October 16, 2013

Bosch Limited (MICO)

₹ 8586

The *"engine"* of auto ancillary segment…

Bosch India (Bosch) is the largest auto ancillary player in the domestic automotive industry. With strong technology leadership and a wide product portfolio, it is one of the few ancillary companies with significant bargaining power with original equipment manufacturers (OEMs). Bosch holds ~90% share in domestic CVs and tractors in fuel injection systems (FIS). With strong technology parentage from the Bosch group, Bosch is poised to benefit from the growth in the tractor and CV segments in CY14E, CY15E. Implementation of new emission norms in CY15E also augurs well for Bosch as it is likely to coincide with an upswing in M&HCV segment volumes. Strong export potential from India operations can also provide potential revenue streams. With a stable margin profile across cycles, healthy return ratios, robust FCF, impressive product positioning and a strong technology moat, Bosch is truly a behemoth in the automotive component industry. We initiate coverage with a HOLD rating.

Automotive space to witness demand recovery; emissions to also aid growth

We expect the CV OEM segment to grow at a CAGR of 5% over FY13-15E, on the back of a recovery in the economic climate. The PV space is also likely to post ~9% growth CAGR in FY13-15E as pent-up demand translates into sales. The tractor segment is also likely to grow at a CAGR of 12% on improved agricultural incomes and increasing mechanisation of farms on paucity of rural labour. Another major growth trigger would emanate from emission changes in CY15E, which would lead to demand spurt from the replacement space. These situations aid Bosch as it remains the monopoly player in the engine components segment in the ancillary space.

Strong focus on R&D; global parent's technology support at low royalty rates

Bosch Group spends ~$5.5 billion every year on R&D. It is comparable with the R&D spends of global auto OEMs like Volkswagen, GM & Toyota. Bosch Group offers most of its technologies at a low royalty rate to the Indian arm. Bosch India, thus, stands to benefit from the technology leadership profile of its parent as implementation of new innovations pick up ground in India.

Earnings growth pace to be modest; re-rating post emission clarity

We believe Bosch will be a key beneficiary of any recovery in the automotive space & could reap high rewards owing to any emission norm changes in CY15E. We expect this to reflect in financials via CAGR of 11.6%, 16.9% in revenues, earnings, respectively, over CY13E-15E. Return ratios are likely to remain healthy, even with capex planned. On valuations front, the stock is at mid-cycle multiples. We value the stock at 14x EV/EBIDTA on rolling CY14E/15E EBITDA (₹ 1812 crore) to arrive at a target price of ₹ 9360.

Exhibit 1: Key financials

₹ crore	CY10	CY11	CY12	CY13E	CY14E	CY15E
Net Sales	6,630.5	7,929.5	8,417.2	8,839.0	9,723.1	10,977.0
EBITDA	1,053.1	1,511.9	1,349.5	1,499.3	1,697.8	2,005.5
Net Profit	858.9	1,122.7	958.3	1,017.5	1,154.9	1,388.8
EPS (₹)	273.5	357.5	305.2	324.1	367.8	442.3
P/E (x)	34.2	26.2	30.7	28.9	25.4	21.2
EV / EBITDA (x)	26.5	18.2	20.0	17.8	15.4	12.6
P/BV (x)	7.2	6.2	5.3	4.6	4.0	3.5
RoNW (%)	21.0	23.7	17.2	16.0	15.9	16.6
RoCE (%)	18.3	25.2	17.1	16.4	16.1	17.0

Source: Company, ICICIdirect.com Research

Rating Matrix

Rating	:	Hold
Target	:	₹ 9360
Target Period	:	12 months
Potential Upside	:	9%

YoY Growth (%)

(YoY Growth)	CY12	CY13E	CY14E	CY15E
Net Sales	6.2	5.0	10.0	12.9
EBITDA	(10.7)	11.1	13.2	18.1
Net Profit	(14.6)	6.2	13.5	20.2
EPS (Rs)	(14.6)	6.2	13.5	20.2

Valuation Matrix

	CY12	CY13E	CY14E	CY15E
P/E (x)	28.1	26.5	23.3	19.4
Target P/E (x)	30.7	28.9	25.4	21.2
EV / EBITDA (x)	18.2	16.2	14.0	11.4
P/BV (x)	4.8	4.2	3.7	3.2
RoNW (%)	17.2	16.0	15.9	16.6
RoCE (%)	17.1	16.4	16.1	17.0

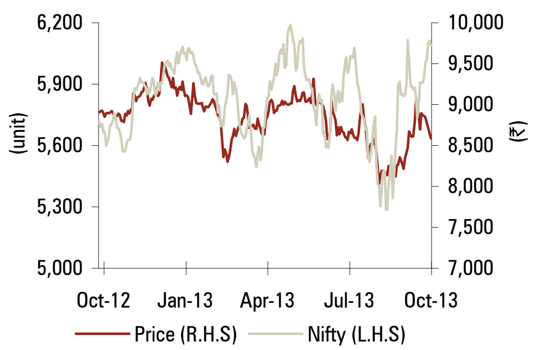
Stock Data

Market Capitalization	₹ 26958.8 Crore
Total Debt (CY12)	₹ 185 Crore
Cash and Investments (CY12)	₹ 2557 Crore
EV	₹ 24586.8 Crore
52 week H/L	9517 / 8026
Equity capital	₹ 31.4 Crore
Face value	₹ 10
MF Holding (%)	11.6
FII Holding (%)	6.9

Comparative return matrix (%)

Return %	1M	3M	6M	12M
Bosch Ltd	4.6	0.5	(0.6)	(1.5)
Motherson Sumi Sys	20.9	24.0	44.3	73.2
Exide Industries Ltd	7.3	11.3	14.3	(8.3)
Denso India Ltd	23.7	50.2	210.3	199.0

Price movement



Analyst's name

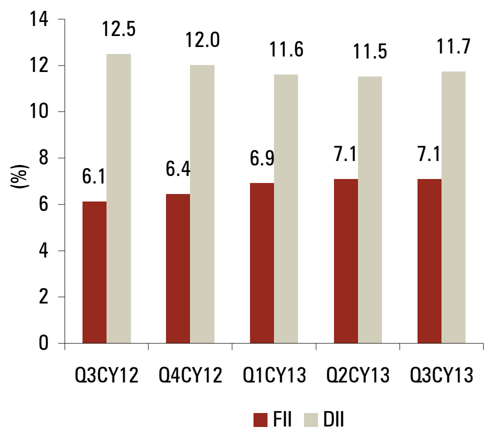
Nishant Vass
nishant.vass@icicisecurites.com

Venil Shah
venil.shah@icicisecurites.com

Shareholding pattern (Q3CY13)

	Holdings (%)
Promoters	71.2
Institutional Investors	18.8
Others	10.0

Institutional holding trend



Major investors (%)

Aberdeen Global Indian Equity Fund: 3.5%

GIC of India: 3.2%

New India Assurance Company Ltd: 2.9%

Company background

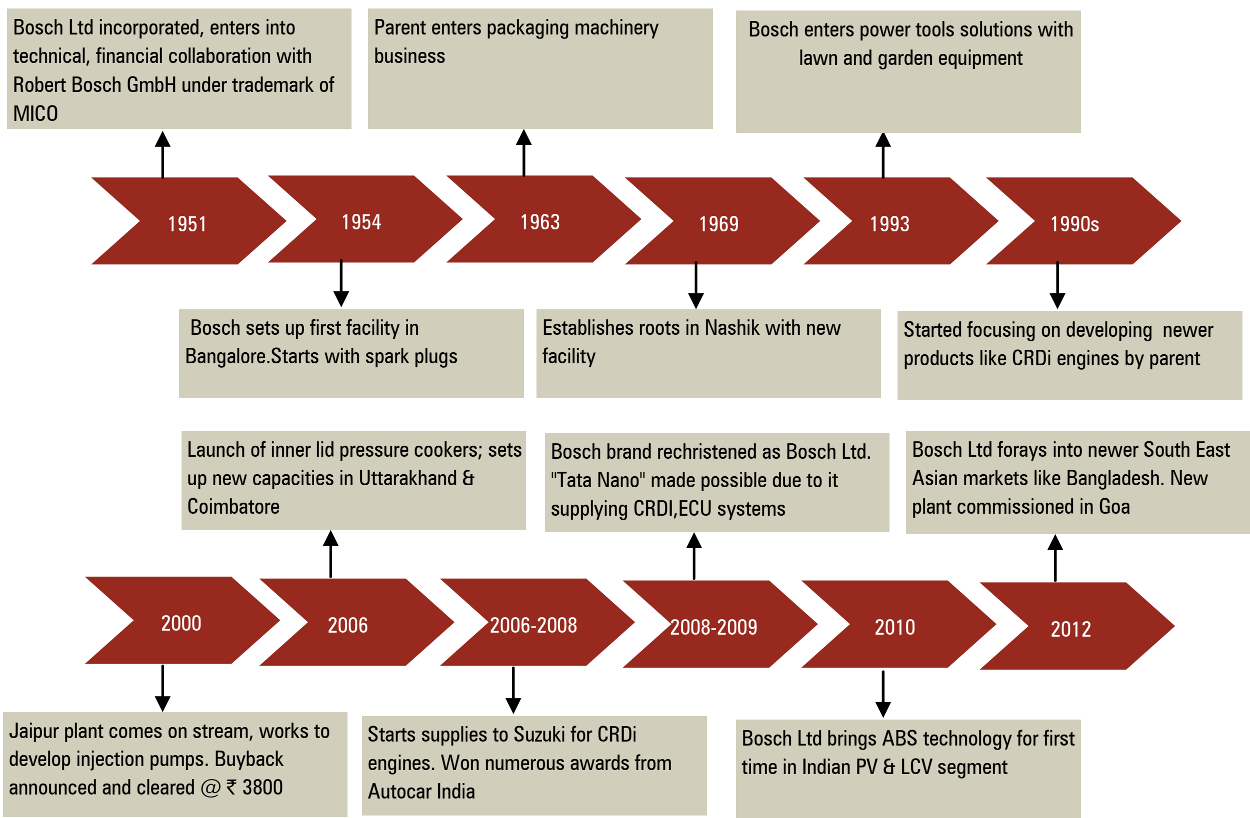
Bosch is a leading supplier of technology and services in the areas of automotive and industrial technology, consumer goods and building technology. In India, Bosch Ltd is the flagship company of the Bosch Group and one of two listed companies of the group globally (other being Turkish company *"Bosch Fren Sistemleri"*). The Bosch Group is a leading global supplier of technology and services and comprises Robert Bosch GmbH and ~360 subsidiaries and regional companies in ~50 countries. Bosch Group has one of the strongest technology portfolios with ~77,000 patents and utility models to its name.

