	Fuel cells can be scaled to power trucks and SUVs		
	EV and HEV batteries are difficult to stack enough batteries to power cars larger than a sedan		
		#	**More subsidies needed for R&D**
#	**Good position in eco-friendly cars, mainly HEVs**		
	HEV profitability rising to levels near gasoline-powered vehicles on launch of new Prius		
	Toyota's HEV expertise could lead to tech developments in plug-in HEVs and EVs		
#	**Japanese automakers are investing heavily in FCVs**		

Source: Daiwa

HEVs: the likely winner for the next decade

We expect HEVs to dominate the green car market for the next decade, primarily because HEVs are more affordable than EVs and FCVs.

■ **Green cars: price comparison (HEVs/EVs and FCVs)**

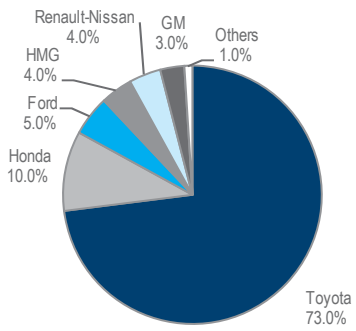


Source: Companies, compiled by Daiwa

HEVs currently lead the pack in the green-car market, accounting for about 40% of Toyota's shipments in Japan and just over 10% in the US. In recent years, carmakers have also launched more green cars that can compete with regular ICE cars on price, including Toyota's Prius c (called the Aqua in Japan) and Prius and Honda's Fit Hybrid.

Toyota is the market leader in green cars globally and controls more than two-thirds of the worldwide market in terms of shipments, followed by Honda, with just over 10%. In our opinion, both Honda and Toyota are likely to continue using nickel metal hydride batteries as the main battery in its HEVs because these batteries are very reliable.

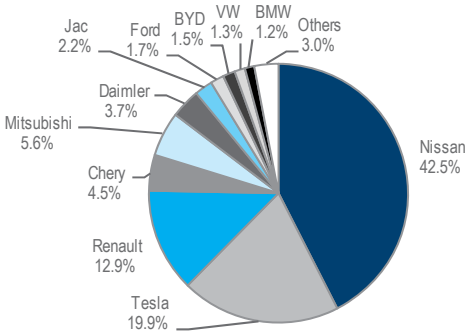
■ **Global HEV shipment market share by manufacturer group (2013)**



Source: Edmunds.com, Daiwa

In terms of model types, Nissan is the market leader in the global EV market. The company launched its Leaf EV model in Japan in December 2010 and currently sells this vehicle in 35 countries. Following its launch of the Leaf in 2010, sales volumes did not pick up rapidly. However, 3 years on from its launch, cumulative sales have reached 100,000 units, due primarily to the company lowering its pricing points for the Leaf in the US market.

■ **Global EV market share by manufacturer group (2013)**



Source: Wards Automotive, compiled by Daiwa

Tesla Motors (Not rated), a California-based EV maker, has penetrated the high-spec premium mid-sized sedan segment with its Model S. Contrary to other major car makers, Telsa designed its offering as an EV from the ground up. This meant the company was able to incorporate fully particular characteristics of an EV into the design (the absence of a fuel tank, fossil-fuel engine).

The model S uses over 7,000 lithium-ion cells in a pack that are located on the underside of the vehicle. Locating the heaviest component in an even way and on the bottom of the car results in a balanced weight distribution and low centre of gravity. The panel shaped battery pack also reinforces the floor, increasing the car's rigidity and improving driving stability.

Additionally featuring the low-end torque and linear acceleration provided by an electronic motor, the vehicle also offers excellent power performance.

The Tesla Model S also provides very good value, according to our research. It is priced similarly to, but exceeds, world-class luxury competitors in the premium mid-sized segment. For instance, the Mercedes-Benz E-Class, the BMW 5 Series , and the Audi A6, in terms of power, safety, quality assurance. At the same time, as an EV, Tesla's Model S is environmentally friendly (no Co2 emissions) and has no engine noise. Last year, the Model S received the *Consumer Reports* trade magazine's highest rating for a passenger car vehicle, and a 5-star safety rating from the US National Highway Traffic Safety Administration.

■ Tesla Motors: Model S

Source: Tesla Motors

Demand for the Model S is still outstripping supply. The car was available only in the US for over a year after its launch in summer 2012. Shipments began in Europe in autumn 2013 and were sold throughout Asia in early 2014. As a result, Telsa commanded a market share of 19.9% in the global EV market, ranked 2nd after Nissan in 2013.

However, we continue to expect EVs to be purchased only as second cars for the next decade. We believe their higher prices and driving-range limitations, vs. HEVs, and their long battery-charging times, will impede their broad penetration of the market.

FCVs likely to lead the pack from 2025 onwards

FCVs are poised to enter the commercial vehicle market, helping to reduce greenhouse gas emissions, improve air quality and diversify fuel sources to reduce resource dependence. Based on our industry research, FCVs could outpace EVs in terms of the driving range, refill times, performance and comfort, along with zero emissions and low-carbon fuel. FCVs could be more convenient than EVs from a customer perspective and have similar characteristics, compared to the ICE car.

Refuelling a FCV only takes 3-5 minutes, and its driving range is more than 500km. FCVs have similar driving ranges to ICE cars (300-500km), and fewer moving parts, which significantly reduces maintenance costs. According to Toyota, a commercial FCV model delivers 700km from a tank of hydrogen and only takes 3-5 minutes to fill up.

However, electric vehicles are best realized as smaller cars in applications that require a continuous range of less than 200km: their limited driving range and long recharging times have limited their uptake to date.

FCVs can be refuelled in minutes by the driver using a nozzle similar to a conventional fuel pump.

We summarise the pros and cons of EVs and FCVs in the following table:

■ EVs vs. FCVs: advantages and drawbacks

	EVs	FCVs
Pros		
	Zero emissions	Zero emissions
	Silence	Silence
	Low maintenance costs	Long-distance travel similar to gasoline cars
	Optimal for small distances	Recharging takes several minutes
	Recharging at home possible	Low-temperature driving
Cons		
	Expensive	Expensive
	Limited driving distance	Lack of hydrogen stations
	Recharging takes 1-3 hours	
	Lack of infrastructure for fast recharging	
	Batteries degrade after time	

Source: Toyota, Daiwa

FCVs are also quiet, durable, and highly efficient. The new propulsion system tackles the age-old pollution problems of standard gasoline engines without many of the limitations that have held back the market for battery-powered and other alternative fuel vehicles. Fuel-cell technology could also be applied to heavy trucks and SUVs, whereas industry experts highlight the difficulty of stacking enough batteries (rather than fuel cells) to power cars much larger than a sedan.

What are fuel cells?

A hydrogen fuel cell functions like a battery; it produces electricity, which runs an electric motor. However, instead of recharging, the fuel cell is refilled with hydrogen. Fuel cells oxidize hydrogen electrochemically, where hydrogen ions react with oxygen atoms to form water. In the process, electrons are released and flow through an external circuit as an electric current. The only exhaust is water vapour.

■ Description of acronyms for eco-friendly vehicles

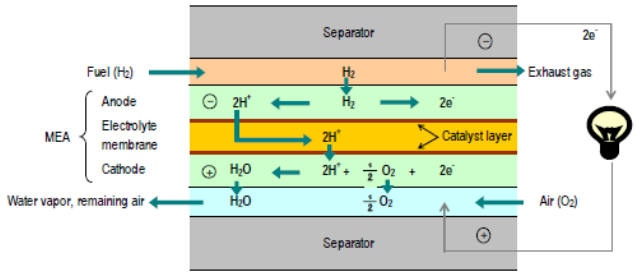
Acronyms	Vehicle name	Comments
NEV		
NEV	New Energy Vehicle	EV + PHEV +FCV
ICE	Internal Combustion Engine	Conventional gasoline/ diesel cars
EV	(Pure) Electric vehicle	Driven by electric motor; no combustion engine
	Hybrid Electric Vehicle	
	Plug-in Hybrid Electric Vehicle	Hybrid with plug-in charger option
	Fuel Cell Electric Vehicle	Uses fuel cells to power the electric motor
Battery		
LiB	Lithium-ion Battery	
LFP	Lithium Iron Phosphate	
LMO	Lithium Manganese Oxide	
NMC	Nickel Manganese Cobalt Oxide	
LCO	Lithium Cobalt Oxide	
kWh	Kilowatt Hour	
Others		
MPG	Miles per Gallon	

Source: Daiwa

In its simplest form, a single fuel cell consists of 2 electrodes – an anode and a cathode – with an electrolyte between them. At the anode, hydrogen reacts with a catalyst, creating a positively charged ion and a negatively charged electron. The proton then passes through the electrolyte, while the electron travels through a circuit, creating a current. At the cathode, oxygen reacts with the ion and electron, forming water and heat.

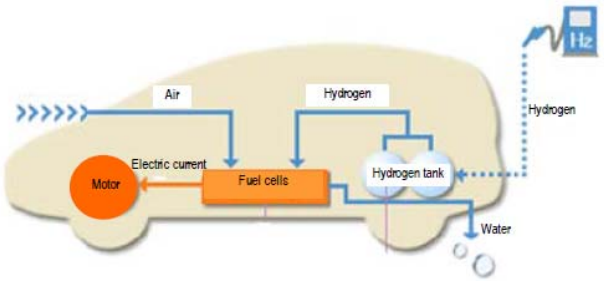
Both batteries and fuel cells convert chemical energy into electrical energy and as a by-product of this process, into heat. A battery holds a closed store of energy within it, and once this is depleted the battery must be discarded or recharged by using the external supply of electricity to drive the electrochemical reaction in the reverse direction.

■ **How the fuel cell battery works**



Source: Compiled by Daiwa

■ **FCV design**



Source: Japan Hydrogen & Fuel Cell Demonstration (JHFC), complied by Daiwa

Toyota: likely major beneficiary of long-term FV market growth

Although so far FCV sales have been limited to leases for regional governments due to the high cost of manufacturing these vehicles and the lack of refuelling infrastructure, we believe 2015 could mark the possible long-term upturn of FCVs.

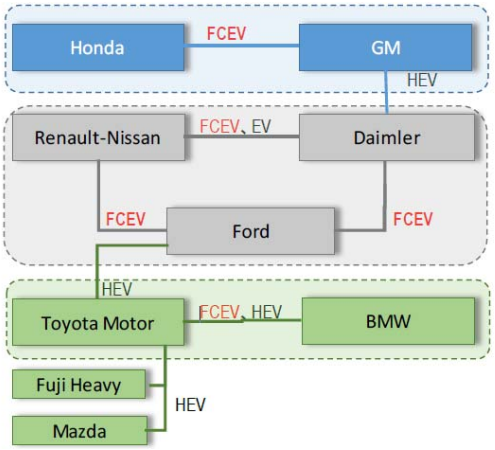
Toyota aims to cut substantially the price of the FCV Concept, unveiled at the Tokyo Motor Show. Toyota is expected to sell the FCV for around JPY7m/car in 2015.

Honda also aims to launch its much improved new generation FCV Concept in Japan and the US in 2015, followed by Europe in early 2016.

Significant entry barriers exist for FCVs, including the advanced control technology required. Engine and transmission-centred expertise poses an impediment to entry into the market. Thus, we only expect 6 major auto players to dominate this space, namely, Toyota, Honda, Nissan, General Motors, Daimler and Hyundai Motor Group.

FCVs appear as a common theme running through car makers' recent alliances. Honda, which previously focused on developing its own FCV technology, formed an alliance with General Motors in the field. An alliance between Toyota and BMW also includes FCV technology. Renault-Nissan Group and Ford have also formed an alliance for the same technology. At least from the point of view of carmakers with FCV technology, FCVs could provide a better avenue than EVs for shifting from conventional engine-powered cars to next-generation cars.

■ **OEM alliances based on FCV technologies**



Source: Compiled by Daiwa

Toyota: strong potential to become the world's largest FCV player

On 25 June this year, Toyota unveiled its new FCV and cited a possible launch of this vehicle in Japan during 2H15. This would become the world's first mass-produced FCV and is expected to be priced at around JPY7m/car.

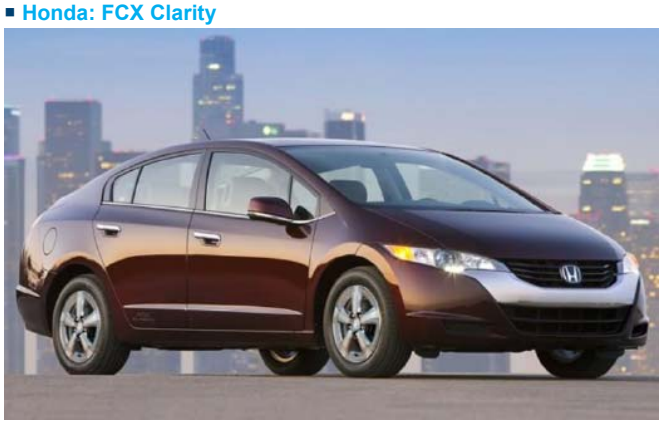
Toyota has been working on FCV development for the past 20 years and developed its own fuel system, relying on fuel cell stacks that create power through hydrogen and oxygen chemical reactions, as well as high-pressure tanks for storing the hydrogen fuel.

The new FCV will have a range of around 700km and a refilling time of about 3 minutes (full tank of hydrogen) – on a par with a typical gasoline-powered vehicle.

Honda also unveiled its new Honda FCV Concept at the 2013 Los Angeles International Auto Show. Honda's proprietary FC stack is about 33% smaller than conventional stacks, yet still produces over 100kW of power with a power density of 3kw/L. The car is equipped with a 70MPa high-pressure hydrogen storage tank, has a range of over 483km, and a hydrogen tank refilling time of about 3 minutes.

Honda will release the car in Japan, the US, and Europe in 2015. It is also working with General Motors to jointly develop a low-cost hydrogen storage tank/FC system that will be smaller and lighter than current systems, while offering greater performance, which should help the company continue to expand its FCV business over the medium term.

■ Honda: FCX Clarity



Source: Honda

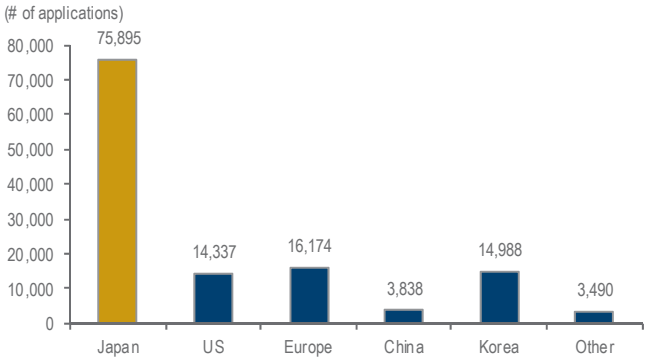
Toyota and Honda appear to be banking on FCVs as the core of the next-generation of environmentally friendly vehicles.

Toyota and Honda led the way in mass production of HEVs and also hold a number of key related patents, representing market entry barriers that make it difficult for other companies to keep up. This should allow market leaders like Toyota and Honda to maintain their technological lead and capture the bulk of market share over the near term. Based on our research, both Toyota and Honda are now trying to replicate the success using the same strategy for FCVs.

According to the World Patent Agency, Toyota is ranked No.1, while Honda is ranked No.2 in Japanese patent applications filed relating to hydrogen storage and compression technology.

Bolstered by its: 1) plan to launch the world's first mass-market FCV, and 2) highest number of patents for hydrogen storage and compression technology, we believe Toyota will be the main beneficiary of growth in the FV market given that it plans to put a competitive price of USD 70,000 on its FCV model compared to Honda's USD 15,000 for its 2015 FCX.

■ Patent applications related to fuel-cell technology



Source: World Patent Agency

Note: Toyota and Honda have filed more than 50,000 applications for patents and both firms share their patent rights

HMC: first mass-market production for FCVs

Of the major global automakers, HMC was the first manufacturer to produce an FCV for commercial purposes. HMC started production of its first FCV, the Tucson ix35 Fuel Cell model, in 2H13, ahead of scheduled FCV launches by Toyota in 2H14 and Honda in 2015.

HMC's current annual production capacity for FCVs is only 1,000 units, and it plans to produce only 1,000 units over 2015-16. The Korean OEMs have not been that active yet in terms of their green-car product launches and have been contemplating whether or not demand for HEVs and EV is sufficient for them to focus more on these segments.

As a result, HMC and Kia's combined HEV and EV car sales represent just 1% of their global sales volume, compared with Toyota's 12% and Honda's 5%.

■ Car OEMs: key FCV models

	Hyundai	Toyota	Honda	Daimler	GM
Models	ix35 fuel cell (2015)	FCV concept (2014)	FCX Clarity (2013)	B-class F-cell (2011)	Chevrolet Equinox FCV
Fuel cell power	100 kw	100 kw	100 kw	100 kw	100 kw
Fuel economy (km/l)	30km/L	30km/L	24.7km/L	22.2km/L	24.7km/L
Driving range	650 km	700 km	482 km	385 km	482 km
Acceleration (0-100kph)	12.9 sec	11.0 sec	11.0 sec	12.9 sec	11.0 sec
Maximum speed	160 km/h	150 km/h	150 km/h	170 km/h	150 km/h
Expected price (USD)	150,000	70,000	150,000	150,000	150,000

Source: Companies

Denso: a major beneficiary of green-car trend among the Pan-Asia auto-parts makers

Denso is known as a quality global auto-parts supplier. In addition, it manufactures key parts for HEVs, EVs and FCVs for automakers globally. We believe Denso will continue to be one of the most valuable parts-makers in the new auto industry.

Denso's FY13 revenue derived from its hybrid-vehicle parts reached JPY100bn (2.4% of its total FY13 revenue of JPY4,095bn), but its hybrid vehicle has not broken even yet. However, we expect this to change when the next generation of cars becomes main stream.

Furthermore, while Denso has focused its sales efforts for its HEV/EV/FCV-related products on supplying Toyota, it aims to expand its customer base beyond Toyota We expect the company's HEV /EV/FCV sales to grow from the current level of around JPY100bn to about JPY600bn (8% of revenue) in 2025.
Denso's products have been adopted by several car manufacturers globally, and it has reached top global market shares for several of these products. As show in the following table, Denso is the market leader in air fuel-ratio sensors, battery management units, and electric compressors, with more than 50% market share in all these products. Also, Denso has a high market share in technologically advanced areas, especially fuel efficiency.