The company was set up in Stuttgart in 1886 by Robert Bosch (1861–1942) as "Workshop for Precision Mechanics and Electrical Engineering". In India, Bosch set up its manufacturing operation in 1953, which has grown over the years to include 10 manufacturing sites and seven development and application centres. In India, the Bosch Group via these companies:

- Bosch Ltd
- Bosch Chassis Systems India Ltd
- Bosch Rexroth India Ltd
- Robert Bosch Engineering and Business Solutions Ltd
- Bosch Automotive Electronics India Pvt Ltd
- Bosch Electrical Drives India Pvt Ltd

Bosch Ltd. also has among the largest distribution networks of spare parts in the country with after-market sales contributing ~25% of its turnover. It has plants spread across Nashik, Pune, Ahmedabad, Jaipur, Goa, Bangalore, Coimbatore and Chennai, which are close to its major clients. Bosch also has a strong dealer network, which spans ~1000 towns across the country which facilitates product availability and after-sales services.

Exhibit 2: The Bosch timeline



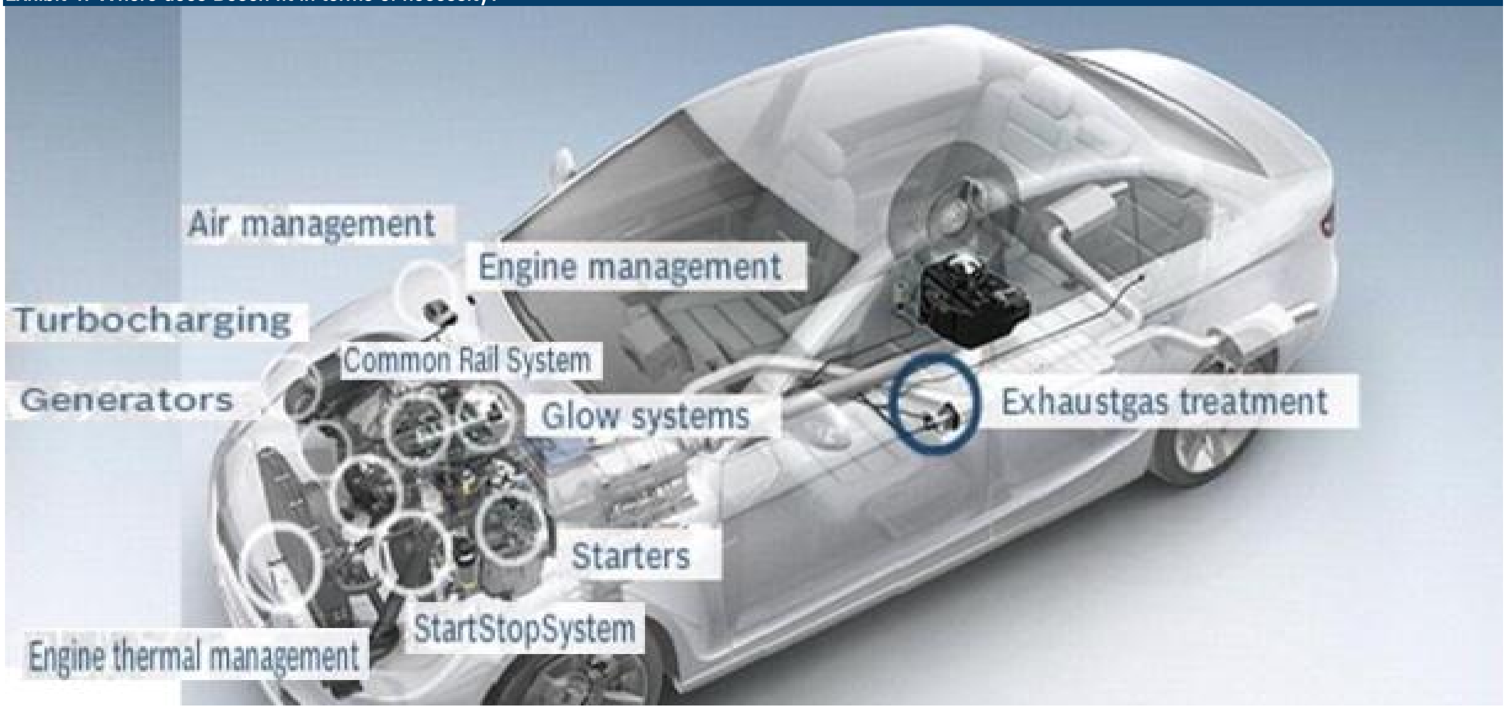
Source: Company, ICICIdirect.com Research

Exhibit 3: Key business divisions of Bosch in India

Automotive Technology	Consumer Goods	Industrial Technology	Energy & Building Technology
Gasoline systems	Power tools	Drive & control technology	Security systems
Diesel systems	Household appliances	Packaging technology	Thermo technology
Electric drives		Engineering & IT services	Solar energy
Automotive electronics			
Starter motors & generators			
Automotive after-market			
Chassis systems control			
Car multimedia			
Steering systems			

Source: Company, ICICIdirect.com Research

Exhibit 4: Where does Bosch fit in terms of necessity?



Source: Company, ICICIdirect.com Research

Exhibit 5: Composition of the board

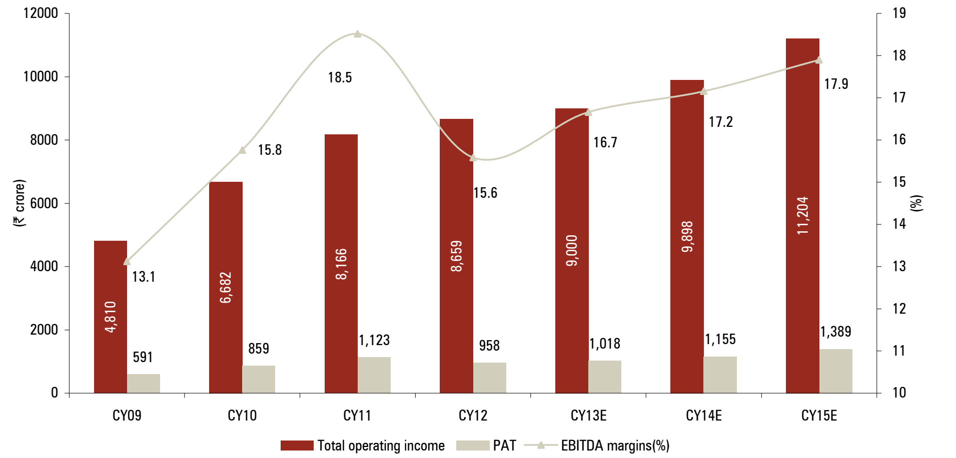
Sl no	Name of director	Position	Age	Tenure (Yrs)	% of board meetings attended`	Other directorships	Compensation (₹ crore)
Executive Directors							
1	Dr Steffen Berns	MD	50	3	-	4	-
2	Soumitra Bhattacharya	Joint MD	52	3	-	2	-
Non- Executive Non -Independent Directors							
3	Dr A Hieronimus	Chairman	65	10	100	2	0.09
4	VK Viswanathan*	Former MD, Bosch	62	5	100	6	3.1
5	Dr B Bohr	Director, Robert Bosch Gmbh	55	9	50	2	
Non- Executive Independent Directors							
6	B Steinruecke	Director General, Indo German Chamber of Commerce	57	7	75	5	0.07
7	B Muthuraman	Vice Chairman, Tata Steel Ltd	67	6	75	10	0.07
8	Renu S Karnad	MD, HDFC Ltd.	60	6	75	17	0.08
9	Prasad Chandran	MD, BASF India Ltd.	60	4	100	5	0.08
10	Bhaskar Bhat	MD, Titan Industries	58	-	-	9	-

*Source: Company, ICICIdirect.com Research `CY12 related * VK Viswanathan has retired till 31.12.2012 he continues to serve on the board*

Investment Rationale

Bosch's performance over the past decade has been exemplary with strong topline growth at 18.8% CAGR in CY02-12. Profits have also soared with PAT also increasing nearly eight-fold from 2002 levels. Going forward, as the CV cycle recovers on a pick-up in industrial activity levels and the PV segment witnesses a continuance of the secular dieselisation trend, we estimate topline growth at 11.6% CAGR in CY13E-15E to ₹ 11,140 crore. With emissions norms likely to kick-in from CY15E, we expect a further boost to the business, as was the case in CY05 and CY10. Engine parts are the most impacted by emission norm changes and, hence, Bosch's margin profile is expected to remain on the uptick, even in these tough times. Increased localisation of content post the product acceptance by OEMs post-norm changes will also aid margins. We expect EBIDTA to rise at 15.7% CAGR CY13E-15E to ₹ 1,981 crore. Subsequently, PAT is likely to grow at 16.9% CAGR CY13E-15E to ₹ 1,365 crore. As utilisation levels improve for newer capacities, return ratios are also likely to improve, going ahead.

Exhibit 6: Bosch Ltd: Financial performance a glance!



Source: Company, ICICIdirect.com Research

Biggest proxy to India auto story; ancillary player too big to ignore!