■ Denso: major products in which it has leading market shares globally (2013)

Market share	Product	Business group
50%>	Air fuel ratio sensors	Powertrain
	Battery management units	Powertrain
	Electric compressors	Thermal
30-50%	Exhaust gas temp sensors	Powertrain
	Compressors	Thermal
	Air conditioners	Thermal
20-30%	Ignition coils	Powertrain
	HVAC	Thermal
	Cam/Crank sensors	Electronics

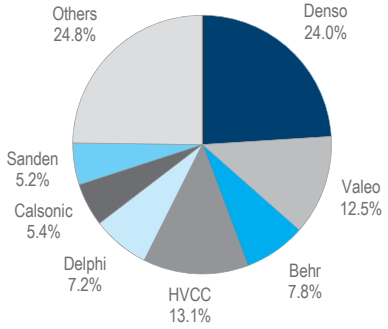
Source: Denso

HVCC: proxy for green-car thermal management

Halla Visteon Climate Control (HVCC) is second-largest automotive climate-control equipment maker in the world, and is leveraging its technology to enhance its thermal management-related product portfolio.

HVCC's fast-follower strategy in this area should position it to see the greatest benefit from the rapid expansion of the thermal management system market that we expect, amid increasingly tougher global regulations on fuel efficiency.

■ Global market-share breakdown in climate-control systems for cars in terms of shipments (Nov '14)



Source: Company

According to HVCC's management, the company's penetration into thermal-energy-management products could transform it from a climate-control system producer into an eco-friendly auto-parts supplier, and it expects this to be a long-term earnings growth driver. We discuss this further in our company note on HVCC that forms part of this report.

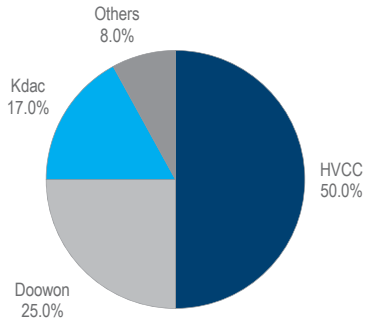
■ HVCC: automotive thermal-energy management solutions

Source: HVCC

HVCC estimates that better management of waste heat would, in theory, result in a 10-30% improvement in fuel efficiency. With increasingly tougher global regulations on fuel efficiency, thermal energy management will not only become the key to achieving greater efficiency, but the market for related products will expand alongside the market for environmentally friendly vehicles, according to HVCC. Backed by its cutting-edge automotive climate-control technology, HVCC aims to be a leading supplier of total solutions for thermal-energy management.

HVCC's fast-follower advantage in the thermal-energy-management system market, coupled with its acquisitions of new technology through acquisitions, as well as its in-house R&D efforts, could lay the ground for the company to gain market share in thermal compressors over the long term.

■ Domestic market-share breakdown in climate control systems for cars in terms of shipments (Nov '14)



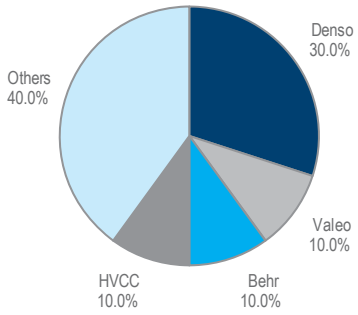
Source: Company, Daiwa

In addition to its in-house R&D efforts, HVCC has been proactively pursuing M&As to acquire new technologies. In July 2014, the company acquired Cooper Standard's thermal and emissions product line.

Through the USD46mn deal, HVCC took over Cooper Standard's production lines, research facilities and patents for exhaust gas recirculation (EGR) modules, electronic coolant pumps and valves, electronic waste gate actuators and electronic throttle bodies. HVCC aims to sell more thermal products to former Cooper clients, such as GM and Chrysler, while also selling the acquired products to European automakers.

In 2013, Cooper Standard derived its revenue mainly from US automakers, such as Ford (25%) and GM and Chrysler (12% each), for which HVCC aims to increase its revenue exposure to the abovementioned US OEMs. Currently, its 2 largest customers are HMG (51%) and Ford (25%).

■ HVCC: market share for HVAC (2013)



Source: Company, Daiwa

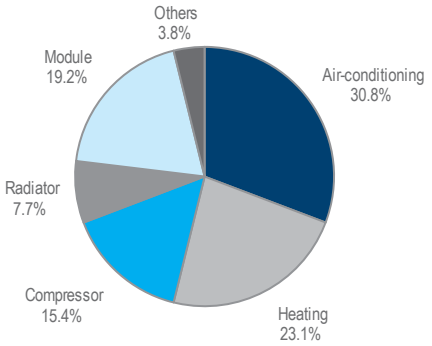
HVCC's further penetration of the thermal energy business could drive up its long-term earnings, due to its higher ASPs vs. conventional products. For example, the ASP of compressors for conventional ICE cars is around KRW100,000/car, but is about KRW350,000/car for HEVs. HVCC's thermal-energy-management systems for improving fuel economy for ICEs and green-car business only account for 5% of its revenue currently, but the company expects its revenue from these systems to rise at a 10-15% CAGR over 2014-19.

Such growth stems from HVCC's management expectations of: 1) a further rise in thermal energy management revenue, driven by increasingly stricter fuel economy regulations, and 2) HVCC's competitive advantage in these products.

Among the major green-car customers, HVCC is the sole supplier for thermal management systems (HVAC, air conditioning and heating) for Tesla Motors (Tesla) (not rated). Currently, HVCC supplies the thermal management system for Tesla's S model, for which the content per vehicle roughly equates to 2%.

According to our market research and given its existing supplier relationship with Tesla, HVCC could also be supplying the thermal management system to Tesla's Model X (SUV-based EV) in 2015, which the company expects could further raise its revenue contribution from green cars in FY15.

■ HVCC: revenue breakdown by product (2013)



Source: Company, Daiwa

HVCC's management remains confident about the company's share-price outlook, given its: 1) stronger focus on high-margin thermal management systems, 2) high dividend policy, 3) additional M&A momentum, and 4) heighted earnings visibility from product-mix improvements and further diversification of its client base.

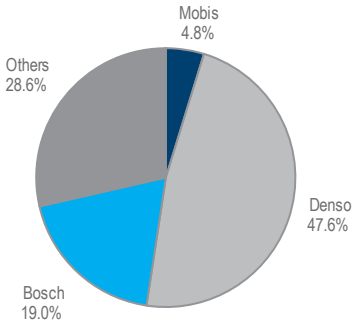
Mobis: more upside potential for BMS penetration

In October 2014, Mobis announced that it had developed a new battery-management system (BMS) that boosts the efficiency of eco-friendly electric vehicles.

The BMS is a key component of HEVs and FCVs and pure EVs, which can be used to check the voltage, current and temperature of all the batteries in a car in real time. The system can also prevent the overcharging and/or unwanted discharge of battery ion cells, which should greatly enhance the thermal stability of a vehicle and its reliability.

As the green-car market is still in the early stages of growth globally, we think Mobis could benefit from the upturn in the green-car market over the next decade.

■ Global auto-parts makers: market shares in battery-management systems (2013)



Source: Companies

Valuation and recommendation

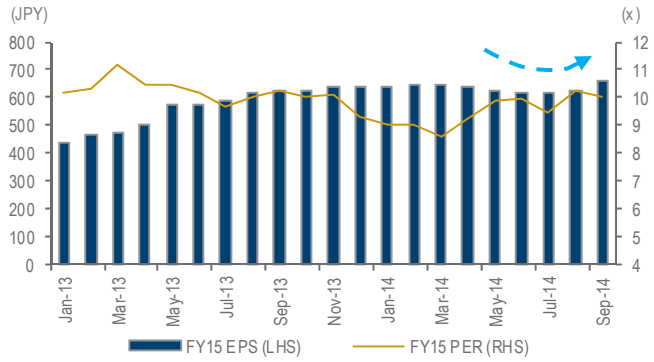
Toyota is our top pick on a 6-month view

Toyota: earnings-forecast revisions cycle and cash management policy look the most favourable of all the Pan-Asia stocks we cover

Among our Pan-Asia major global automaker coverage, we recommend Toyota as our top pick on a 6-month view. We think the following factors will drive up its share price over the next 6 months.

1) An upward earnings-forecast revision cycle possibly persisting throughout FY14 amid the ongoing trend of a weakening JPY against the USD, cost-cutting efforts and stronger-than-expected global shipments YTD.

■ Toyota: PER and EPS



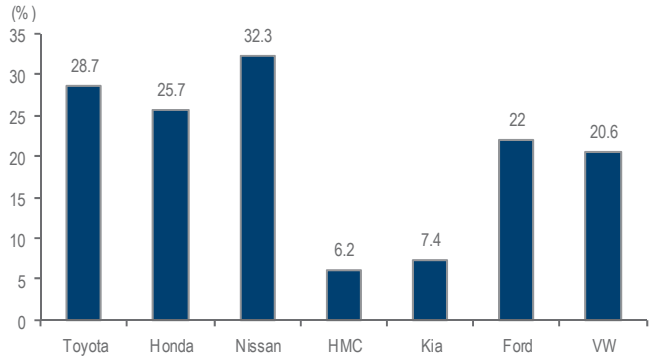
Source: Dataguide, Bloomberg forecasts

2) A stronger-than-expected earnings improvement in FY15 with the launch of the fourth-generation Prius in August 2015, built under the TNGA programme, a stronger YoY improvement in the refresh rate for the North America market in 2015 (vs. global automakers) among its competitors and with a ramp-up in the IMV platform series (more than 1m vehicles made via this platform could be sold) for the emerging markets.

3) A further rise in Toyota's dividend from FY14 to FY16, which we believe would be ROE-accretive. We forecast Toyota to raise its FY14E DPS to JPY210/share (a payout ratio of 30.6%), from an FY13 DPS of JPY165/share (a payout ratio of 28.7%).

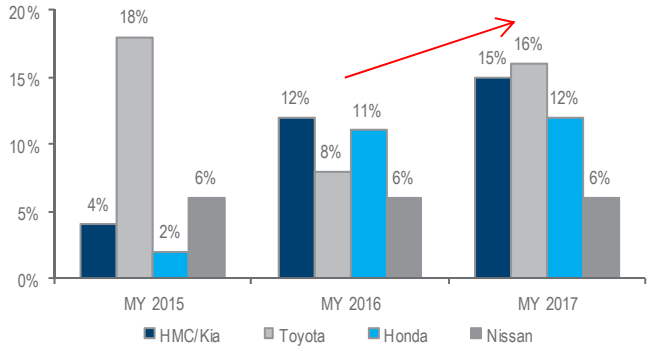
As shown in the following table, Toyota's FY14 payout ratio should be one of the highest among the major global automakers.

■ **Global automakers: FY13 payout ratio**



Source: Bloomberg, compiled by Daiwa

■ **Global automakers: US refresh rates**



Source: Companies, WardsAuto

■ **US market: new model launches (2014-16)**

	2014	2015	2016
Toyota	Highlander (CUV) Lexus RC (Specialty) Tacoma (Pickup) Lexus NX (CUV)	Yaris (Small) Scion xB (Small) Scion tC (Specialty) Prius (HEV) Fuel cell vehicle Lexus RX (CUV)	
Honda	Fit (Small) Acura TLX (Luxury) HR-V (CUV)	Acura NSX (Specialty) Pilot (CUV) Accord CrossTour (CUV) FCV Clarity (FCV)	Civic (Small)
Nissan	Murano (CUV)	Titan (Pickup) Armada (SUV)	Infiniti QX50 (CUV)
Hyundai	Genesis (Middle) Sonata (Middle)		Elantra (Small)
Kia			
BMW	i3 (Specialty) X4 (CUV) i8 (PHEV)	X6 (CUV)	7 Series (Luxury) X1 (CUV)
Daimler	C Class (Luxury) GLA (CUV)	MLC (CUV)	E Class (Luxury) GLK
VW	Audi Q3 (CUV) Golf (Small)	Audi TT (Specialty) Audi Q7 (CUV) Audi A4/S4 (Luxury) Tiguan (CUV)	CC (Middle) Audi A5/S5 (Luxury)
GM	Cadillac ELR (PHEV) Chevrolet Suburban (SUV) Chevrolet Tahoe (SUV) Cadillac Escalade (SUV) GMC Yukon (SUV)	Chevrolet Cruze (Small) Chevrolet Volt (PHEV) Chevrolet Spark (Small) Chevrolet Camaro (Speciality) Cadillac LTS (Luxury)	Buick Verano (Small) Buick La Crosse (Middle)
Ford	Mustang (Specialty) Lincoln MKC (CUV)	Taurus (Middle) Edge (CUV) Lincoln MKX (CUV)	Lincoln MKS (Luxury)
Chrysler		Jeep Renegade (CUV)	

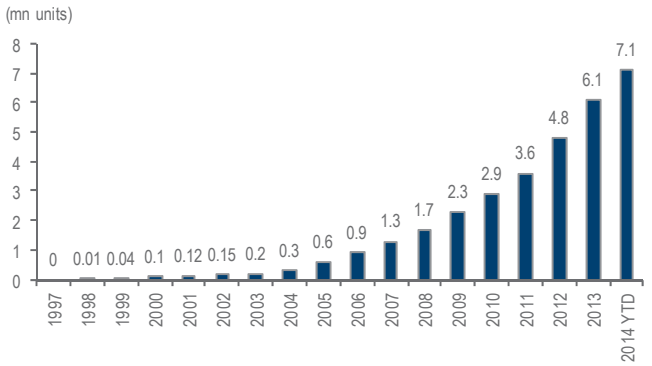
Source: Automotive News and each company, compiled by Daiwa

Factoring in: 1) stronger-than-expected 2Q FY14 earnings for Toyota on tailwinds from a weaker JPY, an improved product mix for the US market, and higher-than-expected price increase for the emerging markets, 2) our currency assumption changes to JPY110:USD (previously JPY100:USD for FY14 and FY15), and 3) a stronger earnings contribution from the IMV platform series for the emerging markets and a more flexible cost structure versus our previous expectation for FY15 from the TNGA programme, we recently (on 6 November) raised our PER-based 6-month target price to JPY8,300, from JPY7,900. This translates into an FY15E PER of 11x, compared with its past-5-year PER range of 9.3-60.6x. The key risk to our call would include a rapid appreciation of the JPY against the USD or KRW.

Over the long term, we also envisage Toyota's operating profit improving the most among the global automakers, with the introduction of the TNGA programme, which will be applied to new model launches from 2015.

Under the TNGA programme, Toyota designs and develops each vehicle model separately. Toyota plans to launch the next-generation Prius, the first model using the system at the end of 2015. The new Prius will use various shared components and a shared platform, and as a result, its costs will be around 10% lower than those of the outgoing model.

■ Toyota: accumulated sales trend of HEVs



Source: Company, Daiwa

As the current Prius (third-generation) generates a mid-to-single operating margin, we envisage the fourth-generation Prius to generate a high-single digit from FY15, given its more flexible cost structure.

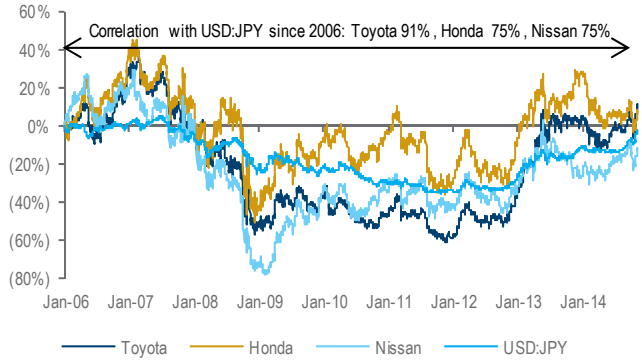
■ Toyota: evolution of the Prius

	1st generation	2nd generation	3rd generation	4rd generation
Year of launch	1997	2003	2009	end-2015
Motor voltage (V)	273.6	500	650	700
Max power (KW)	33	50	60	70
Battery power (W/kg)	550	1250	1300	1500
Fuel efficiency (MPG)	41	45	48	50
Emissions (g/km)	135	120	111	105

Source: Company, Daiwa

We expect the weakness in the JPY:USD exchange rate to persist until FY15, backed by the Japanese government's more aggressive monetary policy. A weaker Yen boosts the profitability of exports of vehicles and key components made in Japan. In addition, it tends to boost foreign-currency-denominated royalty income received from overseas subsidiaries, and it inflates the subsidiaries' local-currency based operating profit.

■ Japan automakers: share prices versus USD:JPY exchange rate



Source: Bloomberg

We would again emphasise that in the past, Yen weakness has tended to be substantially positive for the earnings and share prices of the Japanese automakers. For Toyota, we calculate that our change in our JPY:USD assumption to JPY110:USD would boost our FY13-16 operating forecasts for the company by 15%, compared with our previous forecasts based on JPY100:USD. We think a weaker Yen would provide an additional boost to earnings, together with the effects of higher sales and lower COGS.

■ Toyota: sensitivity analysis on the impact of forex changes to our earnings forecasts

	Operating profit	Impact on operating profit from JPY1 change in JPY:USD				
(JPYbn)	(FY14)	USD	EUR	AUD	CAD	GBP
Toyota Motor	2,720	40	4	4	1	0.5
% change in operating profit		1.5%	0.1%	0.1%	0.0%	0.0%
Our currency assumption (JPY)		110	140	95	95	172

Source: Company, Daiwa

Toyota and Denso could fare better over the next 3 years

We expect Toyota and Denso to retain their competitive advantage in green cars, moving from HEVs to FCVs over the long term, given their: 1) number of patent applications filed for hydrogen storage and compression technology, 2) early-mover advantage in FCVs and competitive advantage in green-car components, and 3) strong brand equity in HEVs.

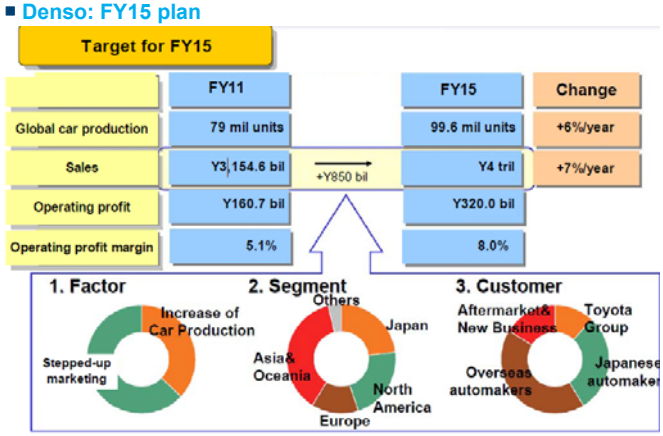
Toyota is scheduled to launch a fuel-cell vehicle with its proprietary fuel stack and storage tanks in Japan by the end of 2014 and in the US & Europe next year. Toyota refers to this new FCV as being similar to the 1997 Prius. We expect production of only around 1,500-2,000 units per year at first, as the company controls output and focuses on quality and consumer usage patterns.

For Denso, Toyota's company-wide initiatives under the TNGA programme could spell an opportunity for Denso. The system could be adopted as the de facto standard among the global automakers and given that Denso has many products that have come represent the auto industry's de facto standard, the TNGA system would give them a considerable advantage.