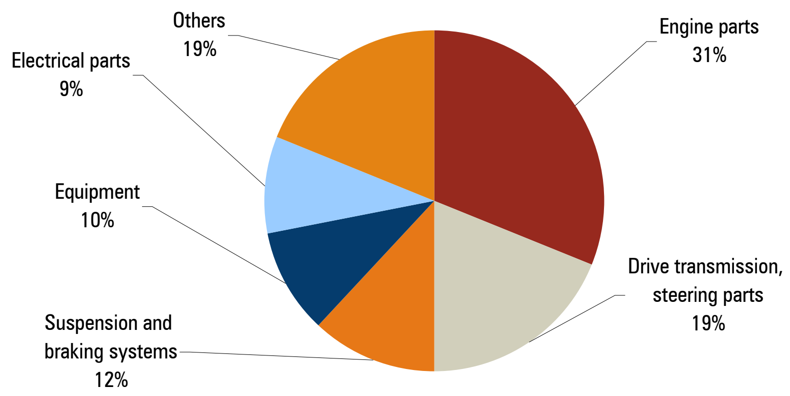
Bosch India is one of the biggest ancillary companies in India with a strong technological leadership in its products like fuel injection systems. The revival in OEM demand will be reflected in Bosch's performance. As such, Bosch is a great proxy for playing on the revival in the domestic automotive industry and, in turn, for the Indian economic growth story.

Exhibit 7: Key auto ancillary business verticals

Engine parts	Suspension & braking parts	Drive transmission & steering parts	Electrical parts	Other equipments	Others, including body & chassis
Piston & piston parts	Suspension parts	Steering systems	Starter motors	Switches	Sheet metal parts
Fuel injection equipment	Braking parts	Axle & Clutch assembly	Generators	Horns	Mirrors
Power train components (cylinder related)		Wheels and wheel rims	Flywheel magnetos	Lights	Plastic molded components
Engine cooling systems			Distributors	Wiring harness	Rubber components
Other power train components				Dashboards	Locks
Engine bearings					Ball bearings
Exhaust systems					
Gaskets					
Other engine parts					

Source: Crisil, ICICIdirect.com Research

Exhibit 8: Auto ancillary industry segment share



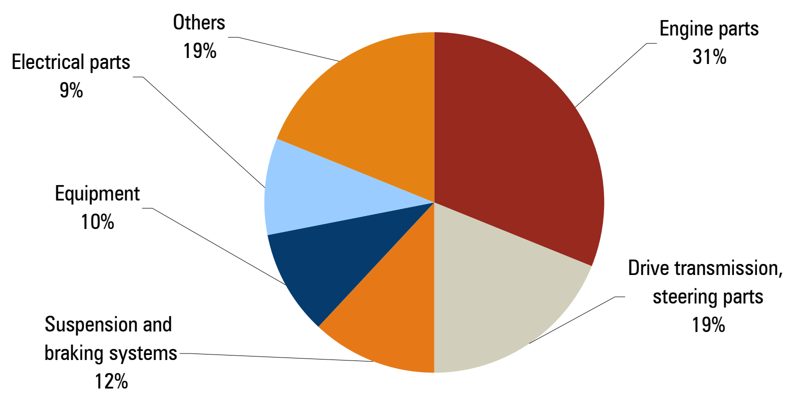
Source: Crisil, Company, ICICIdirect.com Research

Engine business continues to dominate ancillary demand

The Indian Ancillary Industry, as per Automotive Component Manufacturers Association (ACMA) estimates, stands at ~$40 billion.

Engine parts constitute the largest chunk of the auto ancillary segment in value terms. It is here that Bosch enjoys a substantial technology moat and undisputed leadership in the fuel injection system in the commercial vehicles and tractors segment.

Exhibit 9: Engines business remains ~31% of total ancillary demand



Source: Crisil,Company, ICICIdirect.com Research

Four-wheeler emission norms are going to change from CY15 for the top 13 cities. The ancillary segment impacted the most by such a change will be engine parts. Fuel injection systems are a highly specialised and integral part of the engine system, which impacts its efficiency and performance.

With a monopoly profile in supplying fuel injection equipment and spark plugs, this will benefit Bosch, as was the case during the last emission norms change.

For Bosch, currently ~60% of revenue comes from mechanical fuel systems. With emission norms being applicable nationwide from CY15E, the M&HCV industry is likely to move towards the electronic injection systems, which will lead to increased realisations for Bosch.

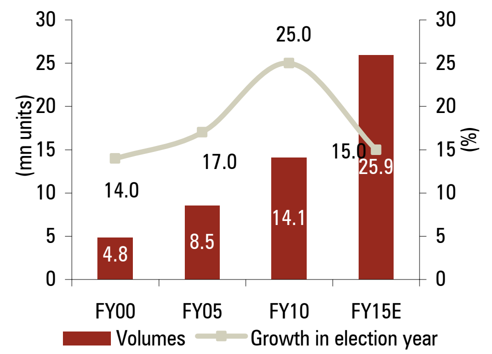
OEM growth weak in last three years but latent demand to come ahead!

With a slowdown in the economy, there has been a slowdown in auto industry growth rates, especially visible in the M&HCV segment, which has seen a major drop in offtake from FY13 onwards. Passenger vehicles had managed to show resilience as the utility vehicles segment bucked the trend and grew handsomely as dieselisation levels increased significantly in the PV segment. The same has benefitted Bosch, which is the market leader in the diesel fuel injection system. Going ahead, we envisage OEM growth will improve as economic headwinds recede, thus bringing deferred demand back into active sales.

Tractor sales, being cyclical in nature and largely dependent on monsoons and government sops/initiatives to support the agro-economy have been slow for the last three years. However, YTD (FY14E) the tractor industry growth of ~24% has surprised all, showing clear signs of pent-up demand. With good monsoons this year and MSPs continuing to remain high, tractor demand is likely to be better going into CY14-15E.

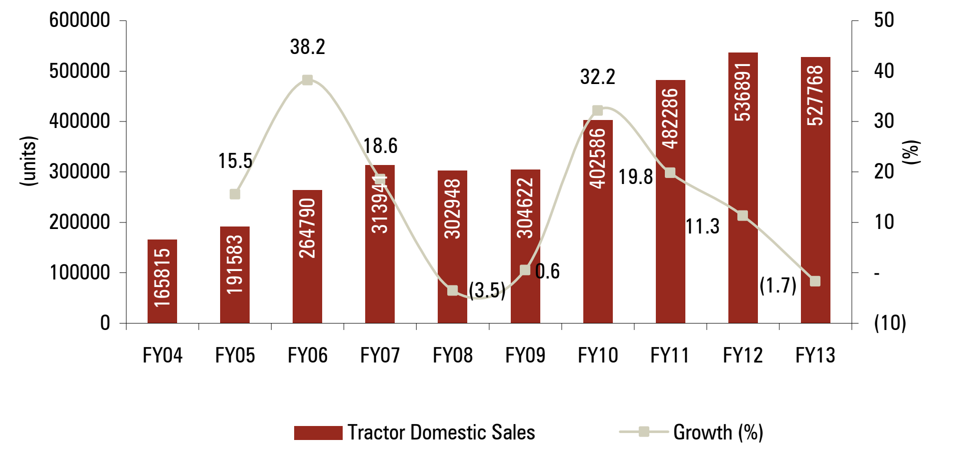
The last three elections years (1999, 2004, 2009) have typically seen strong demand jump in respective years either due to huge latent demand (2009) or normal double digit growth in prior years (1999, 2004). Thus, we expect H2CY13E, CY14E to witness better growth and act as a base for growth from CY15E onwards.

Exhibit 10: Election year to aid auto demand rise…



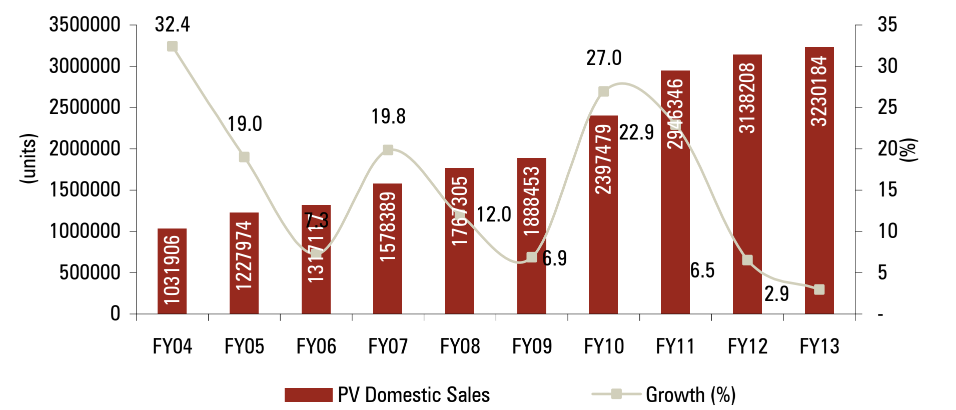
Source: Company, ICICIdirect.com Research

Exhibit 11: Domestic tractor sales trend over years



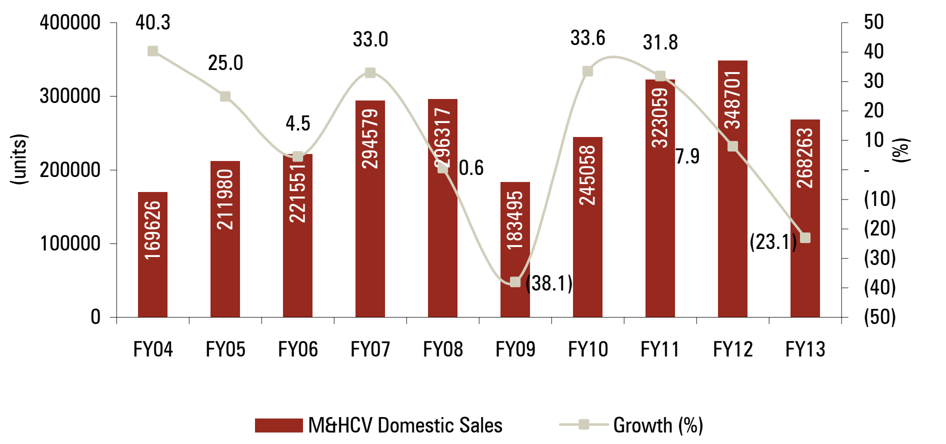
Source: Crisil, Company, ICICIdirect.com Research

Exhibit 12: Domestic PV sales trend over years



Source: Siam, Company, ICICIdirect.com Research

Exhibit 13: Domestic MHCV sales trend over cycles



Source: Siam, Company, ICICIdirect.com Research

Huge subsidiary of behemoth global parent

Bosch India enjoys the benefits of its global parent's strong technology dominance and, thereby, has a higher new product acceptance rate among OEMs. Also, new product penetration is easier for Bosch India owing to its parent's globally standardised product development (which works in tandem with automakers to match specific needs) and production processes (Bosch Production System). Also, in case of most other auto components, the OEM acceptance time is of the order of 18 months, whereas for Bosch India, it is significantly lower.

Bosch group enjoys a strong technological leadership in fuel injection systems and is a trusted ancillary partner for most global auto manufactures. *This is on account of the huge R&D spend that is carried out by Bosch. The Bosch group spends ~€4 billion every year and files ~4000 patents every year*. Its R&D spend is comparable to top OEMs in absolute terms and higher in terms of percentage to net sales.

Bosch supplies fuel injection systems and has 85% share in diesel fuel injection pumps. Furthermore, the company also enjoys ~65% share in spark plugs, for the CV segment. Bosch's strong positioning is evident in the industry best working capital cycle, which has been ~21 days on an average over the last 10 years

Exhibit 14: Bosch reflects clearly that *size does matter*

	2008	2009	2010	2011	2012
Sales revenue (million euros)	45,127	38,174	47,259	51,494	52,464
Share outside Germany as percent	74.0	76.0	77.0	77.0	77.0
Number of associates	281,717	270,687	283,507	302,519	305,877
located in Germany	114,360	111,710	113,557	118,776	119,232
located outside Germany	167,357	158,977	169,950	183,743	186,645
Capital expenditure (million euros)	3,276.0	1,892.0	2,379.0	3,226.0	3,151.0
R & D cost (million euros)	3,889.0	3,603.0	3,810.0	4,190.0	4,787.0
Profit after tax (million euros)	372.0	(1,214.0)	2,489.0	1,820.0	2,342.0

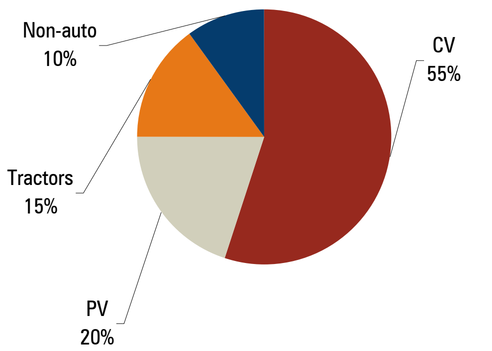
Source: Company, ICICIdirect.com Research

Bosch global has competition in many common lines of businesses from Delphi to a large extent and also Denso Corp. Both companies also supply products in segments from fuel injection systems to exhaust systems. However, Bosch global remains the leader in the space. In India, both of the above have limited penetration.

Enviable range of products with strong technology moat

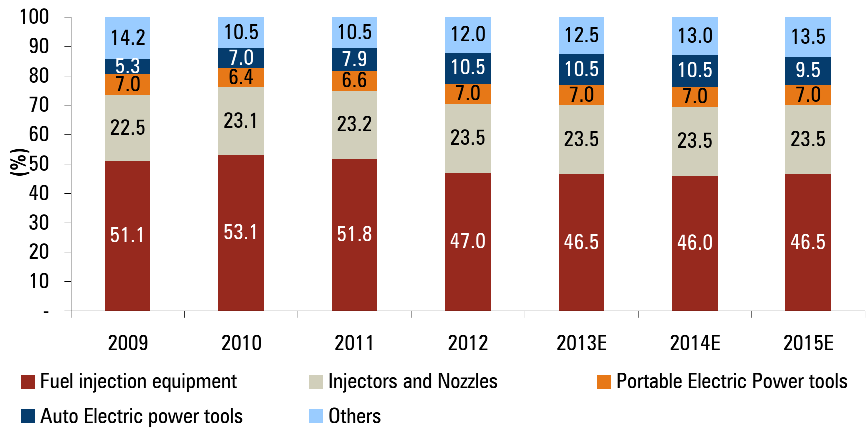
Bosch is one of the few auto ancillary companies that that has strong bargaining power. This is due to the fact that it boasts of a wide range of products from fuel ejection systems, electric drives, spark plugs to lubricating oils, security systems, etc. Along with the range of products, it also has technology leadership in most segments that it caters to.

Exhibit 15: Segmental revenue mix



Source: Company, ICICIdirect.com Research

Exhibit 16: Product-wise revenue break-up



Source: Company, ICICIdirect.com Research

Exhibit 17: Key segment products

Business Line	Segments	Products	Target Segment	Remarks
Automotive	Gasoline	Direct gasoline injection Gasoline port injection	PV	15-20% market share in segment, Bosch is looking to expand further in this segment
	Diesel	Common rail systems Starter motors	CV, PV, Tractors	Undisputed leader in segment with ~70% market share. Increasing dieselization and emission norm changes to aid growth
	Electric drives	Actuators Pumps & valves	All	Market leader in some segments. Segment is focused on thermal management, air conditioning, etc.
	Electronics	Electronic control units Mechatronic modules	All	The focus in not only on ECUs: both development and contract manufacturing but also on application & system integration
Non-Automotive	Power tools	Surveying equipment Impact wrenches	Construction, Metalworking	Market leader in segment with complete range of products for industry as well as DIY enthusiasts
	Industrial equipment	Metal cutting machines Assembly equipment	Industrial	Bosch is a market leader in the space with 2600 type of different special purpose machines
	Packaging solutions	Form, fill & seal machines Flow wrap machines	Pharmaceuticals, Food	The division offers tailor-made packaging solutions for pharma, food and confectionary segments
	Security systems	IP-based CCTV, fire alarm systems Surveillance & access control systems	Metro-rail, Stadiums, Hotels	Provider of high-quality security, safety and communication products and solutions

Source: Company, ICICIdirect.com Research

Exhibit 18: Brief snapshot of new ready products imported to meet emission changes and demand

Products	Year
Baseline generators. Throttle position sensor	2008
Assembly lines (ATMO).	2009
Packaging machines; electronic control units	2010
Compact direct starter motor, common rail electronic, sub-class VE-EDC	2011
Packaging machines, in line feeder, crank shaft sensor 'DG-6' family, accelerator pedal module	2012

Source: Company, ICICIdirect.com Research

Exhibit 19: Visual glance of few injection system products!

Source: Company, ICICIdirect.com Research   Names From Top left : High pressure pump ,direct injection -Fuel rail, Injection valve, Electronic control unit, port injection–Fuel rail, Lambda sensor

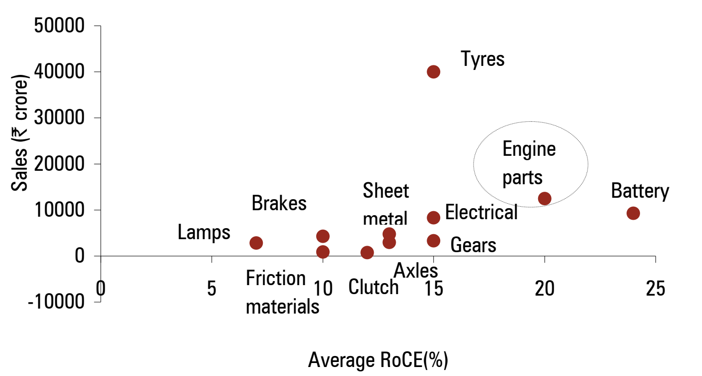
Exhibit 20: Visual glance of few other products!

Source: Company, ICICIdirect.com Research Names From Top left : Impact drill ,Base line generator, Spindle Gun drilling machine,

Positioned in rich segment with good returns

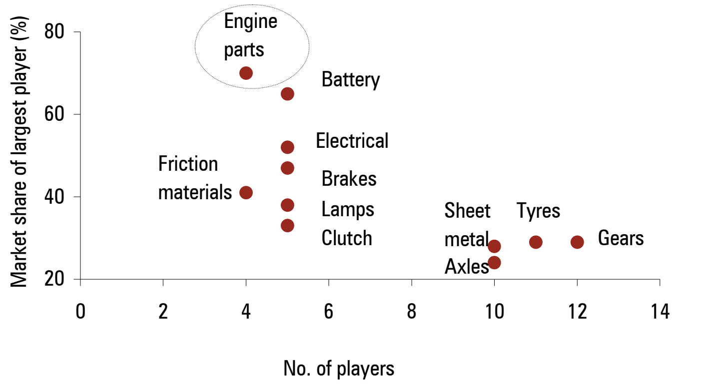
Engine parts and fuel injection (FI) equipment is the second largest segment in the domestic auto ancillaries industry (Exhibit 13) after the tyre space, with much better average RoCE. On top of this, a high degree of consolidation (Exhibit 14) was championed by Bosch Ltd. Thus, as a result, Bosch Ltd generates stable and above-average cash returns relative to domestic ancillary peers (Exhibit 15) and even trumps its parent's global comparables (Exhibit 16).