Furthermore, even for the same product, Denso has had to separately develop and produce parts for its Toyota and non-Toyota businesses, but the TNGA concept would allow it to apply basically the same product to either business, which should enhance efficiency in terms of both the R&D and capex.

The main focus areas for Denso are: powertrain control systems (35% of total sales), thermal equipment (30%), information & safety products (15%), and electronics products (9%) (details are shown in the following diagram). In terms of powertrain control products, Denso produces not only traditional combustion engine parts, but also hybrid/electric/fuel cell vehicle systems. If any one of these powertrain systems is chosen by customers in the future, Denso should be a winner, as it is one of the leading companies in each powertrain system.

■ **Denso: FY15 plan**

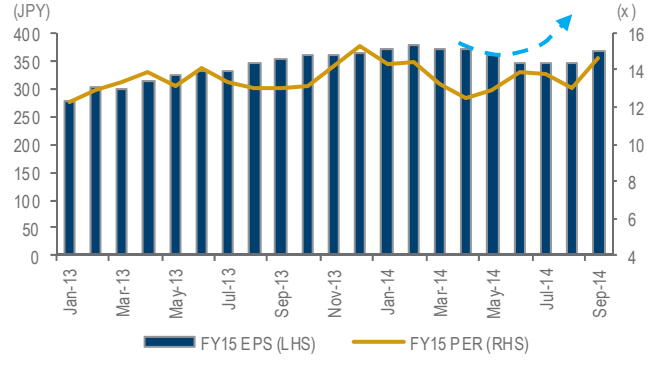


Source: Company, Daiwa
Note: Plan unveiled at the 2Q FY12 results briefing (31 October 2012)

For Denso, we reiterate our Outperform (2) rating and set our new 12-month target price at JPY6,000 (formerly JPY5,600), equivalent to roughly a 17x FY15E PER, on our forecasts. We still think that: 1) the major Japanese auto-parts suppliers are trading at low PBRs relative to the other auto industry players in Japan, the US, and Europe (based on the Bloomberg forecasts), and 2) Denso could achieve faster sales growth and see an increase in its weighting of sales to automakers other than Toyota from FY15.

The main risk to our call would be stronger-than-expected pricing pressure from the Japanese OEMs.

■ **Denso: PER and EPS**



Source: Bloomberg

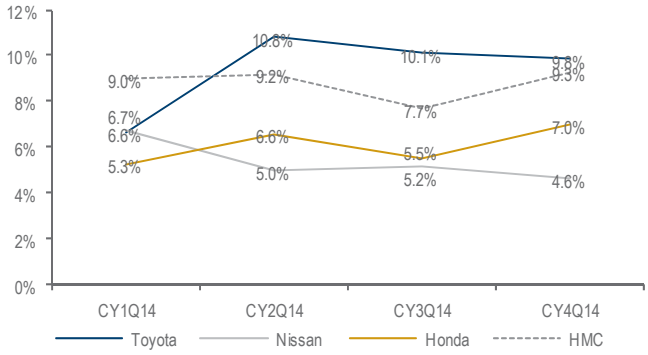
We believe Denso has the necessary elements to become the major beneficiary of the rollout of next-generation green cars. In the thermal equipment area, Denso is a leading car air-conditioning system supplier, and is known for its low energy consuming and compact designs. Denso should be the major beneficiary of the pick-up in green-car demand given its expertise in thermal management for eco-friendly vehicles.

We prefer HMC on a 3-month view

HMC: Risk-reward profile looks extremely appealing

On a 3-month view, we prefer HMC of all the Pan-Asia automakers we cover, as we expect its 4Q14 earnings to improve the most. We look for HMC's 4Q14 operating margin to rise by 1.6pp QoQ to 9.3%, driven by: 1) a QoQ rise in global retail shipments (ex-China), with stronger QoQ shipment growth for the LF Sonata in the US and lower per-car incentives for dealers, and 2) a stabilising QoQ trend in the USD:KRW rate.

■ **Major Pan-Asia automakers: quarterly operating-profit margin outlook**



Source: Bloomberg, Daiwa forecasts
Note: 1) CY refers calendar year, 2) CY4Q14 operating margin is based on Bloomberg consensus

To compensate for the shareholder value destruction that was wreaked in mid-September by the acquisition of KEPCO's headquarters (acquisition contribution amount of KRW5.5tn), HMC announced a share buyback on 11 November in which it would purchase treasury shares from 12 November 2014 to 11 January 2015, both common shares (2.2m shares or KRW366.8bn) and preferred shares (652,019 shares or KRW82.3bn) totalling KRW449.1bn.

We also forecast HMC to increase its 2014 payout ratio for common shares to over 10% (DPS of KRW3,400) from a 2013 payout ratio of 6% (DPS of KRW1,950). As HMC is scheduled to announce its payout ratio in late January 2015, we expect this to emerge as a key share-price driver as well.

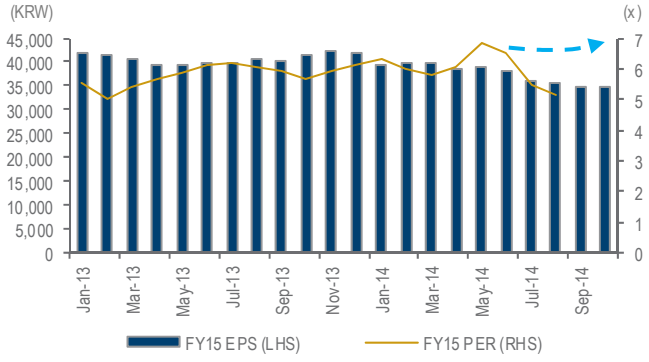
Since the announcement in mid-September 2014 of the acquisition of KEPCO's headquarters by 3 large affiliates of HMG (including HMC), HMC's share price has fallen by 23.6% and its market cap has contracted by KRW11.3tn (vs. its acquisition contribution amount of KRW5.5tn).

With HMC shares now trading at a 2015E PER of 5.3x (its past-5-year trough level), we view the recent correction as a buying opportunity, given the potential we see for a cyclical upturn for HMC in 2016, with 39.1% of its global shipments scheduled for model refreshes out to 2016. We reaffirm our Buy (1) rating for HMC and DCF/PER-based 6-month target price of KRW220,000.

Moreover, we would view any announcements by HMC about plans for greenfield plants in China or a significant rise in payout ratio as potential share-price drivers over the next 3 months, in particular.

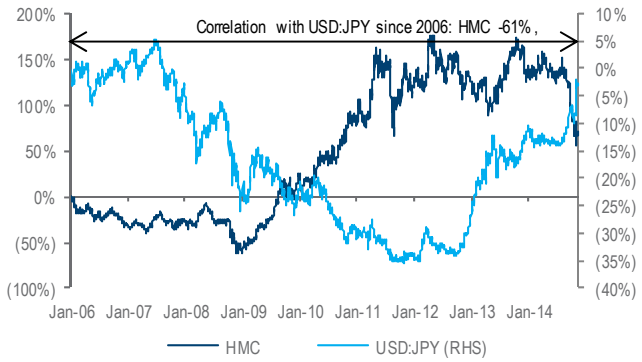
The main risks to our call include a rapid appreciation in the Won against the US Dollar or Yen.

■ HMC: PER and EPS



Source: Bloomberg forecasts

■ HMC: share prices versus USD:JPY rate



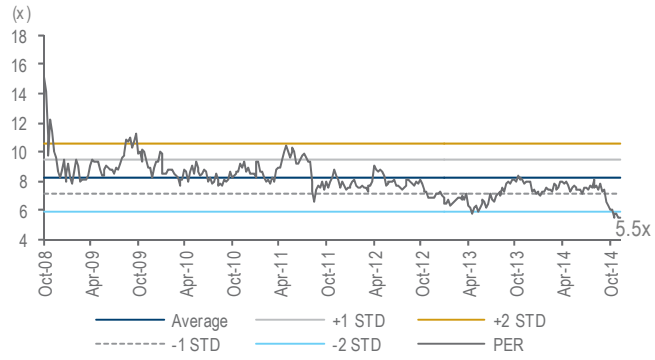
Source: Bloomberg

■ HMC: new model cycle (2014-16E)

HMC	1H14	2H14E	1H15E	2H15E	2016E
Korea	LF Sonata (1Q)	LF Sonata HEV (3Q) Grandeur Diesel (3Q)	Tucson	Equus Avante (3Q)	
US	New Genesis (1Q)	LF Sonata (3Q)	Tucson	Elantra (4Q)	Equus
China		iX 25 (3Q)			
EU		i20 (4Q) LF Sonata (3Q)			

Source: Company, Daiwa

■ HMC: 1-year forward PER bands



Source: Dataguide

Risks to our investment case

The main risk to our green car story would be a slower-than-expected launch of green-car models from OEMs.

Secondary risks include regulatory setbacks as a result of environmental policies globally, and weaker-than-expected sales from the OEM green car business

■ Global auto makers: valuation comparison

Company	Ticker	Curr.	Share Price	Daiwa Rating	Mcap (USDm)	Absolute Performance (%)			Relative Performance (%)			PER (x)		PBR (x)		EV/ EBITDA(x)		PCR (x)		ROE (%)		Div. Yield (%)		OPM (%)	
						YTD	1M	3M	YTD	1M	3M	14E	15E	14E	15E	14E	15E	14E	15E	14E	15E	14E	15E	14E	15E
US																									
FORD	F US	USD	14.2	Not rated	54,536	(8.0)	0.6	(15.6)	(18.0)	(4.4)	(22.0)	12.7	8.8	2.0	1.7	4.6	3.3	6.3	4.8	16.6	23.0	3.5	3.7	2.4	4.5
GM	GM US	USD	31.4	Not rated	50,756	(23.2)	(1.3)	(5.3)	(33.2)	(6.3)	(11.7)	11.9	7.2	1.2	1.1	3.2	2.3	4.6	3.7	11.5	16.7	3.9	4.1	2.3	5.2
Europe																									
DAIMLER	DAI GR	EUR	62.1	Not rated	83,628	(1.3)	6.9	6.3	1.2	4.4	3.2	9.6	9.1	1.4	1.3	9.1	8.7	5.9	5.5	15.2	14.6	3.8	4.3	8.0	8.2
BMW	BMW GR	EUR	83.2	Not rated	67,156	(2.4)	2.1	(3.2)	0.1	(0.5)	(6.3)	9.3	8.8	1.4	1.3	9.5	9.2	4.9	4.9	15.5	14.5	3.5	3.9	10.9	10.6
VW	VOW GR	EUR	170.8	Not rated	101,520	(13.2)	9.5	3.4	(10.8)	6.9	0.3	7.8	7.2	0.8	0.8	7.2	6.6	3.2	3.1	11.4	11.8	2.9	3.4	6.2	6.7
Japan																									
HONDA	7267 JP	JPY	3,589	Hold	56,925	(17.1)	3.3	5.2	(21.6)	(6.1)	(5.5)	11.1	10.4	1.1	1.0	9.2	8.8	6.5	5.6	10.8	9.9	2.3	2.6	6.6	6.4
NISSAN	7201 JP	JPY	1,041	Hold	41,193	17.7	5.9	7.3	13.3	(3.5)	(3.4)	11.7	9.7	1.0	0.9	11.4	9.4	5.3	4.8	9.2	9.9	2.9	3.2	4.8	5.3
TOYOTA	7203 JP	JPY	6,712	Outperform	200,907	4.5	7.9	13.7	0.1	(1.5)	2.9	11.3	10.2	1.5	1.3	11.1	10.3	7.5	7.0	14.2	13.6	2.5	2.8	9.3	10.1
China																									
SAIC	600104 CH	CHY	18.2	Not rated	32,838	28.9	3.6	13.7	12.0	(0.6)	1.0	7.1	6.3	1.3	1.2	6.9	6.0	8.7	8.2	18.1	18.0	6.4	7.2	5.5	5.7
DONGFENG	489 HK	HKD	11.2	Not rated	12,489	(7.4)	(9.6)	(14.8)	(9.3)	(12.5)	(12.4)	7.6	7.1	1.3	1.1	37.4	34.5	35.8	11.9	18.4	17.1	2.0	2.2	1.8	1.8
GUANGZHOU	2238 HK	HKD	7.5	Not rated	7,672	(11.6)	(0.7)	(13.5)	(13.4)	(3.5)	(11.1)	13.3	10.3	1.3	1.2	74.1	48.7	208.3	79.8	10.4	12.0	2.3	3.1	n.a	n.a
India																									
TATA MOTORS	TTMT IN	INR	522.3	Not rated	25,393	38.8	6.0	20.7	7.1	0.0	10.6	11.1	10.4	3.4	2.6	4.9	4.3	4.2	4.2	32.9	27.5	0.4	0.4	9.8	9.7
MAHINDRA	MM IN	INR	1,230.9	Not rated	12,420	30.4	(6.6)	0.1	(1.3)	(12.6)	(9.9)	19.4	18.1	4.2	3.6	14.9	13.7	20.2	15.0	23.5	21.4	1.1	1.3	11.1	10.5
Korea																									
HYUNDAI*	005380 KS	KRW	166,500	Buy	33,815	(29.6)	(6.5)	(27.1)	(27.0)	(7.4)	(23.5)	5.7	5.3	0.6	0.5	4.0	4.2	5.3	5.6	14.8	14.0	2.0	2.2	8.8	8.9
KIA*	000270 KS	KRW	54,500	Outperform	20,369	(2.9)	(3.5)	(9.9)	(0.2)	(4.4)	(6.3)	5.3	4.9	1.0	0.9	3.2	3.1	4.1	4.0	19.7	19.9	1.2	1.2	6.7	7.2
Industry average					**53,441**	**0.2**	**1.2**	**(1.3)**	**(6.7)**	**(3.5)**	**(6.3)**	**10.3**	**8.9**	**1.6**	**1.4**	**14.1**	**11.5**	**22.1**	**11.2**	**16.1**	**16.3**	**2.7**	**3.0**	**6.7**	**7.2**

*Source: Bloomberg, *Daiwa forecasts*

*Note: 1) Share prices are as at 10 November 2014, 2) US & Europe are as at 7 November 2014 **Relative to each country index.*

■ Global auto-parts makers: valuation comparison

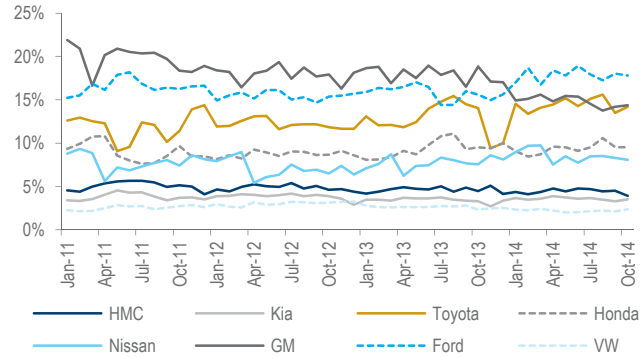
Company	Ticker	Curr.	Share Price	Daiwa Rating	Mcap (USDm)	Absolute (%)			**Relative (%)			PER (x)		PBR (x)		EV/ EBITDA (x)		ROE (%)		Div. Yield (%)		OPM (%)	
						YTD	1M	3M	YTD	1M	3M	14E	15E	14E	15E	14E	15E	14E	15E	14E	15E	14E	15E
US																							
JOHNSON CONTROLS	JCI US	USD	49.4	Not rated	32,478	(3.7)	13.0	3.9	(13.6)	8.0	(2.5)	15.6	13.7	2.6	2.6	10.4	9.5	16.9	18.8	1.8	2.0	6.4	7.1
BORGWARNER	BWA US	USD	58.8	Not rated	13,115	5.1	11.9	(3.3)	(4.9)	6.9	(9.7)	17.9	15.7	3.4	2.9	9.7	8.7	19.7	20.2	0.8	0.8	12.8	13.2
TRW AUTOMOTIVE	TRW US	USD	102.2	Not rated	11,276	37.3	0.5	2.0	27.4	(4.6)	(4.4)	13.2	12.0	2.5	2.1	6.8	6.3	20.0	19.0	n.a.	n.a.	7.8	8.1
VISTEON	VC US	USD	99.1	Not rated	4,288	21.0	3.6	1.4	11.1	(1.4)	(5.0)	29.2	20.1	3.9	4.2	7.7	6.6	10.1	17.8	n.a.	n.a.	4.7	5.5
Japan																							
DENSO	6902 JP	JPY	5,274	Outperform	40,882	(5.0)	12.0	16.8	(9.4)	2.6	6.0	15.5	15.5	1.6	1.5	7.9	8.6	11.5	9.7	1.8	1.9	9.4	8.8
AISIN SEIKI	7259 JP	JPY	3,885	Outperform	10,038	(9.0)	5.1	(0.4)	(13.5)	(4.3)	(11.1)	12.0	11.8	1.1	1.0	4.4	4.3	9.9	8.9	2.1	2.5	6.4	6.2
TOYOTA INDUSTRIES	6201 JP	JPY	5,550	Outperform	15,856	17.0	12.6	10.6	12.5	3.2	(0.2)	19.0	15.3	1.0	0.9	10.8	9.1	5.5	6.3	1.4	1.8	5.4	5.6
Korea																							
HYUNDAI MOBIS*	012330 KS	KRW	238,000	Outperform	21,360	(18.9)	(4.2)	(18.2)	(16.3)	(5.1)	(14.6)	6.0	5.4	1.0	0.9	4.0	3.8	17.6	17.1	0.8	0.8	8.7	8.9
MANDO*	204320 KS	KRW	187,500	Buy	1,623	NA	NA	NA	NA	NA	NA	9.7	8.3	1.7	1.6	5.5	4.7	13.1	19.8	2.1	2.5	5.4	5.7
HYUNDAI WIA*	011210 KS	KRW	182,500	Buy	4,329	(3.9)	(14.1)	(3.9)	(1.3)	(15.0)	(0.4)	9.2	7.2	1.8	1.5	5.7	4.5	21.2	22.5	0.4	0.4	7.6	7.8
HALLA CC	018880 KS	KRW	46,100	Not rated	4,538	19.0	(6.5)	(10.0)	21.6	(7.4)	(6.4)	15.2	13.2	3.0	2.6	8.4	7.5	20.5	20.8	2.2	2.4	7.3	7.7
Others																							
MAGNA INTL	MG CN	CAD	120.1	Not rated	21,608	37.9	14.6	4.6	30.0	13.8	7.5	13.6	11.7	2.9	2.6	6.4	6.0	20.8	22.1	1.3	1.5	6.6	6.9
VALEO	FR FP	EUR	90.9	Not rated	9,023	13.1	7.5	3.8	15.1	7.6	2.4	12.7	10.9	2.6	2.2	5.4	4.9	20.4	20.6	2.4	2.7	6.9	7.3
Industry average					**14,647**	**9.1**	**4.7**	**0.6**	**4.9**	**0.4**	**(3.2)**	**14.5**	**12.4**	**2.2**	**2.0**	**7.2**	**6.5**	**15.9**	**17.2**	**1.5**	**1.8**	**7.3**	**7.6**

*Source: Bloomberg, *Daiwa forecasts*

*Note: 1) Share prices are as at 10 November 2014, 2) US & others are as at 7 November 2014. **Relative to each country index.*

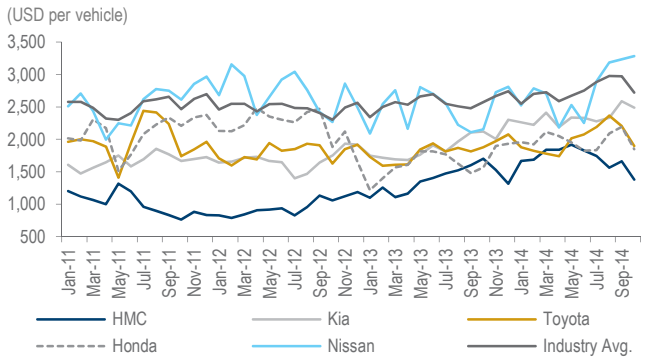
Appendix

■ US market: light vehicle sales and market share



Source: Wardsauto, compiled by Daiwa

■ US market: incentives per vehicle



Source: Autodata, compiled by Daiwa

The 10-second briefing

Toyota Motor

7203 JP

Target price: JPY8,300
Up/downside: +23.7%
Share price (10 Nov): JPY6,712

Leading the pack in earnings visibility and green cars

- Toyota's upward earnings revision cycle and cash management policy looks most favourable
- Long term, we forecast its earnings to improve the most with the introduction of TNGA next year and its leading position in green cars
- The stock is both our 6-month and 3-year top pick in Pan-Asia autos. Outperform (2) rating reiterated

1 Buy
2 Outperform (unchanged)
3 Hold
4 Underperform
5 Sell

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(81) 3 5555-7072
eiji.hakomori@daiwa.co.jp

What's new

Among major Pan-Asia automakers, we now view Toyota's risk and reward profile as the most appealing on both 6-month and 3-year views.