Exhibit 21: Engine parts business remains very attractive in auto ancillary



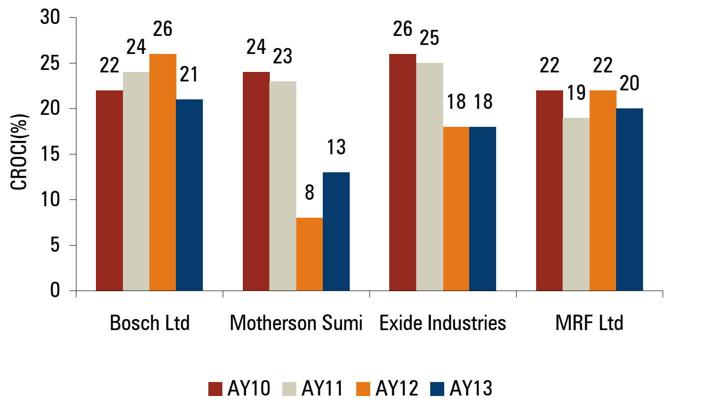
Source: Capitaline, Company, ICICIdirect.com, Research

Exhibit 22: …thus Bosch Ltd dominance in engine parts a big positive



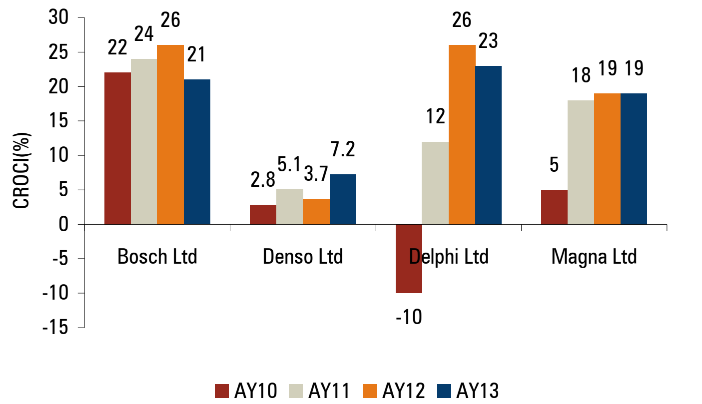
Source: Capitaline, Company, ICICIdirect.com, Research

Exhibit 23: Strong cash returns on investments vis-à-vis domestic autos



Source: Capitaline, Company, ICICIdirect.com, Research , www.readyratios.com
CROCI=(EBITDA(1-tax)+Other investment gain after tax)/Capital Employed
AY~ Accounting year

Exhibit 24: …also better than global autos



Source: Capitaline, Company, ICICIdirect.com, Research AY~ Accounting year

Thus, products with business strength make it resilient across cycles

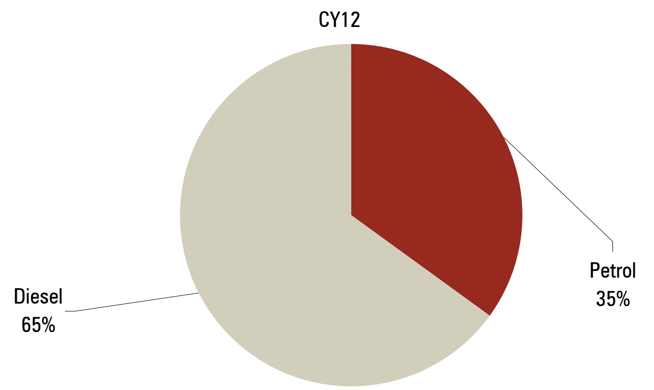
Bosch's major business comes from the automotive segment. However, with a presence across segments in gasoline and diesel systems, there is relative business resilience. The non-automotive segment, although it contributes less also lends cross-cycle stability to business. Currently, ~11% of revenues are contributed by the non-automotive segment by products like electric & power tools. The export segment contributes ~13% to overall sales. Bosch has had a great track record in India since the post-liberalisation, especially since early 2000s. Operating margins have remained steady above 20% for all years (except CY12) in the last 10 years.

Increasing dieselisation here to stay! Emissions change to aid growth…

The domestic automotive market has undergone a structural change from FY11 onwards as new fuel injection systems developed helped increase efficiencies of diesel systems while steep rise in petrol prices helped increase diesel demand.

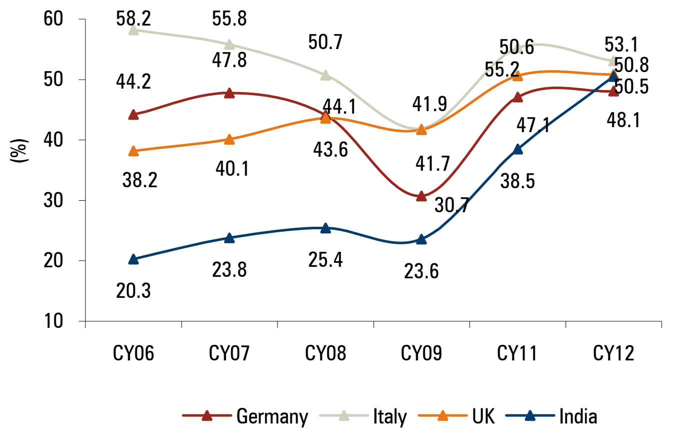
Fuel injection (FI) equipment sales constitute about ~47% of revenues for Bosch India in CY12. FI is the key driver of engine performance in auto diesel engines, which drives about 65% of demand for FI equipment in the country (Exhibit 23). We believe Bosch India is likely to be a major beneficiary of the increasing dieselisation level of the domestic auto market in the long run (Exhibit 24). The level of dieselisation in European countries had fallen in 2009 due to reducing fuel price differential between diesel and petrol and cash for clunker schemes for smaller cars. However, since 2010 as crude prices have risen along with India all others have seen higher diesel registrations. We believe that in India dieselisation has reached a long stable position at ~50%. This will be major support for Bosch as it is the leader in diesel engine technology.

Exhibit 25: Fuel injection industry- offtake as per fuel



Source: Industry reports, Company, ICICIdirect.com Research

Exhibit 26: Levels of dieselisation globally



Source: ACEA, Industry reports Company, Crisil ICICIdirect.com Research

In India, emission norms change with a lag of five years compared to the norms prevalent in European countries. The typical reason for the lag is the technological change driving up prices of vehicles, thereby affecting automotive industry growth

In a two-tier emission norms system, the top 13 cities of India require BS IV compliance currently with the rest of the nation requiring BS III norms for four-wheelers

Exhibit 27: Implementation of emission norms to phase out mechanical systems

Standard	Global reference	Date	Region
India 2000	Euro 1	2000	Nationwide
Bharat Stage II	Euro 2	2001	NCR*,Mumbai,Kolkata,Chennai
		2003	NCR*, 13 Cities`
		2005	Nationwide
Bharat Stage III	Euro 3	2005	NCR*, 13 Cities`
		2010	Nationwide
Bharat Stage IV	Euro 4	2010	NCR*, 13 Cities`
		2015E	Nationwide
Bharat Stage V	Euro 5	2015E	NCR*, 13 Cities`

*Source: Road transport ministry, Company, ICICIdirect.com Research NCR *(Nationwide capital region) `Mumbai, Kolkata, Chennai, Bangalore, Hyderabad, Ahmedabad, Pune, Surat, Kanpur, Lucknow, Sholapur, Jamshedpur and Agra*

While a majority of diesel cars have shifted to modern injection systems (common rail) and are BS IV compliant already, a large chunk of CVs on Indian roads are only BS III compliant. This is because a majority of CVs are registered in non-metro cities, barring the few registrations of state transport units. We note that conventional mechanical pumps have been modified to meet the BS III compliance in India. However, going ahead, in 2015, as new norms come into force, adoption of modern FIs would be inevitable.

Though we have not yet incorporated any material impact on our revenues from the emission changes in CY15E as implementation timeline remains yet unconfirmed. We have tried to analyse heavy commercial vehicles (HCV) possible revenue potential considering the number of registered vehicles post 2004. We have done sensitivity on the average selling prices (ASP's) of both injection systems and nozzles with base case as the present scenario. On units our assumption is ~70% replacement for the unit's registered post 2004 onwards.

Exhibit 28: Possible revenue potential from emission change in HCV space

		ASP scenario						
	₹ crore	-15%	-10%	-5%	0%	5%	10%	15%
Replacement demand	15%	2813	2978	3144	3309	3475	3640	3806
	10%	2937	3109	3282	3455	3627	3800	3973
	5%	3060	3240	3420	3600	3780	3960	4140
	0%	3184	3371	3558	3746	3933	4120	4307
	5%	3343	3540	3736	3933	4129	4326	4523
	10%	3502	3708	3914	4120	4326	4532	4738
	15%	3661	3877	4092	4307	4523	4738	4953

Source: Ministry of Road Transport, Company, ICICIdirect.com Research

However, two-wheeler segment still underpenetrated

The two-wheeler industry has globally seen increased usage of fuel injection (FI) systems in higher cc bikes in US and Europe as emission norms require the same. In the Indian scenario, there have been a couple of products namely "Bajaj Pulsar 200", "Honda CBF Stunner", "Apache RTR" that have launched FI enable products, which have seen Bosch Ltd being part of the projects. However, the industry has been in a weak growth phase in the last couple of years leading to price sensitivity of demand rising. These products are incrementally costlier to the traditional carburettor enabled products. Thus, they have not gained any popularity with customers. However, as new emission norms kick in from 2015 onwards, we would see higher migration into higher efficiency technologies in this space also.

Exhibit 29: Price differential between traditional, new technologies in two-wheeler space

Technology	Price ($/unit)
Basic carburettor technology	30
Electronic carburettor	36
Semi direct injection system	42
Air assisted injection system	48
High pressure direct injection	60

Source: Company, ICICIdirect.com Research

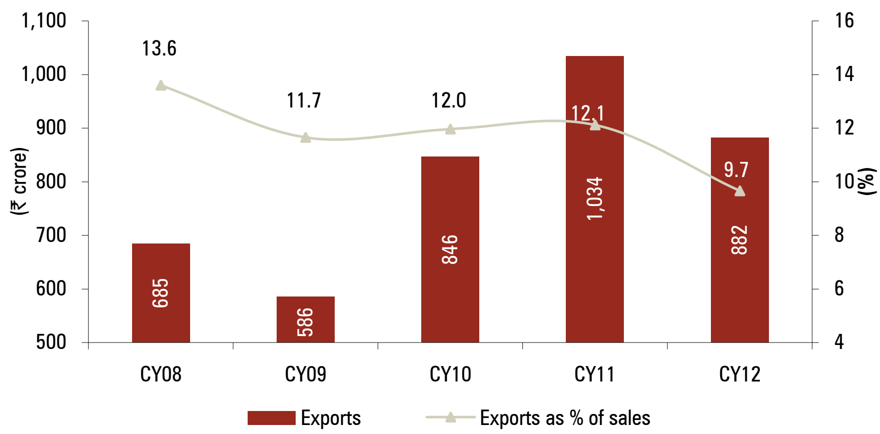
Lack of meaningful competition leads to pricing power

Bosch India virtually has no competition in its automotive segment and enjoys an enviable share of the pie across gasoline and diesel systems. Coupled with a widely spread product portfolio and high product acceptance rates and faster product penetration, Bosch's pricing power is remarkable, considering it is an ancillary player. Consequently, this has enabled margins to remain at elevated levels for sustained periods of time.