What's the impact

We believe the fourth-generation Prius model is likely to be introduced around autumn 2015. In our view, the next Prius looks set to be as profitable as conventional cars. Since launching its first HEV in 1997, cumulative HEV sales, including other models, have surpassed 7m units as of end-September 2014. The firm's global HEV sales reached 1,279,000 units in 2013, accounting for 13% of its global vehicle sales. Moreover, we believe Toyota commands a global market share of nearly 70% in this category. In our view, Toyota is well positioned to enjoy growing demand as a frontrunner in the HEV market over the medium term.

We expect it to sell 2,400,000 HEVs in 2020, up roughly 90% from 2013. Notably, within FY14, Toyota is to debut FCVs first in Japan, followed by Europe and the US by summer 2015. This would mark the world's first commercial FCV release. The FCVs will likely cost about JPY7m/car in Japan (before likely central/local government subsidies). According to media reports, it takes some 3 minutes to fill up a FCV tank for a run of up to 700km.

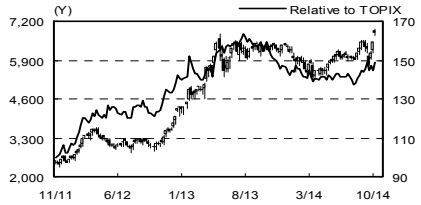
What we recommend

We retain our Outperform (2) rating and 12-month TP of JPY8,300, roughly 11x our FY15E EPS forecast. Over the next 6 months, we expect Toyota's upward earnings revision cycle to be the strongest among the Pan-Asia automakers due to a combination of: 1) the launch of the fourth-generation Prius and with a ramp-up in the IMV platform series for emerging markets, and 2) tailwinds from a depreciation of the JPY against the USD. We also expect Toyota to retain its competitive advantage in green cars from HEVs to FCVs over the long term, given its: 1) number of patent applications filed for hydrogen storage and compression technology, 2) early-mover advantage in FCVs, and 3) strong brand equity in HEVs. The key risk to our call would be a rapid appreciation of the JPY against the USD.

How we differ

Our FY15-16E EPS are 3-5% above the consensus forecasts, as we are more bullish on the positive impact of TNGA and higher operating-profit margin from HEVs from 2015.

Share price performance



Source: Compiled by Daiwa, Bloomberg

Market data (consol)

12-month range (JPY)	5,205-6,930
Market cap (JPYm; 10 Nov)	21,219,608
Shares outstanding (000; 11/14)	3,161,443
Foreign ownership (%; 3/14)	30.3

Investment indicators (consol)

	3/14	3/15 E	3/16 E
P/E (X)	11.7	9.8	8.9
EV/EBITDA (X)	10.8	9.7	8.7
P/B (X)	1.47	-	-
Dividend yield (%)	2.46	3.13	3.43
ROE (%)	13.7	-	-

Income summary (consol)

(JPYm)	3/14	3/15 E	3/16 E
Sales	25,691,911	26,700,000	28,300,000
Op profit	2,292,112	2,720,000	3,100,000
Pretax income	2,441,080	2,920,000	3,220,000
Net income	1,823,119	2,170,000	2,380,000
EPS (Y)	575.3	686.4	752.8
DPS (Y)	165.00	210.00	230.00

Source: Company, Daiwa forecasts.

■ Profit and loss (JPYbn, YoY %)

	FY12			13			14 E			15 E			16 E		
		% of sales	Y/y		% of sales	Y/y		% of sales	Y/y		% of sales	Y/y		% of sales	Y/y
Sales	**22,064.2**	***100.0***	**18.7%**	**25,691.9**	***100.0***	**16.4%**	**26,700.0**	***100.0***	**3.9%**	**28,300.0**	***100.0***	**6.0%**	**29,800.0**	***100.0***	**5.3%**
Japan	12,821.0	*58.1*	14.8%	14,297.5	*55.6*	11.5%	14,100.0	*52.8*	-1.4%	14,300.0	*50.5*	1.4%	14,800.0	*49.7*	3.5%
North America	6,284.4	*28.5*	32.3%	8,117.1	*31.6*	29.2%	9,200.0	*34.5*	13.3%	9,900.0	*35.0*	7.6%	10,200.0	*34.2*	3.0%
Europe	2,083.1	*9.4*	4.5%	2,725.0	*10.6*	30.8%	2,890.0	*10.8*	6.1%	2,980.0	*10.5*	3.1%	3,070.0	*10.3*	3.0%
Asia (excl. Japan)	4,385.5	*19.9*	31.5%	4,877.7	*19.0*	11.2%	4,870.0	*18.2*	-0.2%	5,300.0	*18.7*	8.8%	5,780.0	*19.4*	9.1%
Other	2,094.3	*9.5*	19.0%	2,336.6	*9.1*	11.6%	2,330.0	*8.7*	-0.3%	2,520.0	*8.9*	8.2%	2,680.0	*9.0*	6.3%
Eliminations	-5,604.1			-6,661.9			-6,690.0	*-25.1*		-6,700.0	*-23.7*		-6,730.0	*-22.6*	
Automobile	20,419.1	*92.5*	20.2%	23,781.4	*92.6*	16.5%	24,680.0	*92.4*	3.8%	26,200.0	*92.6*	6.2%	27,610.0	*92.7*	5.4%
Financial	1,170.7	*5.3*	6.4%	1,421.0	*5.5*	21.4%	1,530.0	*5.7*	7.7%	1,600.0	*5.7*	4.6%	1,680.0	*5.6*	5.0%
Other	1,066.5	*4.8*	1.7%	1,151.3	*4.5*	8.0%	1,170.0	*4.4*	1.6%	1,190.0	*4.2*	1.7%	1,210.0	*4.1*	1.7%
Eliminations	-592.0	*-2.7*		-661.8	*-2.6*		-680.0	*-2.5*		-690.0	*-2.4*		-700.0	*-2.3*	
COGS	18,010.6	*81.6*	14.0%	19,988.2	*77.8*	11.0%	20,670.0	*77.4*	3.4%	21,770.0	*76.9*	5.3%	22,880.0	*76.8*	5.1%
Financial expenses	630.4	*2.9*	6.4%	812.9	*3.2*	28.9%	810.0	*3.0*	-0.4%	830.0	*2.9*	2.5%	850.0	*2.9*	2.4%
SG&A	2,102.3	*9.5*	14.3%	2,598.7	*10.1*	23.6%	2,500.0	*9.4*	-3.8%	2,600.0	*9.2*	4.0%	2,720.0	*9.1*	4.6%
Operating profit	**1,320.9**	***6.0***	**271.4%**	**2,292.1**	***8.9***	**73.5%**	**2,720.0**	***10.2***	**18.7%**	**3,100.0**	***11.0***	**14.0%**	**3,350.0**	***11.2***	**8.1%**
Japan	576.3	*4.5*	Profit	1,510.2	*10.6*	162.0%	1,444.0	*10.2*	-4.4%	1,682.0	*11.8*	16.5%	1,830.0	*12.4*	8.8%
North America	221.9	*3.5*	19.1%	326.1	*4.0*	46.9%	620.0	*6.7*	90.2%	670.0	*6.8*	8.1%	690.0	*6.8*	3.0%
Europe	26.5	*1.3*	48.7%	58.2	*2.1*	120.0%	66.0	*2.3*	13.3%	73.0	*2.4*	10.6%	80.0	*2.6*	9.6%
Asia (excl. Japan)	376.1	*8.6*	46.4%	395.7	*8.1*	5.2%	440.0	*9.0*	11.2%	500.0	*9.4*	13.6%	560.0	*9.7*	12.0%
Other	133.7	*6.4*	22.9%	42.6	*1.8*	-68.2%	150.0	*6.4*	252.4%	175.0	*6.9*	16.7%	190.0	*7.1*	8.6%
Eliminations	-13.6			-40.6			0.0			0.0			0.0		
Automobile	944.7	*4.6*	N.A.	1,938.8	*8.2*	105.2%	2,285.0	*9.3*	17.9%	2,683.0	*10.2*	17.4%	2,934.0	*10.6*	9.4%
Financial	315.8	*27.0*	3.1%	294.9	*20.8*	-6.6%	370.0	*24.2*	25.5%	350.0	*21.9*	-5.4%	347.0	*20.7*	-0.9%
Other	53.6	*5.0*	27.5%	64.3	*5.6*	19.9%	65.0	*5.6*	1.1%	67.0	*5.6*	3.1%	69.0	*5.7*	3.0%
Eliminations	6.7	*-1.1*		-5.8	*0.9*		0.0	*0.0*		0.0	*0.0*		0.0	*0.0*	
Non-operating income	82.8			149.0			200.0			120.0			120.0		
Interest and dividend income	98.7			115.4			145.0			145.0			145.0		
Interest expenses	-23.0			-19.6			-20.0			-25.0			-25.0		
Other	7.1			53.2			75.0			0.0			0.0		
Pretax income	1,403.6	*6.4*	224.3%	2,441.1	*9.5*	73.9%	2,920.0	*10.9*	19.6%	3,220.0	*11.4*	10.3%	3,470.0	*11.6*	7.8%
Income taxes	551.7			767.8			958.9			1,062.2			1,148.7		
Noncontrolling interests	-121.3			-168.5			-116.1			-119.8			-130.3		
Equity-method income	231.5			318.4			325.0			342.0			359.0		
Net income (1)	**962.2**	***4.4***	**239.3%**	**1,823.1**	***7.1***	**89.5%**	**2,170.0**	***8.1***	**19.0%**	**2,380.0**	***8.4***	**9.7%**	**2,550.0**	***8.6***	**7.1%**
Depreciation (2)	727.3	*3.3*		775.9	*3.0*		810.0	*3.0*		860.0	*3.0*		890.0	*3.0*	
Capex (3)	852.7	*3.9*		1,000.7	*3.9*		1,030.0	*3.9*		1,100.0	*3.9*		1,100.0	*3.7*	
R&D	807.4	*3.7*		910.5	*3.5*		980.0	*3.7*		1,020.0	*3.6*		1,060.0	*3.6*	
Simplified cash flow (1) + (2)	1,689.5	*7.7*		2,599.0	*10.1*		2,980.0	*11.2*		3,240.0	*11.4*		3,440.0	*11.5*	
Simplified free cash flow (1) + (2) + (3)	836.8			1,598.3			1,950.0			2,140.0			2,340.0		

Source: Company materials; compiled by Daiwa.
Note: Figures in chart may differ from text due to rounding.

■ Consolidated balance sheet and cash flow statement (JPYbn)

	FY12	13	14 E	15 E	16 E
Total assets	**35,483.3**	**41,437.5**	**43,519.6**	**45,848.1**	**48,123.7**
Current assets	13,784.9	15,717.7	16,608.6	17,498.0	18,607.4
Cash and cash equivalents	3,270.7	4,268.3	4,573.3	4,940.7	5,503.7
Accounts receivable	1,971.7	2,036.2	2,116.1	2,242.9	2,361.8
Net financial receivables	5,117.7	5,628.9	6,060.5	6,337.8	6,654.7
Inventories	1,715.8	1,894.7	1,969.0	2,087.0	2,197.7
Other	1,709.1	1,889.6	1,889.6	1,889.6	1,889.6
Net long-term financial receivables	6,943.8	8,102.3	8,723.5	9,122.6	9,578.7
Investments and other assets	7,903.4	9,976.2	10,326.2	11,126.2	11,626.2
Tangible fixed assets	6,851.2	7,641.3	7,861.3	8,101.3	8,311.3
Total liabilities	**22,710.5**	**26,218.5**	**26,567.7**	**27,092.0**	**27,446.0**
Current liabilities	12,912.5	14,680.7	13,976.8	14,101.1	14,255.1
Short- and long-term debt due within one year	6,794.0	7,780.5	6,989.8	6,976.2	7,001.0
Accounts payable	2,113.8	2,213.2	2,300.1	2,437.9	2,567.1
Other	4,004.8	4,687.0	4,687.0	4,687.0	4,687.0
Long-term liabilities	9,797.9	11,537.8	12,590.9	12,990.9	13,190.9
Long-term debt	7,337.8	8,546.9	9,600.0	10,000.0	10,200.0
Other	2,460.1	2,990.9	2,990.9	2,990.9	2,990.9
Noncontrolling interests	624.8	749.8	865.9	985.8	1,116.1
Total shareholders' equity	**12,148.0**	**14,469.1**	**16,085.9**	**17,770.4**	**19,561.6**
Book value per share (Y)	3,835.3	4,564.7	5,088.1	5,621.0	6,187.6

	FY12	13	14 E	15 E	16 E
Cash flows from operating activities	**2,451.3**	**3,646.0**	**3,323.7**	**3,583.7**	**3,783.7**
Automobile business	1,996.3	3,244.3	2,587.7	2,827.9	3,034.3
Net income	883.1	1,792.2	1,870.2	2,091.5	2,262.5
Depreciation	768.6	813.0	847.1	897.1	927.1
Increase/decrease in working capital	-337.4	-260.1	-76.6	-107.8	-102.3
Other	682.0	899.3	-52.9	-52.9	-52.9
Financial business	667.1	469.3	736.0	755.9	749.4
Eliminations	212.0	67.5	0.0	0.0	0.0
Cash flows from investing activities	**-3,027.3**	**-4,336.2**	**-3,096.5**	**-3,297.5**	**-3,237.8**
Automobile business	-1,524.0	-2,512.6	-1,530.0	-2,107.3	-1,951.0
Capex	-801.7	-917.9	-1,016.2	-1,086.2	-1,086.2
Other	-722.3	-1,594.7	-513.8	-1,021.1	-864.8
Financial business	-1,758.2	-1,910.9	-1,566.6	-1,190.2	-1,286.8
Eliminations	-255.0	-87.3	0.0	0.0	0.0
Cash flows from financing activities	**477.2**	**919.5**	**-291.7**	**-309.1**	**-534.0**
Automobile business	-542.2	-475.6	131.2	193.2	112.4
Increase/decrease in short-term debt	-162.8	21.8	-115.4	200.0	0.0
Increase/decrease in long-term debt	-146.3	-47.5	246.6	-6.8	112.4
Dividend payment	-190.0	-396.0	-554.1	-695.5	-758.7
Other	-43.1	-53.9	554.1	695.5	758.7
Financial business	1,062.3	1,414.8	-422.9	-502.3	-646.4
Eliminations	42.9	19.8	0.0	0.0	0.0
Forex translation adjustments	137.9	93.6	0.0	0.0	0.0
Free cash flow	**-576.0**	**-690.2**	**227.2**	**286.3**	**545.9**
Free cash flows from automobile business	472.2	731.7	1,057.8	720.6	1,083.3

Source: Company materials; compiled by Daiwa.
Note: Figures in chart may differ from text due to rounding

Sales and production volume ('000 vehicles, YoY %)

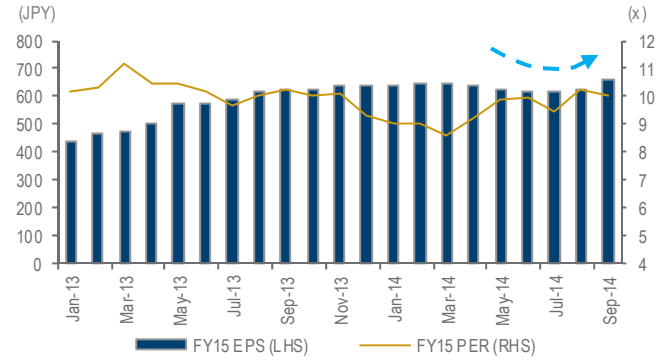
	FY12			13			14E			15E			16E		
		% of total	Y/y		% of total	Y/y		% of total	Y/y		% of total	Y/y		% of total	Y/y
Sales volume	**8,871**		**20.7%**	**9,116**		**2.8%**	**9,100**		**-0.2%**	**9,380**		**3.1%**	**9,870**		**5.2%**
Japan	2,279	26	10.0%	2,365	26	3.8%	2,190	24	-7.4%	2,190	23	0.0%	2,260	23	3.2%
Toyota Motor	1,582		10.1%	1,627		2.8%	1,487		-8.6%	1,495		0.6%	1,557		4.1%
Daihatsu Motor	653		9.4%	686		5.1%	648		-5.5%	636		-1.9%	641		0.8%
Hino Motors	44		18.9%	53		20.0%	55		4.6%	59		6.3%	63		6.5%
North America	2,469	28	31.9%	2,529	28	2.4%	2,740	30	8.3%	2,800	30	2.2%	2,890	29	3.2%
Europe	799	9	0.1%	844	9	5.6%	870	10	3.1%	900	10	3.4%	930	9	3.3%
Asia (excl. Japan)	1,684	19	26.9%	1,608	18	-4.5%	1,540	17	-4.2%	1,630	17	5.8%	1,800	18	10.4%
Central and South America	364	4	26.0%	413	5	13.5%	420	5	1.7%	430	5	2.4%	460	5	7.0%
Oceania	271	3	21.5%	259	3	-4.4%	245	3	-5.4%	255	3	4.1%	265	3	3.9%
Other	1,005	11	30.2%	1,097	12	9.1%	1,095	12	-0.2%	1,175	13	7.3%	1,265	13	7.7%
Global production volume	**9,719**		**13.4%**	**10,236**		**5.3%**	**10,296**		**0.6%**	**10,642**		**3.4%**	**11,165**		**4.9%**
Toyota Motor (consol)	8,565		13.7%	8,946		4.5%	9,050		1.2%	9,380		3.6%	9,870		5.2%
Daihatsu Motor	982		10.0%	1,109		13.0%	1,066		-3.9%	1,067		0.1%	1,087		1.9%
Hino Motors	173		18.3%	181		4.4%	180		-0.5%	195		8.3%	208		7.1%
Japan	4,276	44	8.5%	4,345	42	1.6%	4,110	40	-5.4%	4,112	39	0.0%	4,261	38	3.6%
Toyota Motor	3,369		8.0%	3,378		0.3%	3,200		-5.3%	3,200		0.0%	3,330		4.1%
Daihatsu Motor	757		9.8%	808		6.7%	748		-7.4%	736		-1.6%	743		1.0%
Hino Motors	150		14.7%	159		6.2%	162		1.4%	176		8.6%	188		7.4%
Overseas	5,443	56	17.6%	5,891	58	8.2%	6,186	60	5.0%	6,530	61	5.6%	6,904	62	5.7%
Toyota Motor (consol)	5,196		17.8%	5,568		7.2%	5,850		5.1%	6,180		5.6%	6,540		5.8%
Daihatsu Motor	224		10.9%	302		34.5%	318		5.4%	331		4.1%	344		3.9%
Hino Motors	23		49.7%	21		-7.9%	18		-14.8%	19		5.6%	20		5.3%
North America*	1,767	18	30.2%	1,858	18	5.1%	2,000	19	7.6%	2,060	19	3.0%	2,070	19	0.5%
Europe	441	5	-6.5%	576	6	30.6%	613	6	6.3%	634	6	3.4%	659	6	3.9%
Asia (excl. Japan)	2,777	29	15.8%	2,969	29	6.9%	3,054	30	2.9%	3,303	31	8.2%	3,642	33	10.3%
Central and South America	205	2	34.9%	242	2	18.0%	280	3	15.7%	295	3	5.4%	320	3	8.5%
Oceania	100	1	7.5%	103	1	3.0%	95	1	-7.8%	92	1	-3.2%	65	1	-29.3%
Other	152	2	-2.0%	143	1	-5.7%	144	1	0.7%	146	1	1.4%	148	1	1.4%
Exports	1,923		15.1%	1,854		-3.6%	1,750		-5.6%	1,790		2.3%	1,895		5.9%
North America	709	37	21.6%	720	39	1.6%	710	41	-1.4%	700	39	-1.4%	730	39	4.3%
Europe	322	17	-3.3%	264	14	-18.0%	255	15	-3.4%	255	14	0.0%	270	14	5.9%
Asia	195	10	2.6%	207	11	6.2%	200	11	-3.4%	215	12	7.5%	230	12	7.0%
Other	697	36	23.6%	663	36	-4.9%	585	33	-11.8%	620	35	6.0%	665	35	7.3%

Source: Company materials; compiled by Daiwa.
Note: Figures in chart may differ from text due to rounding.

Company profile

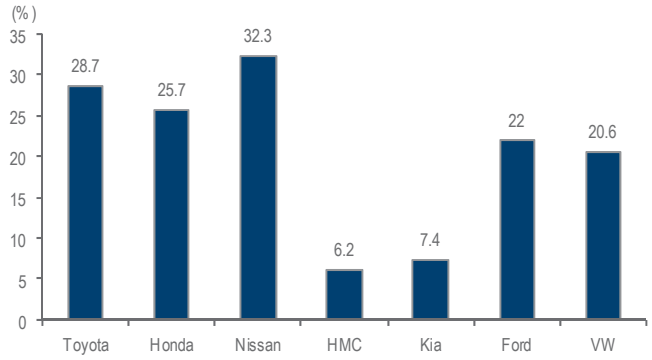
Toyota Motor manufactures, sells, leases, and repairs passenger cars, trucks, buses, and their related parts worldwide. It also operates financing services through subsidiaries, and builds homes, produces pleasure boats, and develops intelligent transportation systems, including radar cruise control and electronic toll collection systems.

■ Toyota: PER and EPS trend



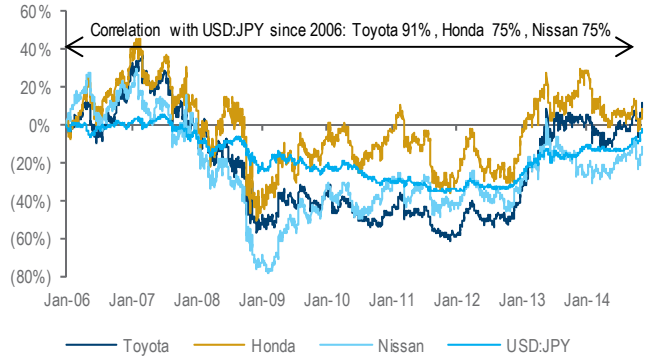
Source: Bloomberg

■ Global automakers: FY14 payout ratio



Source: Bloomberg, compiled by Daiwa

■ Toyota: events vs. share-price



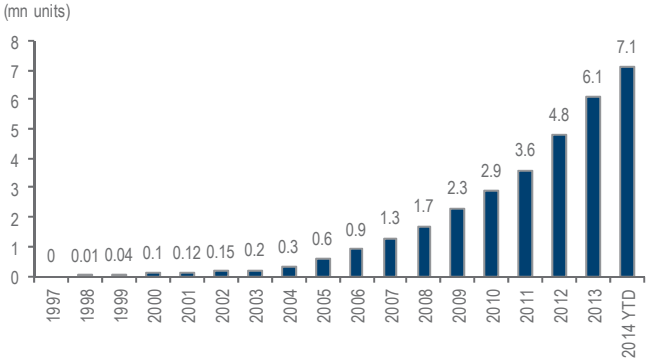
Source: Bloomberg

■ Toyota: FX sensitivity

	Operating profit	Impact to operating profit from JPY 1 change				
(JPYbn)	(FY14)	USD	EUR	AUD	CAD	GBP
Toyota Motor	2,720	40	4	4	1	0.5
% Operating profit change		1.5%	0.1%	0.1%	0.0%	0.0%
Our currency assumption (JPY)		110	140	95	95	172

Source: Company, Daiwa

■ Toyota: Accumulated sales of HEVs



Source: Company, Daiwa

■ Toyota: evolution of Prius

	1st generation	2nd generation	3rd generation	4rd generation
Year of Launch	1997	2003	2009	end-2015
Motor Voltage (V)	273.6	500	650	700
Max Power (KW)	33	50	60	70
Battery power (W/kg)	550	1250	1300	1500
Fuel efficiency (MPG)	41	45	48	50
Emissions (g/km)	135	120	111	105

Source: Company, Daiwa

Daiwa Capital Markets

Company

Consumer Discretionary / Korea
14 November 2014

The 10-second briefing

Hyundai Motor
005380 KS

Target (KRW): **220,000 → 220,000**
Upside: **32.1%**
10 Nov price (KRW): **166,500**

Our 3-month pick: appealing risk/reward profile

- Among the major Pan-Asia automakers, we expect HMC's 4Q14 earnings to see the greatest sequential improvement
- HMC launched its mass-market FCV well in advance of its rivals, which we view as a sign of its competency in green cars
- We see a buying opportunity ahead of a cyclical earnings upturn that we expect for HMC in 2015

1 Buy (unchanged)
2 Outperform
3 Hold
4 Underperform
5 Sell

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■ What's new
We believe HMC's risk/reward profile will be the most appealing among the major Pan-Asia automakers over the next 3 months. HMC successfully launched its first FCV for the mass market in 2H13, which we see as proof of its competency in green cars, and we expect its 4Q14 earnings to improve the most QoQ among the major Pan-Asia players in our coverage.

■ What's the impact
HMC was the first of the major global automakers to produce an FCV aimed at the mass market. It commenced production of its first FCV, the Tucson ix35 Fuel Cell model, in 2H13, ahead of scheduled FCV launches by Toyota in 2H14 and Honda in 2015. As we expect FCVs to become the standard for green cars over the long term in terms of driving range, refill times and emissions (zero), we think HMC's lead here is promising.

■ What we recommend
Since the announcement in mid-September this year of the acquisition of KEPCO's headquarters by 3 large affiliates (including HMC) of Hyundai Motor Group, HMC's share price has fallen by 23.6% and its market cap has contracted by KRW11.3tn (vs. its acquisition contribution amount of KRW5.5tn).

With HMC now trading at a 2015E PER of 5.3x, at a past-5-year trough for the stock, we view the recent correction as a buying opportunity ahead of a cyclical earnings upturn we expect for HMC in 2015, with 39.1% of its global shipments scheduled for model refreshes out to 2016.We reaffirm our Buy (1) rating for HMC and DCF/PER based 6-month target price of KRW220,000.

Moreover, we would view any announcements by HMC of plans for greenfield plants in China or a rise in its dividend payout ratio for 2014 to above 10% (DPS: KRW3,400; yield: 2.0%), vs. 6% for 2013, as potential share-price catalysts. The main risk to our call would be a rapid appreciation of the Won against the US Dollar or Yen.

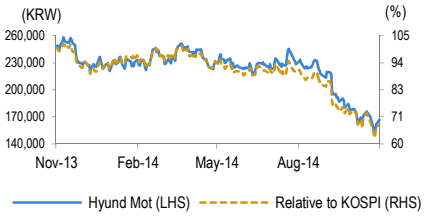
■ How we differ
Our 2014-16E EPS are 3-10% above the Bloomberg-consensus forecasts, as we are more bullish on HMC's shipments and equity-method income.

Forecast revisions (%)

Year to 31 Dec	14E	15E	16E
Revenue change	-	-	-
Net profit change	-	-	-
Core EPS (FD) change	-	-	-

Source: Daiwa forecasts

Share price performance



12-month range	151,000-258,500
Market cap (USDbn)	33.54
3m avg daily turnover (USDm)	141.87
Shares outstanding (m)	220
Major shareholder	Hyundai Mobis (20.8%)

Financial summary (KRW)

Year to 31 Dec	14E	15E	16E
Revenue (bn)	90,056	97,805	105,196
Operating profit (bn)	7,941	8,706	9,705
Net profit (bn)	8,301	8,997	9,969
Core EPS (fully-diluted)	29,079	31,515	34,919
EPS change (%)	(7.7)	8.4	10.8
Daiwa vs Cons. EPS (%)	3.1	6.1	10.3
PER (x)	5.7	5.3	4.8
Dividend yield (%)	2.0	2.2	2.4
DPS	3,400	3,700	4,000
PBR (x)	0.6	0.5	0.5
EV/EBITDA (x)	4.0	4.2	3.8
ROE (%)	14.8	14.0	13.7

Source: FactSet, Daiwa forecasts

Financial summary

Key assumptions

Year to 31 Dec	2009	2010	2011	2012	2013	2014E	2015E	2016E
Sales volume ex. China ('000 Units)	n.a.	n.a.	3,319	3,546	3,656	3,707	3,719	3,807
Average Selling Price ex. China (KRW '000)	n.a.	n.a.	20,225	20,108	19,567	19,737	20,933	21,612
Sales volume in. China ('000 Units)	n.a.	n.a.	4,064.8	4,409.1	4,731.6	4,901.0	4,957.0	5,095.0

Profit and loss (KRWbn)

Year to 31 Dec	2009	2010	2011	2012	2013	2014E	2015E	2016E
Auto Revenues	48,975	57,293	67,128	71,307	71,535	73,157	77,843	82,269
Finance Revenues	3,843	6,520	7,288	8,663	9,893	10,780	12,779	15,573
Other Revenue	2,862	3,172	3,382	4,500	5,880	6,119	7,183	7,355
Total Revenue	**55,680**	**66,985**	**77,798**	**84,470**	**87,308**	**90,056**	**97,805**	**105,196**
Other income	0	0	0	0	0	0	0	0
COGS	(43,490)	(51,266)	(58,902)	(64,967)	(67,859)	(70,651)	(76,777)	(81,970)
SG&A	(7,928)	(9,143)	(10,867)	(11,062)	(11,133)	(11,464)	(12,322)	(13,521)
Other op.expenses	(354)	(658)	0	0	0	0	0	0
Operating profit	**3,908**	**5,918**	**8,029**	**8,441**	**8,315**	**7,941**	**8,706**	**9,705**
Net-interest inc./(exp.)	(568)	(192)	(36)	164	160	148	118	105
Assoc/forex/extraord./others	1,067	1,765	2,454	3,006	3,221	2,654	2,710	2,808
Pre-tax profit	**4,406**	**7,492**	**10,447**	**11,610**	**11,697**	**10,743**	**11,535**	**12,619**
Tax	(955)	(1,490)	(2,342)	(2,549)	(2,703)	(2,442)	(2,538)	(2,650)
Min. int./pref. div./others	0	0	0	0	0	0	0	0
Net profit (reported)	**3,451**	**6,001**	**8,105**	**9,061**	**8,993**	**8,301**	**8,997**	**9,969**
Net profit (adjusted)	**3,451**	**6,001**	**8,105**	**9,061**	**8,993**	**8,301**	**8,997**	**9,969**
EPS (reported)(KRW)	**12,096**	**21,021**	**28,390**	**31,740**	**31,503**	**29,079**	**31,515**	**34,919**
EPS (adjusted)(KRW)	**12,096**	**21,021**	**28,390**	**31,740**	**31,503**	**29,079**	**31,515**	**34,919**
EPS (adjusted fully-diluted)(KRW)	**12,096**	**21,021**	**28,390**	**31,740**	**31,503**	**29,079**	**31,515**	**34,919**
DPS (KRW)	**1,150**	**1,500**	**1,750**	**1,900**	**1,950**	**3,400**	**3,700**	**4,000**
EBIT	**3,908**	**5,918**	**8,029**	**8,441**	**8,315**	**7,941**	**8,706**	**9,705**
EBITDA	**5,648**	**8,102**	**9,615**	**10,163**	**10,096**	**9,777**	**10,700**	**11,730**

Cash flow (KRWbn)

Year to 31 Dec	2009	2010	2011	2012	2013	2014E	2015E	2016E
Profit before tax	4,406	7,492	10,447	11,610	11,697	10,743	11,535	12,619
Depreciation and amortisation	1,740	2,183	1,586	1,722	1,780	1,836	1,994	2,025
Tax paid	(955)	(1,490)	(2,342)	(2,549)	(2,703)	(2,442)	(2,538)	(2,650)
Change in working capital	1,937	11,154	4,748	6,763	13,368	3,470	(1,483)	2,401
Other operational CF items	6,468	(3,392)	(10,263)	(12,193)	(20,138)	(6,715)	(2,983)	(7,751)
Cash flow from operations	**13,596**	**15,947**	**4,177**	**5,353**	**4,003**	**6,893**	**6,525**	**6,643**
Capex	(3,763)	(2,045)	(2,899)	(3,000)	(3,171)	(3,699)	(8,446)	(3,171)
Net (acquisitions)/disposals	(2,504)	(5,102)	(4,224)	(4,048)	(3,819)	186	117	95
Other investing CF items	(536)	(9,642)	(362)	(182)	(182)	196	307	297
Cash flow from investing	**(6,802)**	**(16,789)**	**(7,485)**	**(7,230)**	**(7,172)**	**(3,317)**	**(8,022)**	**(2,779)**
Change in debt	(4,047)	2,591	3,928	2,684	6,083	(16)	668	690
Net share issues/(repurchases)	0	0	0	0	0	0	0	0
Dividends paid	(277)	(588)	(458)	(523)	(633)	(749)	(815)	(881)
Other financing CF items	(918)	(944)	(3,857)	(485)	250	(320)	(2,104)	(2,556)
Cash flow from financing	**(5,242)**	**1,058**	**(387)**	**1,676**	**5,700**	**(1,086)**	**(2,251)**	**(2,747)**
Forex effect/others	0	0	0	0	0	0	0	0
Change in cash	**1,552**	**217**	**(3,694)**	**(201)**	**2,531**	**2,490**	**(3,748)**	**1,117**
Free cash flow	9,833	13,902	1,278	2,353	832	3,194	(1,921)	3,472

Source: FactSet, Daiwa forecasts

Financial summary continued ...