Potential to become export hub for parent group

Bosch is one of the few MNC groups in India, which makes investments in its listed Indian entity in developing new products and technologies to create business visibility. We believe, with strong rupee depreciation the overall cost economics has shifted the balance towards the Indian subsidiary for increased sourcing. Thus, we feel Bosch Ltd is likely to become an important export hub for the Bosch group global operations and its share in overall revenues will rise back to CY08 levels.

Exhibit 30: Export trend



Source: Company, ICICIdirect.com Research

Auto-electrical segment growing on back of starter motor division

In its auto electrical segment, Bosch Ltd primarily supplies starter motors and generators. By leveraging its parental technology, Bosch Ltd introduced the new baseline generators (NBL) in 2010 in the domestic market. These were specifically aimed at lower power requirement vehicles like LCVs and hatchback passenger cars. Since introduction, the segment has grown at stupendous rates and driven revenues of the auto electric segment. We expect the segment to continue to do well in the years ahead.

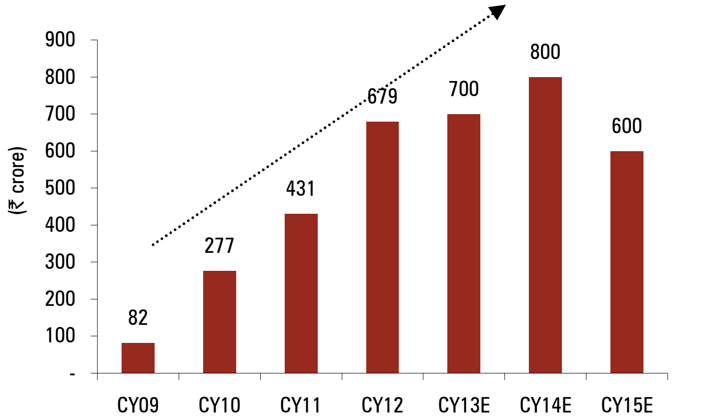
Non-auto exposure aids in providing consumer diversification

Bosch Ltd also has revenue streams from some consumer divisions like home power tools solutions and consumers, which is primarily taken from fellow subsidiaries. The segment now contributes ~10% of total revenue and has nearly quadrupled since CY09 from ~₹ 274 crore to ~₹ 1094 (CY13E) at a CAGR of ~41%. One of the major drivers of growth has been portable power tools division with equipment like all kinds of drills. Another area of growth has been the security systems divisions, which provides state-of-the-art products and systems for standard or customised applications and projects and products that vary from IP based CCTV solutions to fire alarm systems.

Company readying itself for next leg of growth! Localisation to increase…

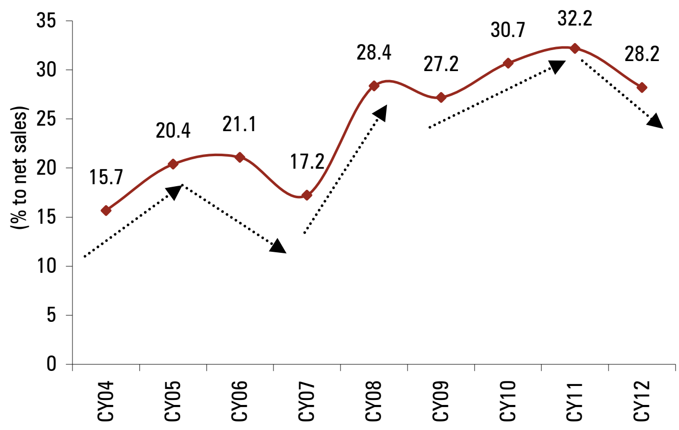
Bosch Ltd has been investing heavily in building capacities for newer technologies. To move towards reducing the import content for newer technologies it started importing for latest emission changes. CY12 saw investment of ~₹ 680 crore mainly in new packaging technology manufacturing plant at Verna, and increasing capacities in common rail technology and NBL generators. The company plans to invest ~₹ 1400 crore spread over the next two years with focus on common rail technology and other diesel systems to reduce the import content, going ahead.

Exhibit 31: Bosch capex reflects confidence in India auto story



Source: Company, ICICIdirect.com, Research

Exhibit 32: Declining Import content on localization drive



Source: Company, ICICIdirect.com, Research

Bosch Ltd has imported newer technologies in the wake of emission changes, which have helped it to cater to the Indian market. However, the rising import content puts pressures on margins in the initial launch phase. Bosch Ltd has generally followed the policy of importing the technology and then gradually localising it as its acceptance increases in the market. The company has undertaken capital expenditure for capacities and technologies, thereby readying itself for new norm changes in CY15E. We believe localisation of these would also aid margins post the CY15E era.

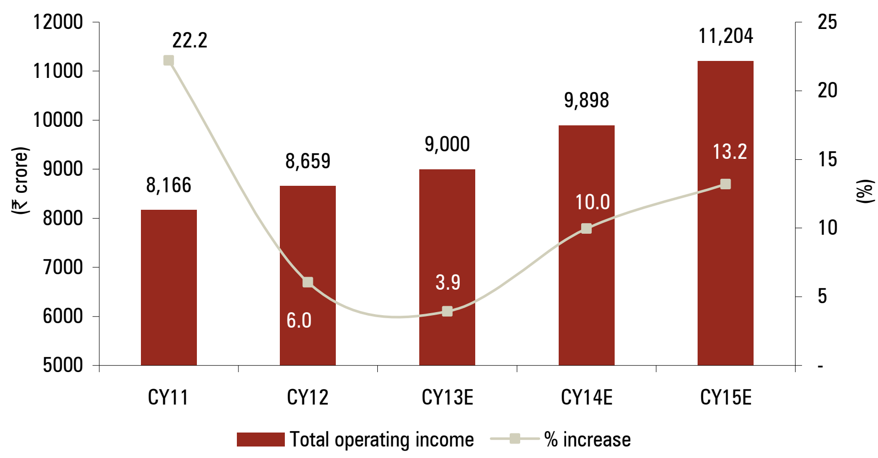
Key financials: Stable business model to provide steady revenues

Auto segment to continue to remain key driver of sales growth

Bosch is an attractive ancillary company due to the huge size of the fuel injection and engine parts business, which remains one of the most critical linkages for an OEM. We believe along with a revival in rural demand reflected in tractor sales, we would witness a better demand scenario in the automotive space in the coming years considering about two years of weak demand conditions entering the third year of weak demand in CY13E. In terms of financials, we expect revenue growth to be ~8% for CY14E, CY15E and expect it to touch ~₹ 11,200 crore in sales in CY15E.

FY12, FY13 was marked by overall auto industry demand growth of ~14%, 2%, respectively. If we look at internals, the PV side grew only ~6%, ~3% during this period, while the CV segment grew 19%,-3.3%, respectively, on weak macros in the segment. The tractor industry remained only mildly positive during these two years. There is latent demand, which has been pushed for more than two years. We expect this to improve as consumer sentiment improves, going ahead

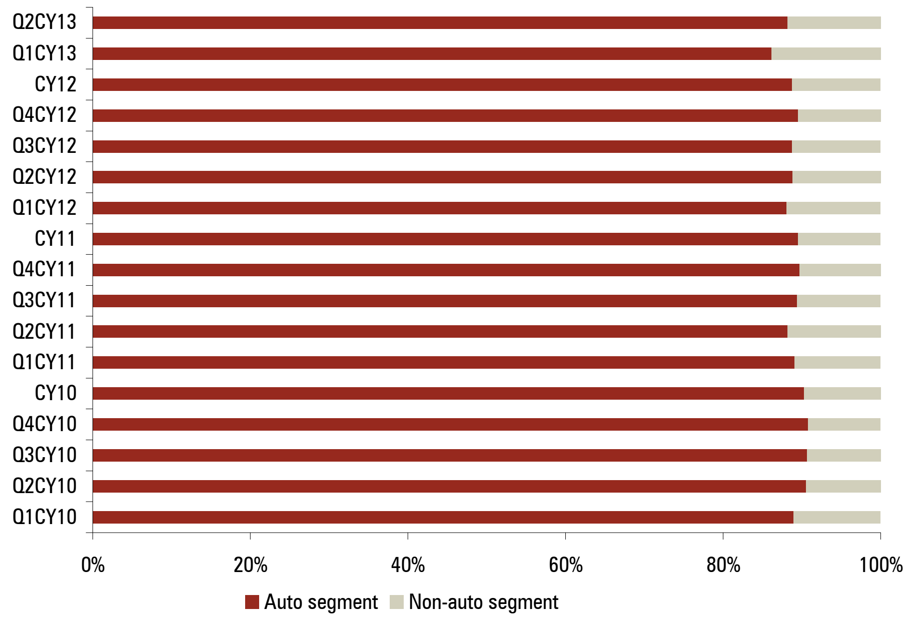
Exhibit 33: Revenues to grow at CAGR of ~8% in CY13E-15E



Source: Company, ICICIdirect.com Research

In terms of segmental performance, contributions from the automotive segment have remained on an average at ~87% of total revenues while non-auto revenues have been growing ahead of the auto sector owing to a low base. We expect revenue growth of ~13%, 14% respectively, for the non-auto business in CY14E, CY15E, in the auto segment while expectations are of ~8% for both years

Exhibit 34: Auto segment revenue share remains at ~85-90%



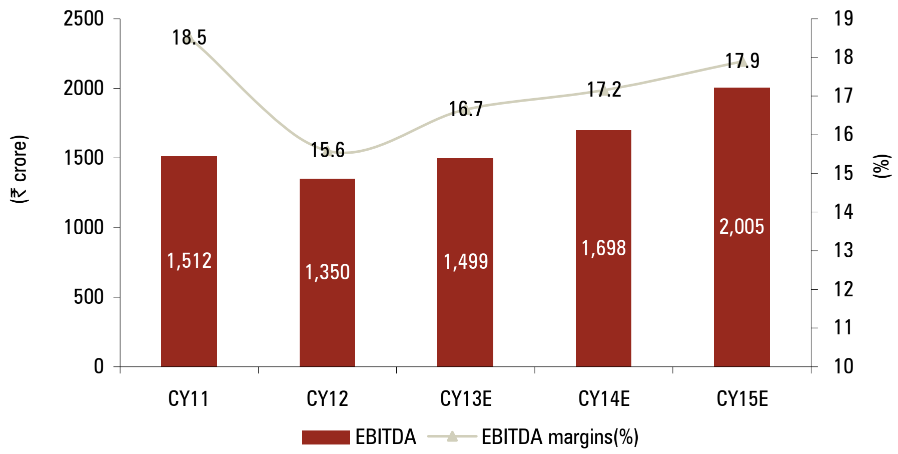
Source: Company, ICICIdirect.com Research

EBITDA margins to remain modest in tough times!