■ Balance sheet (KRWbn)

As at 31 Dec	2009	2010	2011	2012	2013	2014E	2015E	2016E
Cash & short-term investment	12,301	31,859	32,083	36,048	39,582	41,074	36,330	36,450
Inventory	10,213	5,491	3,791	4,564	6,974	7,458	8,104	8,652
Accounts receivable	4,892	4,469	1,736	2,470	6,548	6,754	7,335	7,890
Other current assets	1,572	1,701	11,315	11,765	12,118	13,088	14,658	16,417
Total current assets	**28,978**	**43,520**	**48,926**	**54,848**	**65,223**	**68,374**	**66,428**	**69,409**
Fixed assets	20,260	20,236	10,213	10,115	11,425	13,733	24,324	20,642
Goodwill & intangibles	2,548	2,642	1,103	1,290	1,393	1,504	1,685	1,887
Other non-current assets	28,320	28,316	49,237	55,286	54,540	58,114	53,945	64,621
Total assets	**80,106**	**94,714**	**109,480**	**121,538**	**132,580**	**141,726**	**146,381**	**156,559**
Short-term debt	17,907	15,859	15,048	11,050	11,603	12,183	12,622	13,079
Accounts payable	9,713	9,912	10,887	11,881	12,000	12,240	12,362	12,486
Other current liabilities	2,651	5,674	7,229	9,904	11,390	10,251	9,226	9,226
Total current liabilities	**30,271**	**31,445**	**33,164**	**32,836**	**34,993**	**34,674**	**34,210**	**34,791**
Long-term debt	19,453	22,737	27,138	30,513	31,956	31,360	31,589	31,821
Other non-current liabilities	2,530	7,644	8,850	10,271	13,174	15,652	12,334	12,588
Total liabilities	**52,254**	**61,826**	**69,152**	**73,620**	**80,122**	**81,686**	**78,132**	**79,200**
Share capital	1,489	1,489	1,489	1,489	1,489	1,489	1,489	1,489
Reserves/R.E./others	26,363	31,399	38,839	46,429	50,969	58,551	66,760	75,870
Shareholders' equity	**27,852**	**32,888**	**40,328**	**47,918**	**52,458**	**60,040**	**68,249**	**77,359**
Minority interests	0	0	0	0	0	0	0	0
Total equity & liabilities	**80,106**	**94,714**	**109,480**	**121,538**	**132,580**	**141,726**	**146,381**	**156,559**
EV	61,735	43,413	46,779	42,192	40,653	39,144	44,557	45,126
Net debt/(cash)	**25,059**	**6,737**	**10,103**	**5,516**	**3,977**	**2,468**	**7,881**	**8,450**
BVPS (KRW)	**126,443**	**149,303**	**183,078**	**217,534**	**238,145**	**272,568**	**309,833**	**351,191**

■ Key ratios (%)

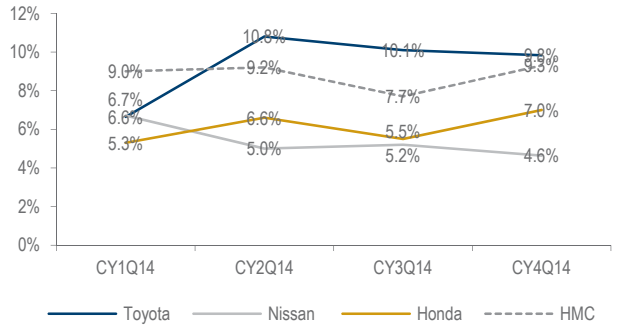
Year to 31 Dec	2009	2010	2011	2012	2013	2014E	2015E	2016E
Sales (YoY)	18.8	20.3	16.1	8.6	3.4	3.1	8.6	7.6
EBITDA (YoY)	30.2	43.4	18.7	5.7	(0.7)	(3.2)	9.4	9.6
Operating profit (YoY)	43.0	51.5	35.7	5.1	(1.5)	(4.5)	9.6	11.5
Net profit (YoY)	154.0	73.9	35.1	11.8	(0.7)	(7.7)	8.4	10.8
Core EPS (fully-diluted) (YoY)	153.9	73.8	35.1	11.8	(0.7)	(7.7)	8.4	10.8
Gross-profit margin	21.9	23.5	24.3	23.1	22.3	21.5	21.5	22.1
EBITDA margin	10.1	12.1	12.4	12.0	11.6	10.9	10.9	11.2
Operating-profit margin	7.0	8.8	10.3	10.0	9.5	8.8	8.9	9.2
Net profit margin	6.2	9.0	10.4	10.7	10.3	9.2	9.2	9.5
ROAE	12.6	19.8	22.1	20.5	17.9	14.8	14.0	13.7
ROAA	4.2	6.9	7.9	7.8	7.1	6.1	6.2	6.6
ROCE	5.8	8.7	10.4	9.8	9.0	8.0	8.1	8.3
ROIC	5.4	10.2	13.8	12.7	11.6	10.3	9.8	9.5
Net debt to equity	90.0	20.5	25.1	11.5	7.6	4.1	11.5	10.9
Effective tax rate	21.7	19.9	22.4	22.0	23.1	22.7	22.0	21.0
Accounts receivable (days)	33.8	25.5	14.6	9.1	18.9	27.0	26.3	26.4
Current ratio (x)	1.0	1.4	1.5	1.7	1.9	2.0	1.9	2.0
Net interest cover (x)	6.9	30.8	223.1	n.a.	n.a.	n.a.	n.a.	n.a.
Net dividend payout	9.5	7.1	6.2	6.0	6.2	11.7	11.7	11.5
Free cash flow yield	26.8	37.9	3.5	6.4	2.3	8.7	n.a.	9.5

Source: FactSet, Daiwa forecasts

■ Company profile

Established in 1967, HMC is the largest vehicle manufacturer in Korea. With the 33.58%-owned Kia Motors, it has 6.4m units of production capacity globally. The company produces a range of vehicles, including passenger cars, SUVs, minivans and commercial vehicles.

■ HMC & Pan-Asia automakers: quarterly operating margin trends



Source: Bloomberg, Daiwa forecasts

Note: 1) CY refers to calendar year 2) CY4Q14 margins for Toyota, Nissan and Honda are based on Bloomberg consensus

■ HMC: new model cycle (2014-16E)

HMC	1H14	2H14E	1H15E	2H15E	2016E
Korea	LF Sonata (1Q)	LF Sonata HEV (3Q) Grandeur Diesel (3Q)	Tucson	Equus Avante (3Q)	
US	New Genesis (1Q)	LF Sonata (3Q)	Tucson	Elantra (4Q)	Equus
China		iX 25 (3Q)			
EU		i20 (4Q) LF Sonata (3Q)			

Source: Company, Daiwa

■ HMC's Tucson FCV model

Source: Company, Daiwa

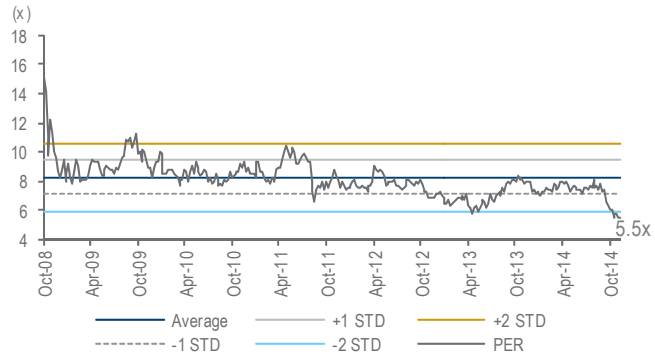
■ HMC: forex sensitivity on 2015E operating profit

		USD:JPY						
		95	100	105	110	115	120	125
	1,070	6.6%	6.1%	5.6%	5.1%	4.6%	4.1%	3.6%
	1,060	5.3%	4.8%	4.3%	3.8%	3.3%	2.8%	2.3%
	1,050	4.0%	3.5%	3.0%	2.5%	2.1%	1.6%	1.1%
	1,040	2.7%	2.2%	1.7%	1.3%	0.8%	0.3%	-0.2%
USD:KRW	1,030	1.4%	0.9%	0.5%	0.0%	-0.5%	-0.9%	-1.4%
	1,020	0.1%	-0.3%	-0.8%	-1.3%	-1.7%	-2.2%	-2.7%
	1,010	-1.2%	-1.6%	-2.1%	-2.5%	-3.0%	-3.5%	-3.9%
	1,000	-2.5%	-2.9%	-3.4%	-3.8%	-4.3%	-4.7%	-5.2%
	9,90	-3.7%	-4.2%	-4.6%	-5.1%	-5.5%	-6.0%	-6.4%

Source: Daiwa estimates;

Note: Although HMC doesn't have any net exposure in JPY, our sensitivity analysis (based on our regression analysis) suggests that HMC's unit sales were adversely affected by 2,527 units, with a 1% depreciation of the JPY against the USD from 2006-2008

■ HMC: 1-year forward PER bands



Source: Dataguide

■ HMC: key assumptions for Daiwa's 6-month target price

	Unit	Value
DCF-based valuation		
Discounted NPV value	(KRWbn)	40,586
PV terminal value	(KRWbn)	30,827
Enterprise value	(KRWbn)	71,413
Net debt (2015E)	(KRWbn)	7,881
Value of equity	(KRWbn)	63,532
No. of shares*	(m shares)	285
Fair value	**(KRW)**	**222,545**
WACC	(%)	11.1
Terminal growth rate	(%)	2.5
PER-based valuation		
Target PER	(x)	6.9
2015 EPS forecast	(KRW)	31,515
Fair value	**(KRW)**	**217,455**
DCF/PER-based target price (equally weighted)	**(KRW)**	**220,000**

Source: Daiwa estimates and forecasts

*Note: * fully diluted including preferred shares*

The 10-second briefing

Hyundai Mobis

012330 KS

Target (KRW): **280,000 → 280,000**
Upside: **17.6%**
10 Nov price (KRW): **238,000**

Long-term growth story unfolding

- Share price correction provides a bottom-fishing opportunity ahead of likely product-mix improvements for 2015-16
- Introduction of new battery management system should make HMG's green cars more efficient
- Reiterate Outperform rating and 6-month target price of KRW280,000

1 Buy
2 Outperform (unchanged)
3 Hold
4 Underperform
5 Sell

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■ What's new

We think the recent correction in Mobis' share price represents a bottom-fishing opportunity ahead of: 1) a likely further QoQ improvement in Mobis' 4Q14 earnings on higher global shipments from Hyundai Motor Group (HMG) and a stabilising KRW:USD exchange rate trend, 2) change in HMG's shareholding structure via a possible swap between Kia Motors' (Kia, 000270KS, KRW54,500, Outperform [2]) stake in Mobis and Mr ES Chung's stake in HMG affiliate Glovis, and 3) the introduction of Mobis' new battery management system (BMS), which should improve the efficiency of eco-friendly electric vehicles and become an earnings growth driver in the future.

■ What's the impact

Mobis' share price has fallen by 14.7% since mid-September (driven by the announcement that HMG's 3 affiliates have acquired KEPCO's headquarters). Its market cap has contracted by KRW4.0tn (vs. the KRW3.2tn it contributed to the acquisition). We believe this trend is now over and expect investor confidence to improve ahead of our forecast sequential improvement in Mobis' 4Q14 earnings.

Meanwhile, we expect the BMS, already a requirement for HEVs, FCVs, and pure EVs, to feature in more green cars over the long term. The BMS can check the voltage, and current temperature of all batteries in the car, in real time. It can also prevent the battery from overcharging or discharging battery ion cells, thus greatly enhancing the thermal stability of the vehicle and its reliability. We forecast Mobis's BMS revenues to post a 33% CAGR in 2013-20E, albeit off a small base.

■ What we recommend

We reiterate our Outperform (2) rating on Mobis, with an unchanged 6-month target price (blended SOTP, PER and DCF) of KRW280,000. As we see it, the stock's valuation is appealing, at a 2015E PER of 5.4x, vs. its past-5-year range of 4.6-14.7x. The main risk to our view is greater-than-expected pricing pressure from OEMs.

■ How we differ

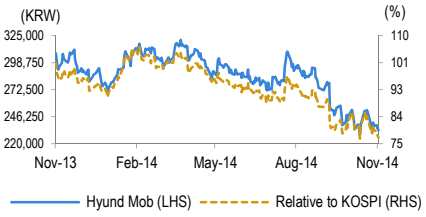
Our 2014-16E EPS are 7-11% above the Bloomberg-consensus forecasts, as we are more bullish on earnings coming from HMG's key car models.

Forecast revisions (%)

Year to 31 Dec	14E	15E	16E
Revenue change	-	-	-
Net profit change	-	-	-
Core EPS (FD) change	-	-	-

Source: Daiwa forecasts

Share price performance



12-month range	228,500-321,000
Market cap (USDbn)	21.35
3m avg daily turnover (USDm)	56.05
Shares outstanding (m)	97
Major shareholder	Kia Motors (16.9%)

Financial summary (KRW)

Year to 31 Dec	14E	15E	16E
Revenue (bn)	39,052	44,996	47,838
Operating profit (bn)	3,391	4,000	4,382
Net profit (bn)	3,830	4,307	4,647
Core EPS (fully-diluted)	39,345	44,242	47,736
EPS change (%)	12.8	12.4	7.9
Daiwa vs Cons. EPS (%)	6.5	10.3	11.0
PER (x)	6.0	5.4	5.0
Dividend yield (%)	0.8	0.8	0.8
DPS	1,901	1,901	1,901
PBR (x)	1.0	0.9	0.7
EV/EBITDA (x)	4.0	3.8	3.5
ROE (%)	17.6	17.1	16.0

Source: FactSet, Daiwa forecasts

Financial summary

Key assumptions

Year to 31 Dec	2009	2010	2011	2012	2013	2014E	2015E	2016E
A/S parts' revenue growth (YoY %)	n.a.	n.a.	13.2	9.2	5.6	12.2	28.1	13.7
Module's revenue growth (YoY %)	n.a.	n.a.	20.3	15.1	12.3	14.9	12.6	4.3
A/S parts' operating profit margin (%)	n.a.	24.8	22.7	22.6	21.1	20.8	19.1	19.1
Module's operating profit margin (%)	n.a.	7.6	6.9	6.8	6.3	6.6	6.8	6.9

Profit and loss (KRWbn)

Year to 31 Dec	2009	2010	2011	2012	2013	2014E	2015E	2016E
Module and Core-parts Revenues	0	17,380	20,903	24,060	27,022	31,059	34,959	36,459
A/S Parts Revenues	0	4,764	5,391	5,889	6,220	6,977	8,940	10,161
Other Revenue	17,230	1	(0)	840	956	1,016	1,098	1,218
Total Revenue	**17,230**	**22,144**	**26,295**	**30,789**	**34,199**	**39,052**	**44,996**	**47,838**
Other income	710	903	882	1,018	1,139	1,296	1,485	1,579
COGS	(13,989)	(17,910)	(22,257)	(26,245)	(29,386)	(33,506)	(38,471)	(40,901)
SG&A	(1,547)	(1,903)	(1,400)	(1,638)	(1,889)	(2,155)	(2,524)	(2,555)
Other op.expenses	(710)	(903)	(882)	(1,018)	(1,139)	(1,296)	(1,485)	(1,578)
Operating profit	**1,694**	**2,331**	**2,637**	**2,906**	**2,924**	**3,391**	**4,000**	**4,382**
Net-interest inc./(exp.)	(39)	(3)	23	69	119	(173)	(31)	(43)
Assoc/forex/extraord./others	419	924	1,402	1,632	1,491	1,801	1,646	1,618
Pre-tax profit	**2,074**	**3,252**	**4,063**	**4,607**	**4,535**	**5,020**	**5,615**	**5,957**
Tax	(500)	(746)	(1,036)	(1,065)	(1,138)	(1,190)	(1,308)	(1,310)
Min. int./pref. div./others	0	0	0	0	0	0	0	0
Net profit (reported)	**1,574**	**2,506**	**3,027**	**3,542**	**3,396**	**3,830**	**4,307**	**4,647**
Net profit (adjusted)	**1,574**	**2,506**	**3,027**	**3,542**	**3,396**	**3,830**	**4,307**	**4,647**
EPS (reported)(KRW)	**17,020**	**25,743**	**31,094**	**36,387**	**34,891**	**39,345**	**44,242**	**47,736**
EPS (adjusted)(KRW)	**17,020**	**25,743**	**31,094**	**36,387**	**34,891**	**39,345**	**44,242**	**47,736**
EPS (adjusted fully-diluted)(KRW)	**17,020**	**25,743**	**31,094**	**36,387**	**34,891**	**39,345**	**44,242**	**47,736**
DPS (KRW)	**1,250**	**1,500**	**1,750**	**1,900**	**1,901**	**1,901**	**1,901**	**1,901**
EBIT	**1,694**	**2,331**	**2,637**	**2,906**	**2,924**	**3,391**	**4,000**	**4,382**
EBITDA	**2,405**	**3,234**	**3,519**	**3,924**	**4,064**	**4,687**	**5,485**	**5,960**

Cash flow (KRWbn)

Year to 31 Dec	2009	2010	2011	2012	2013	2014E	2015E	2016E
Profit before tax	2,074	3,252	4,063	4,607	4,535	5,020	5,615	5,957
Depreciation and amortisation	710	903	882	1,018	1,139	1,296	1,485	1,579
Tax paid	(500)	(746)	(1,036)	(1,065)	(1,138)	(1,190)	(1,308)	(1,310)
Change in working capital	(95)	(1,937)	(388)	(3,712)	(1,490)	(658)	1,856	(915)
Other operational CF items	(1,540)	826	(1,361)	2,265	68	(1,942)	(1,915)	(1,904)
Cash flow from operations	**650**	**2,297**	**2,159**	**3,113**	**3,114**	**2,526**	**5,733**	**3,407**
Capex	(356)	(414)	(716)	(858)	(652)	(936)	(3,420)	(889)
Net (acquisitions)/disposals	(1,214)	(237)	(2,135)	(1,339)	(1,800)	138	2,645	(300)
Other investing CF items	4	(21)	(1)	183	438	(462)	(462)	(462)
Cash flow from investing	**(1,566)**	**(673)**	**(2,852)**	**(2,014)**	**(2,013)**	**(1,260)**	**(1,237)**	**(1,651)**
Change in debt	731	(144)	423	(160)	390	(165)	(116)	(75)
Net share issues/(repurchases)	0	0	0	0	0	0	0	0
Dividends paid	(86)	(121)	(145)	(170)	(185)	(185)	(185)	(185)
Other financing CF items	(81)	(22)	24	(32)	(1,626)	(793)	(3,935)	(1,209)
Cash flow from financing	**564**	**(287)**	**303**	**(362)**	**(1,422)**	**(1,143)**	**(4,236)**	**(1,470)**
Forex effect/others	0	0	0	0	0	0	0	0
Change in cash	**(353)**	**1,338**	**(390)**	**737**	**(320)**	**124**	**260**	**286**
Free cash flow	294	1,883	1,443	2,255	2,462	1,590	2,313	2,517

Source: FactSet, Daiwa forecasts

Financial summary continued ...

■ Balance sheet (KRWbn)

As at 31 Dec	2009	2010	2011	2012	2013	2014E	2015E	2016E
Cash & short-term investment	1,125	2,712	3,328	6,597	7,385	7,178	4,589	4,962
Inventory	1,270	1,568	1,837	1,968	2,314	2,699	3,099	3,408
Accounts receivable	3,634	3,951	4,749	5,195	5,628	6,834	7,874	8,505
Other current assets	72	102	149	183	245	294	352	423
Total current assets	**6,100**	**8,332**	**10,064**	**13,943**	**15,572**	**17,004**	**15,915**	**17,297**
Fixed assets	2,524	2,646	3,319	3,714	3,887	3,916	6,569	6,856
Goodwill & intangibles	898	692	861	1,047	979	1,028	1,079	1,133
Other non-current assets	4,679	5,581	8,332	11,343	13,992	16,342	19,140	22,474
Total assets	**14,201**	**17,251**	**22,576**	**30,047**	**34,430**	**38,291**	**42,704**	**47,761**
Short-term debt	1,692	1,613	2,336	1,759	1,565	1,596	1,628	1,661
Accounts payable	3,229	3,389	3,952	4,440	4,738	5,584	6,412	6,931
Other current liabilities	467	681	739	996	1,031	928	835	752
Total current liabilities	**5,388**	**5,683**	**7,027**	**7,195**	**7,334**	**8,108**	**8,875**	**9,343**
Long-term debt	538	519	328	726	1,200	1,004	856	748
Other non-current liabilities	517	862	1,427	5,087	5,703	5,829	5,991	6,717
Total liabilities	**6,443**	**7,063**	**8,781**	**13,007**	**14,237**	**14,941**	**15,721**	**16,808**
Share capital	491	491	491	491	491	491	491	491
Reserves/R.E./others	7,268	9,697	13,303	16,549	19,702	22,859	26,492	30,462
Shareholders' equity	**7,759**	**10,188**	**13,795**	**17,040**	**20,193**	**23,350**	**26,983**	**30,953**
Minority interests	0	0	0	0	0	0	0	0
Total equity & liabilities	**14,201**	**17,251**	**22,576**	**30,047**	**34,430**	**38,291**	**42,704**	**47,761**
EV	24,273	22,588	22,503	19,055	18,547	18,590	21,062	20,615
Net debt/(cash)	**1,105**	**(580)**	**(665)**	**(4,112)**	**(4,620)**	**(4,578)**	**(2,105)**	**(2,553)**
BVPS (KRW)	**79,703**	**104,661**	**141,710**	**175,047**	**207,442**	**239,868**	**277,189**	**321,281**

■ Key ratios (%)

Year to 31 Dec	2009	2010	2011	2012	2013	2014E	2015E	2016E
Sales (YoY)	24.4	28.5	18.7	17.1	11.1	14.2	15.2	6.3
EBITDA (YoY)	36.9	34.5	8.8	11.5	3.6	15.3	17.0	8.7
Operating profit (YoY)	39.5	37.6	13.1	10.2	0.6	16.0	18.0	9.6
Net profit (YoY)	51.5	59.2	20.8	17.0	(4.1)	12.8	12.4	7.9
Core EPS (fully-diluted) (YoY)	43.4	51.3	20.8	17.0	(4.1)	12.8	12.4	7.9
Gross-profit margin	18.8	19.1	15.4	14.8	14.1	14.2	14.5	14.5
EBITDA margin	14.0	14.6	13.4	12.7	11.9	12.0	12.2	12.5
Operating-profit margin	9.8	10.5	10.0	9.4	8.6	8.7	8.9	9.2
Net profit margin	9.1	11.3	11.5	11.5	9.9	9.8	9.6	9.7
ROAE	24.0	27.9	25.2	23.0	18.2	17.6	17.1	16.0
ROAA	12.8	15.9	15.2	13.5	10.5	10.5	10.6	10.3
ROCE	19.5	20.9	18.3	16.2	13.8	13.9	14.4	14.0
ROIC	17.5	19.4	17.3	17.1	15.4	15.1	14.1	12.8
Net debt to equity	14.2	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Effective tax rate	24.1	22.9	25.5	23.1	25.1	23.7	23.3	22.0
Accounts receivable (days)	61.9	62.5	60.4	58.9	57.8	58.2	59.7	62.5
Current ratio (x)	1.1	1.5	1.4	1.9	2.1	2.1	1.8	1.9
Net interest cover (x)	42.9	815.6	n.a.	n.a.	n.a.	19.7	128.2	101.3
Net dividend payout	7.3	5.8	5.6	5.2	5.4	4.8	4.3	4.0
Free cash flow yield	1.3	8.1	6.2	9.7	10.6	6.9	10.0	10.9

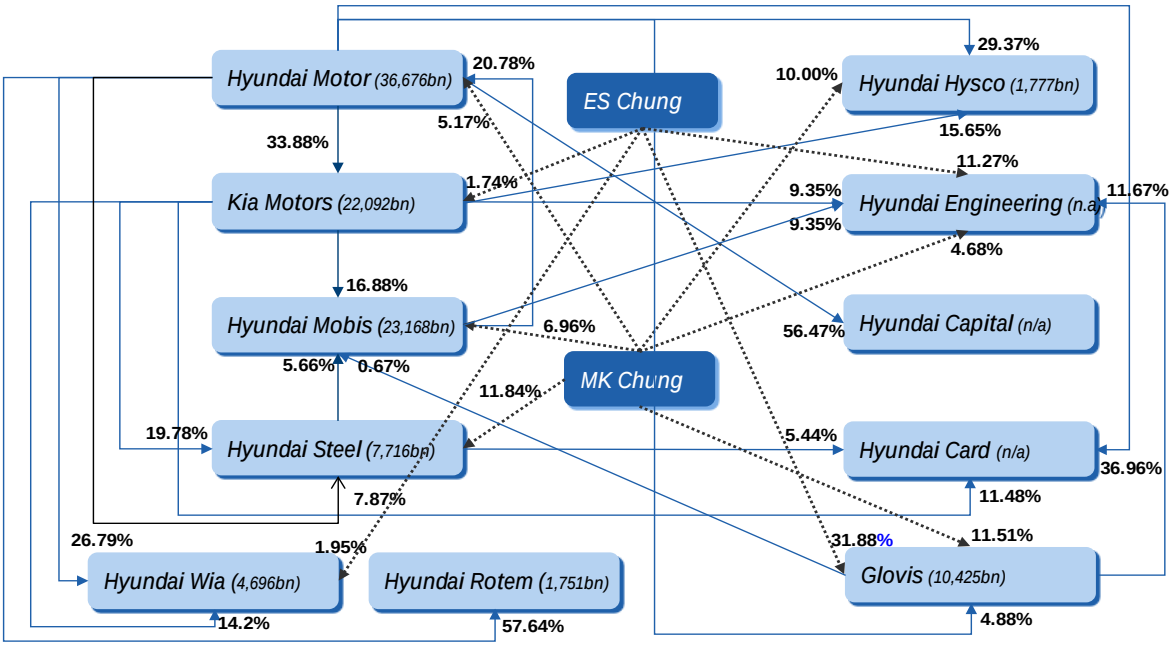
Source: FactSet, Daiwa forecasts

■ Company profile

Mobis is the sole distributor of Hyundai/Kia's after-sales parts globally and the largest auto-parts company in Korea. It has two major business divisions: 1) module-assembly and key auto-components manufacturing (ABS, airbags, etc.), which accounts for 60% of revenue, and 2) after-sales parts, which accounts for 40%.

■ **HMG: current shareholding structure**

Hyundai Motor Group: cross-shareholding structure (market cap: KRWbn)



Source: FSS

As of Nov-10th 2014

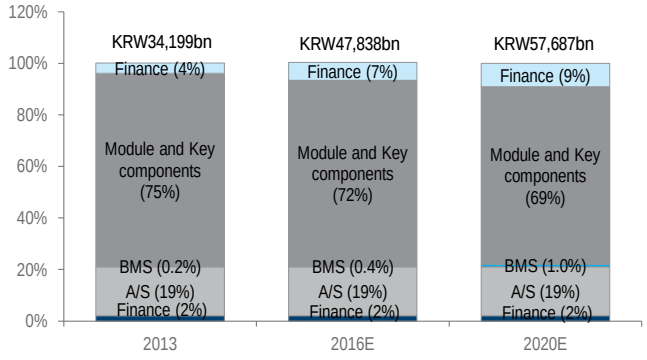
Source: Company, Daiwa

■ **ES Chung's stake in affiliates, vs. Kia's stake in Mobis**

(KRWbn)	Market cap	ES Chung's stake	Value
Kia	22,092	1.7%	384
Glovis	10,425	31.9%	3,323
Wia	4,696	2.0%	92
Engineering*	5,000	11.3%	564
Innocean*	1,000	10.0%	100
ES Chung			4,079
	Market cap	Kia's stake	Value
Mobis	23,168	16.9%	3,911
(ES Chung's stake in affiliates) - (Kia's stake in Mobis)			168

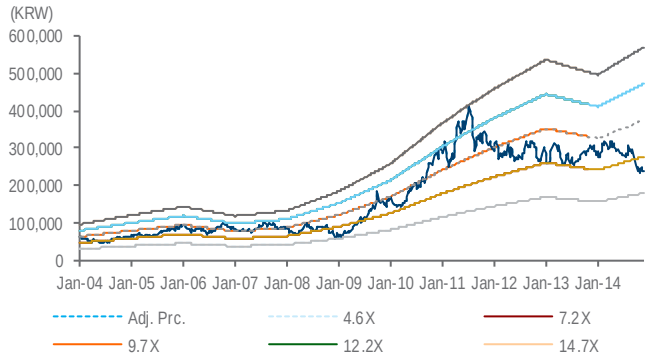
Source: Company, Daiwa
Note: *We expect IPOs for Hyundai Engineering and Hyundai Innocean in 2015

■ **Mobis: revenue breakdown by product**



Source: Company, Daiwa forecasts

■ **Mobis: one-year forward PER bands**



Source: Dataguide, Daiwa

■ **Mobis: Daiwa's assumptions for BMS products**

	2013	2016E	2020E
Auto revenue from HMG (KRWbn)	151,800	185,800	220,596
Shipments ('000)	7,363	8,628	10,000
ASP ('000 KRW)	20,617	21,535	22,060
HEV shipments ('000)	66	165	413
BMS ASP (KRW)	1,700,000	1,836,000	1,982,880
Mobis M/S in HMG (%)	100	100	100
BMS revenue for Mobis (KRWbn)	79	212	573
Total revenue (KRWbn)	34,199	47,838	57,687
Revenue proportion for BMS (%)	0.2%	0.4%	1.0%

Source: Company, Daiwa forecasts
Note: M/S =Market Share

■ Mobis: key assumptions for Daiwa's 6-month target price

SOTP	A/S parts	Module	Total
2015E Revenue	8,940	34,959	43,898
2015E EBITDA	2,090	3,439	4,687
Target EV/EBITDA	4.0	1.5	
Divisional EV	8,359	5,159	13,518
Value of affiliate holdings			10,315
Total EV (KRWbn)			23,832
Net debt (2015E)			(2,105)
Net equity value (KRWbn)			25,938
No of shares (m)			97
Value per share (KRW)			266,455
		Unit	
DCF			
Discounted NPV value		(KRWbn)	18,005
PV terminal value		(KRWbn)	9,450
Net debt (2015E)		(KRWbn)	(2,105)
Value of equity		(KRWbn)	29,560
No. of shares		(m shares)	97
Fair value		(KRW)	303,666
Target PER			
Target PER		(x)	6.1
2015E EPS forecast		(KRW)	44,242
Fair value		(KRW)	269,876
Target price		**(KRW)**	**280,000**

Source: Daiwa


Daiwa
Capital Markets

The 10-second briefing

Denso

6902 JP

Target price: JPY6,000
Up/downside: +13.8%
Share price (10 Nov): JPY5,274

Rising sales of hybrid vehicle products

- Denso leads its peers in accumulation of HEV technology
- Its annual hybrid vehicle product sales are up 26% on average over the past 5 years
- Still looks undervalued relative to auto industry peers in Japan, US and Europe; focus on sharper sales growth from FY15E as catalyst

1 Buy
2 Outperform (unchanged)
3 Hold
4 Underperform
5 Sell

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■ What's new

Denso's sales of hybrid vehicle products to auto industry players other than Toyota Motor have risen.

■ What's the impact

The firm handles a wide range of products. Its sales of hybrid electric vehicle (HEV) systems to Toyota Motor encompass: 1) full or partial supply of items such as hybrid electric control units (ECU), battery sensors, DC-DC converters, and 2) power control units (PCU; including inverters), a key component. All PCUs used in rear-wheel-drive vehicles with large motors, such as the Lexus LS, are produced by Denso.

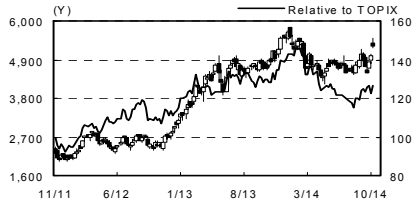
We believe such PCUs illustrate the firm's technological capabilities. Nissan's Fuga Hybrid vehicles feature 50kW motors that are smaller than the 60kW ones in Toyota's Prius vehicles, likely because increasing motor output capacity requires larger inverters, which results in higher component prices and makes it more difficult to cool PCUs. However, Denso has developed an approach of installing compact PCUs that are cooled from both sides, enabling Lexus to fit its LS Hybrid with 165kW motors.

The firm's annual sales of hybrid vehicle products look to have jumped from around JPY20bn in FY05 to more than JPY100bn in FY13. Hybrid vehicle products still only account for around 3% of Denso's sales, but YoY growth in annual sales of such products has averaged 26% over the past 5 years (vs. average growth of 8% in overall sales), outpacing rates for each of the firm's other major products. Denso's inverters have already been adopted by automakers other than Toyota, including in Mazda's Axela Hybrid vehicles and Nissan's Pathfinder Hybrid vehicles, which bodes well for earnings expansion going forward. Toyota intends to make extensive use of existing, competitive HEV parts in fuel-cell vehicles too. We think this could bring more opportunities for Denso.

■ What we recommend

We reaffirm our Outperform (2) rating and have a 12-month TP of JPY6,000 or roughly 17x our FY15 EPS forecast (formerly JPY5,600). We still think that: 1) Japanese major auto parts suppliers are trading at low PBRs relative to its other global competitors, and 2) Denso could achieve faster sales growth and see an increase in its weighting for sales to automakers other than Toyota from FY15. The main risk to our call: slower-than-expected expansion in its sales to the green car market.

Share price performance



Source: Compiled by Daiwa, Bloomberg

Market data (consol)

12-month range (JPY)	4,223-5,799
Market cap (JPYm; 10 Nov)	4,205,965
Shares outstanding (000; 11/14)	797,490
Foreign ownership (%; 3/14)	25.7

Investment indicators (consol)

	3/14	3/15 E	3/16 E
P/E (X)	14.6	16.4	14.8
EV/EBITDA (X)	6.3	6.4	5.7
P/B (X)	1.56	-	-
Dividend yield (%)	1.99	1.99	2.18
ROE (%)	11.5	-	-

Income summary (consol)

(JPYm)	3/14	3/15 E	3/16 E
Sales	4,095,925	4,190,000	4,350,000
Op profit	377,696	351,000	400,000
Rec profit	419,571	386,000	430,000
Net income	287,388	257,000	284,000
EPS (Y)	360.9	322.3	356.1
DPS (Y)	105.00	105.00	115.00

Source: Company, Daiwa forecasts.

■ **Profit and loss (JPYbn, YoY %)**

(P/L , JPYbn)	FY11	FY12	FY13	FY14E	FY15E
Net Revenues	**3,154.6**	**3,580.9**	**4,095.9**	**4,190.0**	**4,350.0**
YoY	*0.7%*	*13.5%*	*14.4%*	*2.3%*	*3.8%*
Cost of revenues	2,719.9	3,007.6	3,341.8	3,439.0	3,535.0
Gross Profit	**434.7**	**573.3**	**754.1**	**751.0**	**815.0**
Gross margin	13.8%	16.0%	18.4%	17.9%	18.7%
SG&A	274.0	310.9	376.4	400.0	415.0
Operating Profit	**160.7**	**262.4**	**377.7**	**351.0**	**400.0**
Op margin	5.1%	7.3%	9.2%	8.4%	9.2%
YoY	*-15%*	*63%*	*44%*	*-7%*	*14%*
Equity in earnings of affiliates	4.7	5.1	6.3	5.5	6.5
Net interests and dividends	9.5	9.2	13.2	22.7	23.7
Other income (expense) net	5.9	19.3	22.4	7.2	0.0
Recurring Profit	**180.8**	**296.0**	**419.6**	**386.0**	**430.0**
Rp margin	5.7%	8.3%	10.2%	9.2%	9.9%
YoY	*-13%*	*64%*	*42%*	*-8%*	*11%*
Special items	-17.3	-14.1	-0.9	0.0	0.0
Profit Before Taxes (continuing base)	**163.5**	**281.9**	**418.6**	**386.0**	**430.0**
Income taxes	61.3	84.1	113.0	112.0	127.0
tax rate	39%	30%	27%	29%	30%
Minority interests in subsidiaries	12.9	16.1	18.2	17.0	19.0
Net Profit	**89.3**	**181.7**	**287.4**	**257.0**	**284.0**
YoY	*-38%*	*103%*	*58%*	*-11%*	*11%*
DPS (¥)	**46**	**64**	**105**	**105**	**115**
R&D	298.4	335.5	368.7	390.0	404.9
Dep & Amotization	180.6	181.1	197.2	222.0	235.0
Capex	179.4	230.6	324.1	298.0	280.0
[By region]					
Net Revenue	**3,154.6**	**3,580.9**	**4,095.9**	**4,190.0**	**4,350.0**
Japan	2,197.6	2,463.6	2,717.6	2,617.0	2,643.0
North America	512.1	635.4	816.6	872.0	882.0
Europe	387.2	372.2	498.9	534.0	551.0
Asia	626.7	794.0	943.1	1,036.0	1,156.0
Elimination	-569.0	-684.4	-880.3	-869.0	-882.0
Operating Income	**160.7**	**262.4**	**377.7**	**351.0**	**400.0**
Japan	83.9	170.7	283.3	240.0	259.0
North America	8.8	13.4	14.7	23.0	34.0
Europe	6.4	3.9	12.4	17.0	23.0
Asia	59.5	73.7	71.2	72.0	85.0
Elimination	2.2	0.7	-3.9	-1.0	-1.0
Operating Margin	**5.1%**	**7.3%**	**9.2%**	**8.4%**	**9.2%**
Japan	3.8%	6.9%	10.4%	9.2%	9.8%
North America	1.7%	2.1%	1.8%	2.6%	3.9%
Europe	1.6%	1.1%	2.5%	3.2%	4.2%
Asia	9.5%	9.3%	7.6%	6.9%	7.4%
Elimination	-0.4%	-0.1%	0.4%	0.1%	0.1%

Source: Company materials; compiled by Daiwa
Note: Figures in chart may differ from text due to rounding

Consolidated balance sheet and cash flow statement (JPYbn)

(B/S , JPYbn)	FY11	FY12	FY13	FY14E	FY15E
Cash&marketable securities	1,022.1	1,095.2	1,034.1	1,032.3	1,142.5
Receivables, net	620.2	640.1	690.2	703.2	730.0
Inventories	324.5	370.7	422.4	446.2	463.3
Other	153.3	176.0	194.9	196.1	196.1
Current assets	**2,120.1**	**2,281.9**	**2,341.6**	**2,377.8**	**2,531.8**
Property, net	800.9	886.2	1,043.7	1,132.1	1,177.1
Investments	671.2	795.6	1,033.2	1,124.1	1,130.6
Other	15.5	15.5	23.9	24.3	24.3
Fixed assets	**1,487.6**	**1,697.2**	**2,100.9**	**2,280.5**	**2,332.0**
Total assets	**3,607.7**	**3,979.1**	**4,442.5**	**4,658.3**	**4,863.8**
Payables	457.8	456.6	493.9	501.8	515.8
Debt	523.1	507.5	435.7	385.0	385.0
Other	617.8	714.9	821.3	814.4	814.4
Liabilities	**1,598.7**	**1,679.0**	**1,751.0**	**1,701.2**	**1,715.2**
Equity	**2,009.0**	**2,300.1**	**2,691.5**	**2,957.1**	**3,148.6**
Working capital	486.9	554.1	618.7	647.6	677.5
Net Debt	-499.0	-587.7	-598.4	-647.4	-757.5
Receivable turnover	2.4	2.1	2.0	2.0	2.0
Inventory turnover	1.2	1.2	1.2	1.3	1.3
Payable turnover	2.0	1.8	1.8	1.8	1.8
Woking capital turnover	1.9	1.9	1.8	1.9	1.9
Total Assets Turnover	0.87	0.90	0.92	0.90	0.89
Net DER	-0.2	-0.3	-0.2	-0.2	-0.2

(C/F , JPYbn)	FY11	FY12	FY13	FY14E	FY15E
Profit	89.3	181.7	287.4	257.0	284.0
Depreciation	180.6	181.1	197.2	222.0	235.0
Equity in earnings of affiliates	-4.7	-5.1	-6.3	-5.5	-6.5
Cash in flow	**265.3**	**357.7**	**478.3**	**473.5**	**512.5**
Capex	-179.4	-230.6	-324.1	-298.0	-280.0
Change of working capital	-106.2	-67.2	-64.6	-28.9	-29.9
Cash out flow	**-285.6**	**-297.8**	**-388.7**	**-326.9**	**-309.9**
FCF	**-20.4**	**59.9**	**89.6**	**146.6**	**202.6**
Dividends	-37.9	-40.3	-66.9	-83.7	-92.5
Buying back shares	-0.0	-27.5	-0.1	0.0	0.0
Debt change	123.5	-15.6	-71.8	-50.8	0.0
Other	23.3	96.6	-12.0	-13.9	0.0
Net Liquidity Change	88.5	73.1	-61.1	-1.8	110.1

Source: Company materials; compiled by Daiwa
Note: Figures in chart may differ from text due to rounding

Company profile

Denso Corp manufactures electronic parts for automobiles. Its products include automobile air conditioners, air bags, ignition systems, generators, power steering systems, and spark plugs with iridium electrode. The company also produces communication equipment for mobile navigation systems.