Bosch has seen some EBITDA margin shave-offs from the CY11 peaks but has stabilised at ~15-16%. The company is expected to improve slightly in the coming years. This has primarily been due to strong and disciplined pricing agreements with OEMs and a market leadership position. For the auto segment (comprising more than 85% of the topline), price increases are taken up on a quarterly basis contingent upon the increase in input costs and overall demand scenario for end vehicles. The strong supplier push provides Bosch with a stable margins profile.

Overall, margins have remained stable. We expect them to improve in CY14E and CY15E owing to latent demand revival post elections and new product launches in lieu of probable emission norm changes in CY15E. For CY14E and CY15E, we have built in EBITDA margins of 16.5% and 16.8%, respectively. We have factored in moderate improvement in margins considering imported costs to limit margin expansion potential in near term.

Exhibit 35: EBITDA margin to remain steady over CY13E-15E

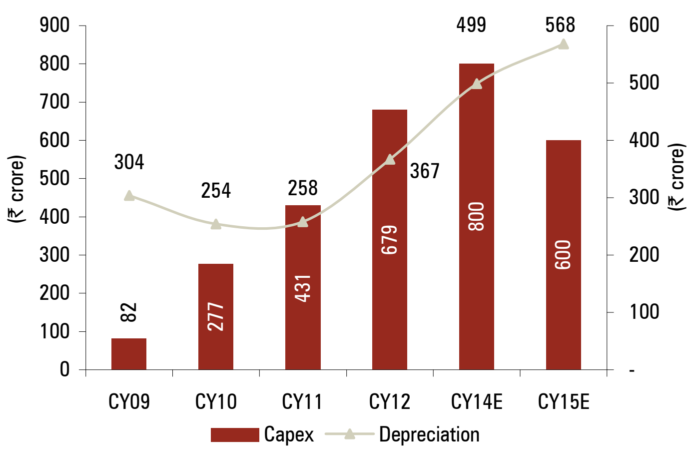


Source: Company, ICICIdirect.com Research

Net profit likely to grow moderately in CY13E-15E as depreciation rises

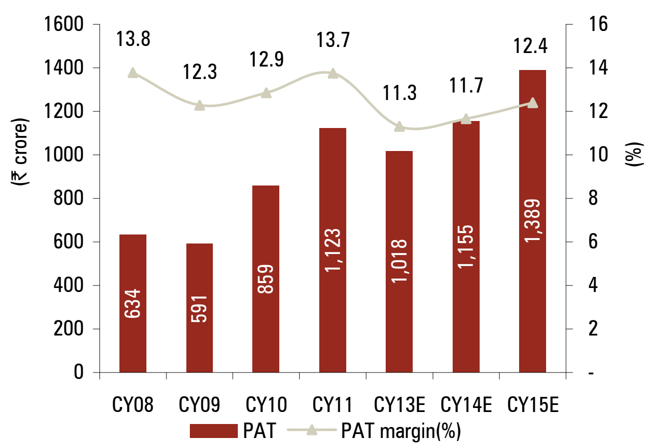
PAT margins would continue to remain stable in the ~10.5-11% range between CY12 and CY15E considering improving EBITDA margins. PAT margins have come down in CY12 due to higher depreciation charge (they depreciate assets faster than income tax requirements causing the incremental ~1-1.5% decline in reported PAT more than required). This decline in non-cash would revert to normalcy in years ahead.

Exhibit 36: Higher depreciation charge owing to increased capex



Source: Company, ICICIdirect.com Research

Exhibit 37: Strong profitability consistency



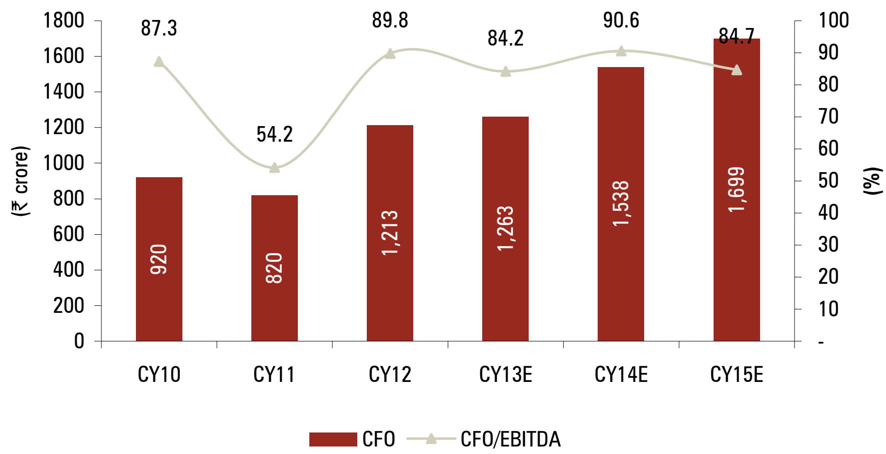
Source: Company, ICICIdirect.com Research

Strong operational cash flows; clean revenue accounting policies

Bosch's business generates strong cash flows from operations (CFO), which stood at ₹ 1213 crore in CY12. Strong cash inflows from operations keep the business cash rich and debt free, something which is better than other ancillary peers.

Bosch has a strong record of accounting conservatism as one can see the CFO (actual cash earnings) is closely similar to the reported earnings EBITDA (accrual based earnings). The CY11 cycle was an aberration as the automotive cycle improved suddenly in H2CY10, CY11 which led to a sudden increase in current assets while creditor increase could not match the pace. However, since then, it has steadily improved and is expected to continue in the same vein.

Exhibit 38: Growth of operating cash flows in line with EBITDA



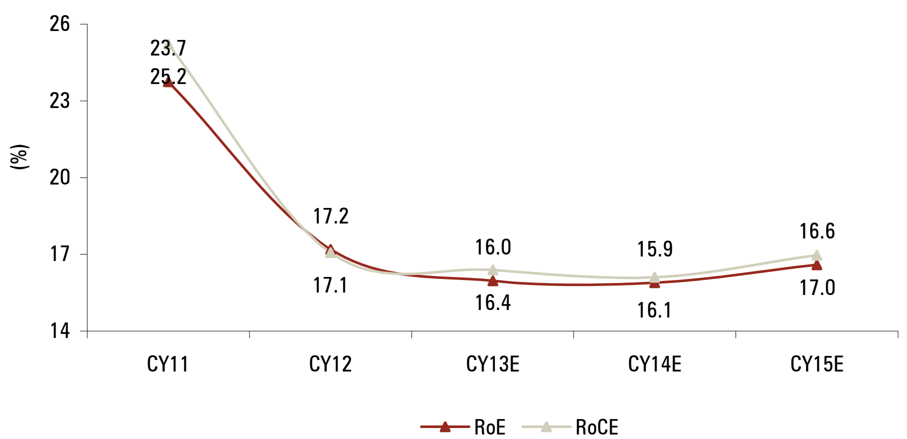
Source: Company, ICICIdirect.com Research

Return ratios commendable even as new growth capex comes on stream

Bosch has always had a history of being able to generate above normal returns of employed capital (RoCE). Since CY08-12, it had RoCEs ranging between 17% and 23%. The strong capital expenditure exercise started in CY12 while the ongoing one in CY13E, CY14E along with domestic automotive weakness led to a mild reduction in these return ratios. The estimate that we have built runs the risk of not incorporating any strong uptick in demand and operational performance.

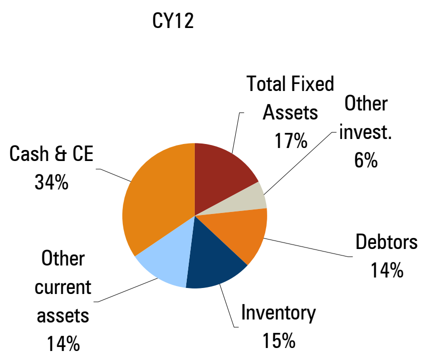
Going ahead, we expect a recovery in the earnings profile and better asset turnover for the company, which will lead to RoCEs remaining stable at ~15% in CY14E, CY15E respectively

Exhibit 40: Return ratios profile remains strong even as capex comes on stream



Source: Company, ICICIdirect.com Research

Exhibit 39: Cash, liquid investments ~35% of assets



Source: Company, ICICIdirect.com Research

Risk & concerns

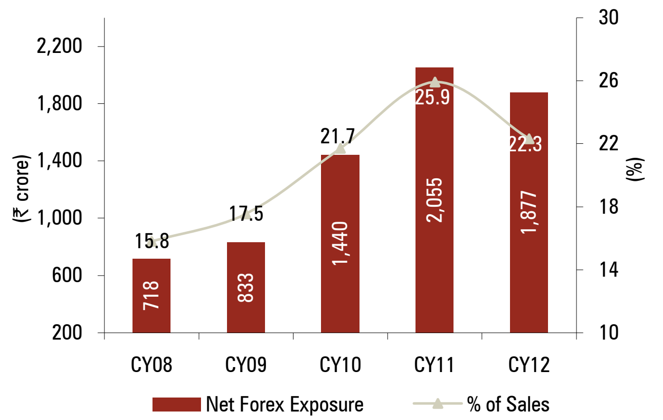
Continued slowdown in domestic demand from OEMs

Bosch, despite its wide array of product offerings and increasing non-automotive business presence, is still an auto ancillary player. Like all other ancillary players, its performance will be impacted if there is an overall demand slowdown impacting OEMs. With unrelenting macro headwinds, a demand slowdown in the CV segment is unlikely to get reversed quickly. However, Bosch's size will definitely aid it to weather the slowdown as was the case in 2008-09.