Daiwa
Capital Markets

Daiwa Capital Markets

Company

Consumer Discretionary / Korea
14 November 2014

The 10-second briefing

Halla Visteon Climate Control
018880 KS

Target (KRW): **n.a.**
Up/downside: -
10 Nov price (KRW): **46,100**

Specialist in thermal-energy management for green cars

- HVCC is seeking to expand its thermal-energy-management systems business internationally
- Aims to improve its ROE with higher dividends and potential acquisition of US-based Delphi's thermal systems business
- Trades currently near the high end of its past-3-year PER and EV/EBITDA multiple ranges

■ Not Rated

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■ Background

Halla Visteon Climate Control (HVCC) is the world's second-largest manufacturer of climate-control systems for cars, and is Korea's largest maker of climate-control systems by shipments, with a 50% market share.

■ Highlights

HVCC is leveraging its climate-control technology to enhance its thermal-energy-management related product portfolio, which services green cars. It estimates that better management of heat waste would, in theory, result into a 10-30% improvement in vehicles' fuel efficiency. With increasingly strict global regulations for fuel efficiency, the market size for thermal-energy management has more potential to grow long-term, according to HVCC.

HVCC expects further global penetration of its thermal-energy-management business to be a long-term earnings driver, due to higher ASPs for green-cars vs. ICEs (the ASP for HEV compressors is 3 times higher). HVCC expects its thermal-energy-management products' revenue contribution to rise to 10% of its total revenue by 2020, from 5% currently. This reflects its following aims: 1) increase sales of its thermal-energy-management products to existing green-car customers, and 2) diversify further its client base, potentially by acquiring US-based Delphi's thermal-systems division.

HVCC's operating-profit margin for 3Q14 was low at 5.9%, due to higher-than-budgeted R&D expenses in Korea and Europe. It guides for its 4Q14 margin to rise by 2.6pp QoQ to 8.5%, on higher shipments globally and lower R&D expenses.

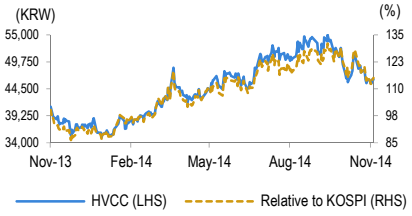
HVCC expects strong earnings growth for the next several years, underpinned by: 1) developing its high-margin thermal-energy-management business through M&A, 2) operating margin improvements via cost savings at the climate-control business it acquired from Visteon in 1Q13, and 3) its increasing focus on high-margin green-car products. Also, in the long term HVCC aims to improve its ROE through efficient use of its capital via potential M&A, to strengthen its competitive edge.

Management is confident in the company's share-price outlook, given its: 1) increasing focus on profitable thermal-energy-management systems, 2) policy to maintain a fairly high dividend payout (35% for 2013), 3) further potential M&A, and 4) good earnings visibility it sees from product-mix enhancements and further client base diversification.

■ Valuation

Based on the Bloomberg-consensus earnings forecasts for 2015, HVCC trades at a PER of 13.3x and an EV/EBITDA multiple of 8.4x. These multiples compare with its past-3-year PER range of 10.0-15.8x (average of 13.5x) and EV/EBITDA range of 2.9-8.9x (average of 6.4x).

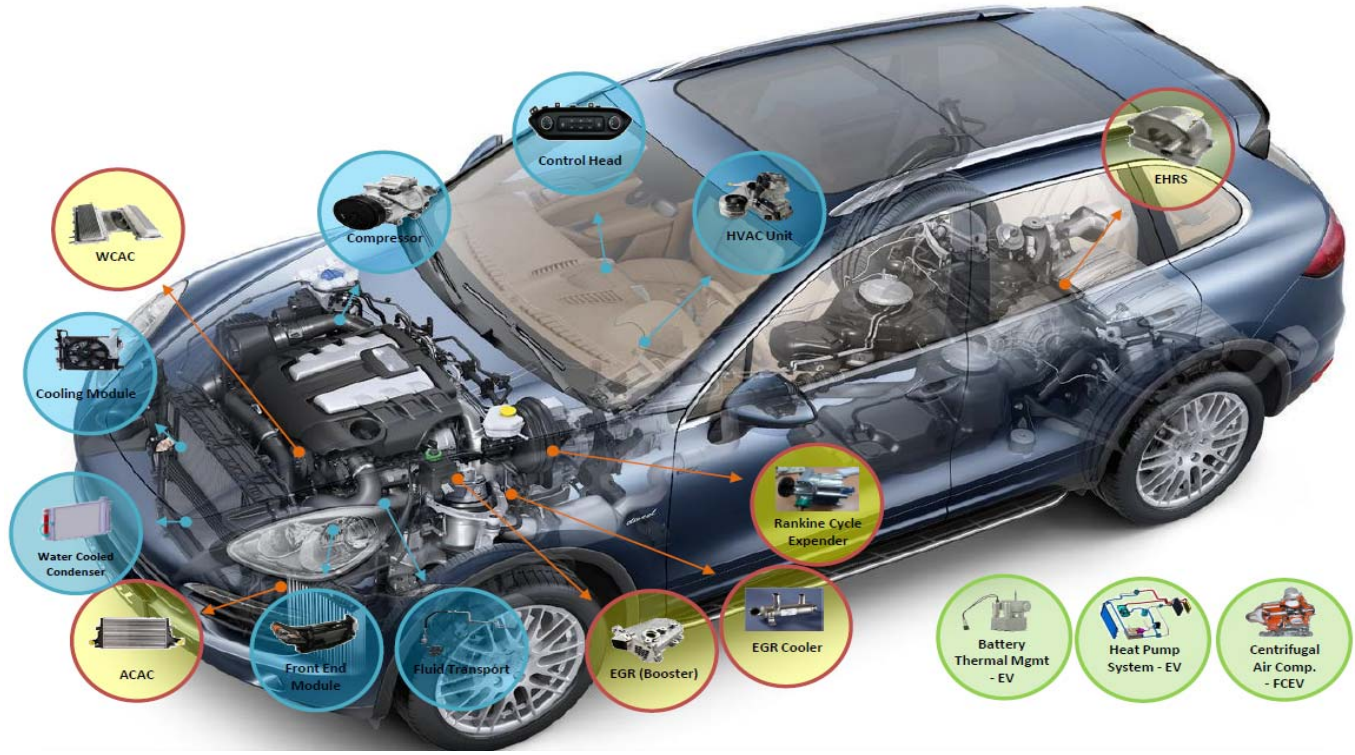
Share price performance



12-month range	35,100.00-55,000.00
Market cap (USDbn)	4.54
3m avg daily turnover (USDm)	9.04

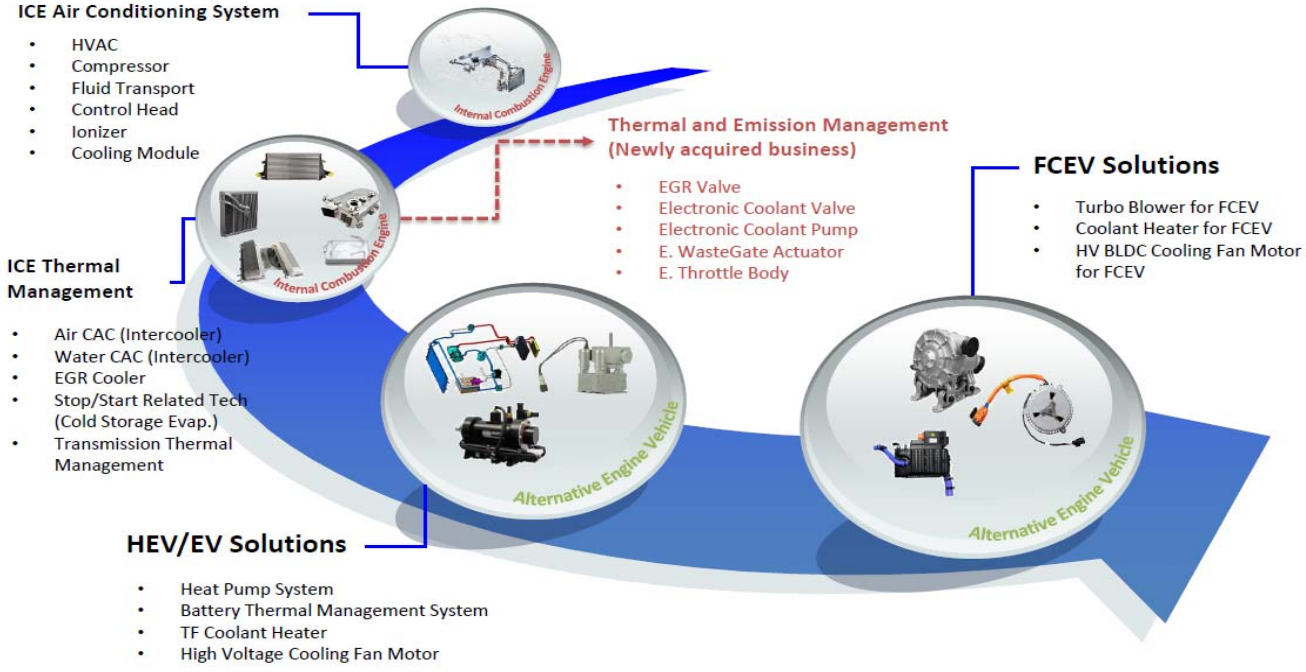
Source: FactSet, Daiwa

■ **HVCC: products and where they are positioned and used in a car**



Source: Company

■ **HVCC: business lines and products**



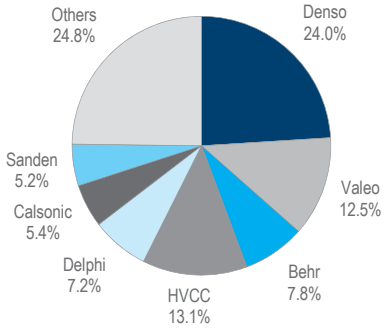
Source: Company

■ HVCC: key financial data (consolidated basis)

(KRWbn)	2012	2013	2014E	2015E	2016E
Revenue	3,653	5,189	5,550	5,885	6,301
Revenue growth (YoY %)	10.3	42.0	7.0	6.0	7.1
Operating profit	310	364	400	454	508
Operating-profit growth (YoY %,)	14.4	17.4	9.8	13.5	11.9
Operating-profit *margin (%)*	*8.5*	*7.0*	*7.2*	*7.7*	*8.1*
Net profit	245	312	319	367	407
Net-profit margin (%)	*6.7*	*6.0*	*5.8*	*6.2*	*6.5*
EPS (KRW)	2,169	2,776	3,011	3,466	3,854
EPS growth (YoY %)	3.7	28.0	8.5	15.1	11.2
DPS (KRW)	716	970	970	970	970
Payout ratio (%)	33.0	34.9	32.2	28.0	25.2
ROE (%)	18.0	20.5	20.4	20.6	20.1

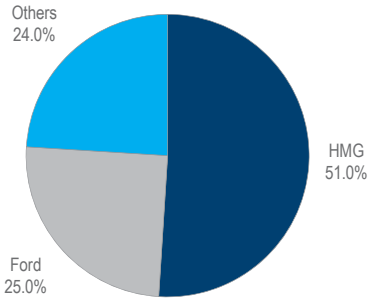
Source: Company, Bloomberg forecasts

■ Global market-share breakdown in climate-control systems for cars in terms of shipments (Nov '14)



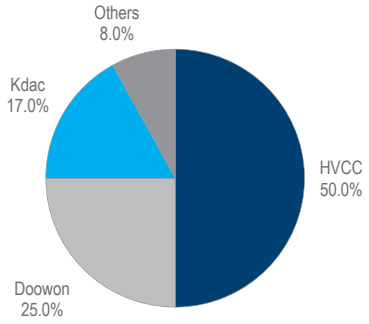
Source: Company

■ HVCC: revenue breakdown by customer (2013)



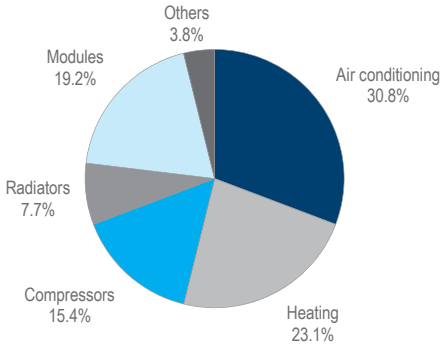
Source: Company
Note: HMG = Hyundai Motor Group

■ Domestic market-share breakdown in climate-control systems for cars in terms of shipments (Nov '14)



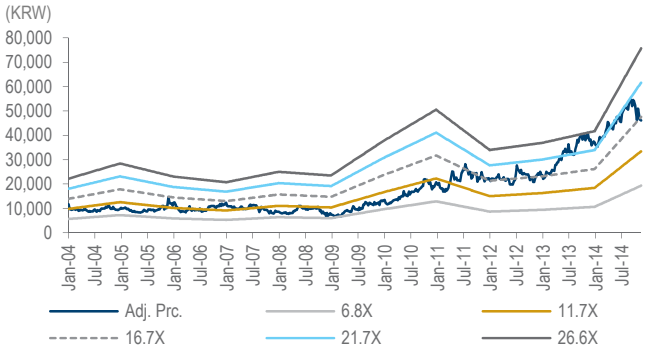
Source: Company

■ HVCC: divisional revenue breakdown (2013)



Source: Company

■ HVCC: 1-year forward PER bands



Source: Company, Bloomberg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Share price and Daiwa recommendation trend

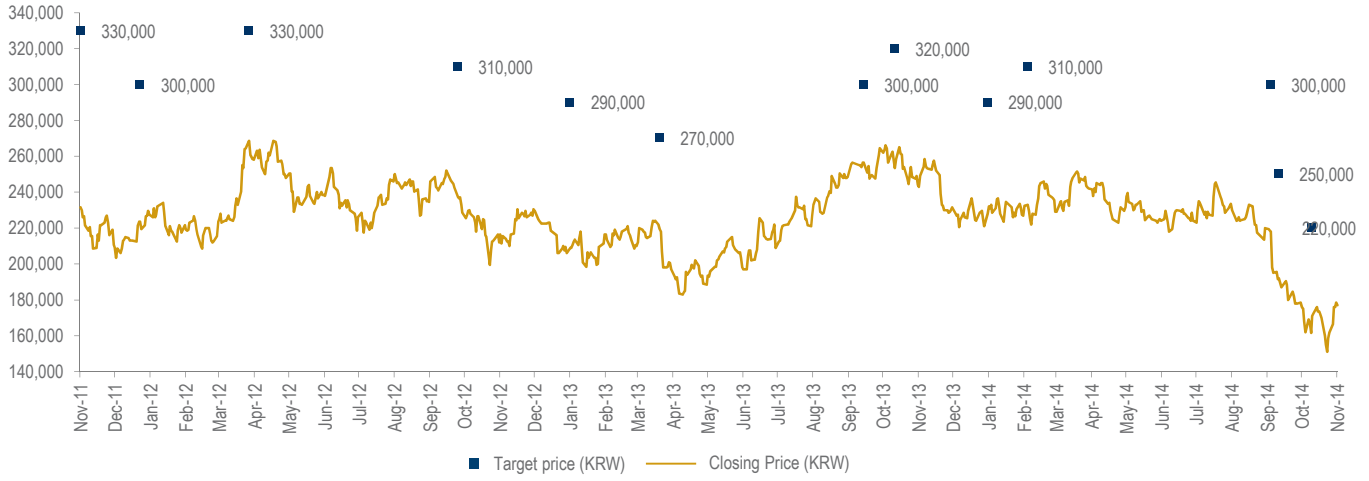
Hyundai Mobis: share price and Daiwa recommendation trend

Date	Target price	Rating	Date	Target price	Rating	Date	Target price	Rating
16/04/12	310,000	Hold	01/02/13	340,000	Buy	19/03/14	280,000	Hold
12/07/12	310,000	Outperform	26/04/13	290,000	Outperform	10/06/14	320,000	Outperform
27/08/12	310,000	Hold	28/06/13	270,000	Hold	24/09/14	280,000	Outperform
27/10/12	290,000	Hold	29/10/13	290,000	Hold			

Source: Daiwa

Hyundai Motor: share price and Daiwa recommendation trend

Date	Target price	Rating	Date	Target price	Rating	Date	Target price	Rating
09/04/12	330,000	Buy	27/09/13	300,000	Buy	17/09/14	300,000	Buy
08/10/12	310,000	Buy	24/10/13	320,000	Buy	24/09/14	250,000	Buy
14/01/13	290,000	Buy	13/01/14	290,000	Buy	23/10/14	220,000	Buy
02/04/13	270,000	Buy	17/02/14	310,000	Buy			



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