Forex fluctuation - worry for largest net importer in auto ancillary space

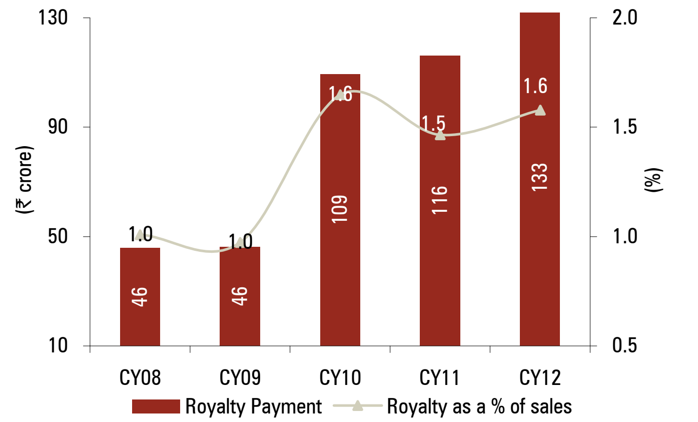
Bosch is the largest importer in the auto ancillary. Hence, it is impacted more by the volatility in the currency markets than other ancillary players. Over the years, net imports have crept up due to an increase in the traded goods component. For Bosch, a majority of the exposure is in the form of raw materials and traded goods while a small portion is also from royalty and other technical expenses.

Exhibit 41: Large importer of components from parent



Source: Company, ICICIdirect.com, Research

Exhibit 42: Royalty rates remain stable



Source: Company, ICICIdirect.com, Research

Revision to low royalty rates may impact margins

A lot of MNCs (like Unilever, Holcim) have gradually raised their rates of royalties over a period of time. As such, a similar move from Bosch GmbH cannot be ruled out completely. An increase in royalty rates can impact the margins for Bosch as passing off the increase completely may not be possible. However, given the strong bargaining power that Bosch enjoys, this does not appear to be a major problem. Royalty as a percentage of sales appears to have increased from CY10 onwards. However, this is likely due to an increase in the quantum of traded goods.

Delay of implementation in emission norm changes

Another risk to our estimates would be the delay in implementation of the emission norm changes, which is scheduled for CY15E. We expect the norm changes, i.e. pan-India norms to move to BS-IV and top 13 cities to move to BS-V, to positively impact the business. India is already five years behind international emission norms. Thus, we do not envisage major delays. However, any delay in the same will impact Bosch's capability to scale up revenues and profitability post CY15E.

Low earnings volatility key *"valuation zing"*

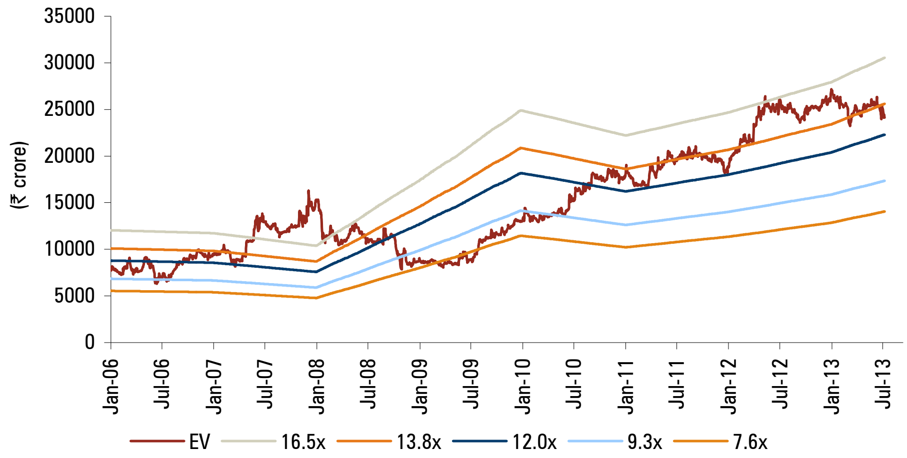
Bosch has maintained its premium valuation over cycles owing to the fact that it has had low earnings volatility even in times of a severe downturn in the automotive segment. Bosch has capitalised on its strong monopoly position in critical engine components to sustain market share in OEM and after-market alike in multiple segments. This has ensured that Bosch has always traded at premium valuations.

We have valued Bosch on an EV/EBIDTA basis, using P/E would not be a true measure as multiples have been distorted due to optically low reported profits.

The long-term average over 2006-13 is ~12.9x on a two-year EV/EBIDTA basis. Over the past three years, the average EV/EBIDTA has been ~14x, highlighting the premium valuations that most MNCs have also enjoyed.

Consequently, we value Bosch at 14x EV /EBIDTA on rolling CY14E/15E EBITDA of ₹ 1812 crore to arrive at a fair value of ₹ 9360/share.

Exhibit 43: EV/EBITDA band two-year forward rolling



Source: Company, ICICIdirect.com Research

We believe the CV and tractor segments will be strong growth drivers for Bosch's earnings in CY14E and CY15E. We also expect the dieselisation trend in the PV space to continue. As PV volumes pick up, the segment is likely to add to Bosch's revenues. An increase in the non-automotive business also lends earnings stability across cycles. With a strong balance sheet supported by robust FCFs, strong return ratios and stable high margin profile, the financials are impressive. *We forecast 11.6% and 16.8% CAGR in revenues and earnings, respectively, over CY13E-15E and value the stock at 14x EV/EBIDTA on rolling CY14E/15E EBITDA (₹ 1812 crore) to arrive at a target price of ₹ 9360 with a* ***HOLD*** *recommendation.*

We have valued Bosch on an EV/EBIDTA basis, as using P/E would not be a true measure as multiples have been distorted on account of a optical reduction of reported profits due to Bosch's exemplary depreciation policy. It depreciates the plant and machinery (major new capex) in just six years, ahead of income tax requirements. Thus, though it has a non-cash impact, it stills shaves off ~1-1.5% from the PAT margin. Hence, in order to capture the true valuation picture on the basis of its operating performance, we have chosen EV/EBIDTA as our valuation metric despite no debt on the books.

At the CMP of ₹ 8586, the stock is trading at 11.4x EV/EBIDTA CY15E, at a significant premium to its domestic peers like Exide Industries, Bharat Forge and Motherson Sumi on account of its strong balance sheet, robust cash flows and near monopoly position. The only peer with a similar profile is Wabco India to which the valuation premium is slightly lower. Bosch's valuations have historically been at a premium to the rest of the auto ancillary pack considering all the aforesaid reasons ranging from business dynamics to financial profile. We expect the same to continue.

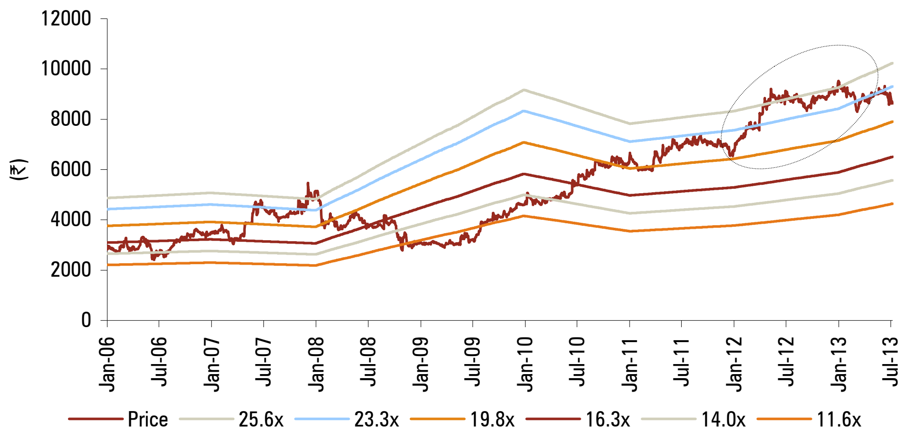
Exhibit 44: Peer valuation

	Sales CAGR (%)	PAT CAGR (%)	EBIDTA Margins (%)			CFO / EBIDTA (%)	RoCE (%)			RoE (%)					
	AY13-15E	AY13-15E	AY13	AY14E	AY15E	Average AY08-AY12	AY13	AY14E	AY15E	AY13	AY14E	AY15E	EV/EBIDTA (x)	P/E (x)	P/B (x)
Bosch Ltd*	12	17	17	17	18	98.0	16	16	17	16	16	17	11	19	3
Global Peers															
Denso Corp*	2	15	12	14	15	83	5	8	8	8	11	11	6	10	2
Delphi Automotive*	8	17	15	15	15	67	13	14	15	49	45	41	7	10	3
Magna International*	7	8	8	9	9	90	8	9	10	16	17	17	6	10	2
Domestic Peers															
Exide Industries	15	28	13	13	16	65	20	24	25	15	18	18	8	13	2
Bharat Forge	10	37	14	15	15	76	9	12	13	11	13	16	6	12	2
Motherson Sumi	12	73	7	9	9	73	9	13	22	14	19	33	5	9	3
Wabco India	8	23	21	20	21	48	42	46	50	22	20	21	11	17	3

*Source: Company, ICICIdirect.com Research, Bloomberg Consensus Estimates *RoA instead of RoCE for Global Peers, AY~ Accounting year*

Bosch's valuation in PE terms has traded in the range of 14-26x (excluding the financial crisis of 2009). However, since CY12, as the company took an artificial decline in reported profit by ~10% via increased depreciation charge, the PE multiple has upgraded itself in a similar fashion

Exhibit 45: Two-year rolling forward PE band



Source: Company, ICICIdirect.com Research

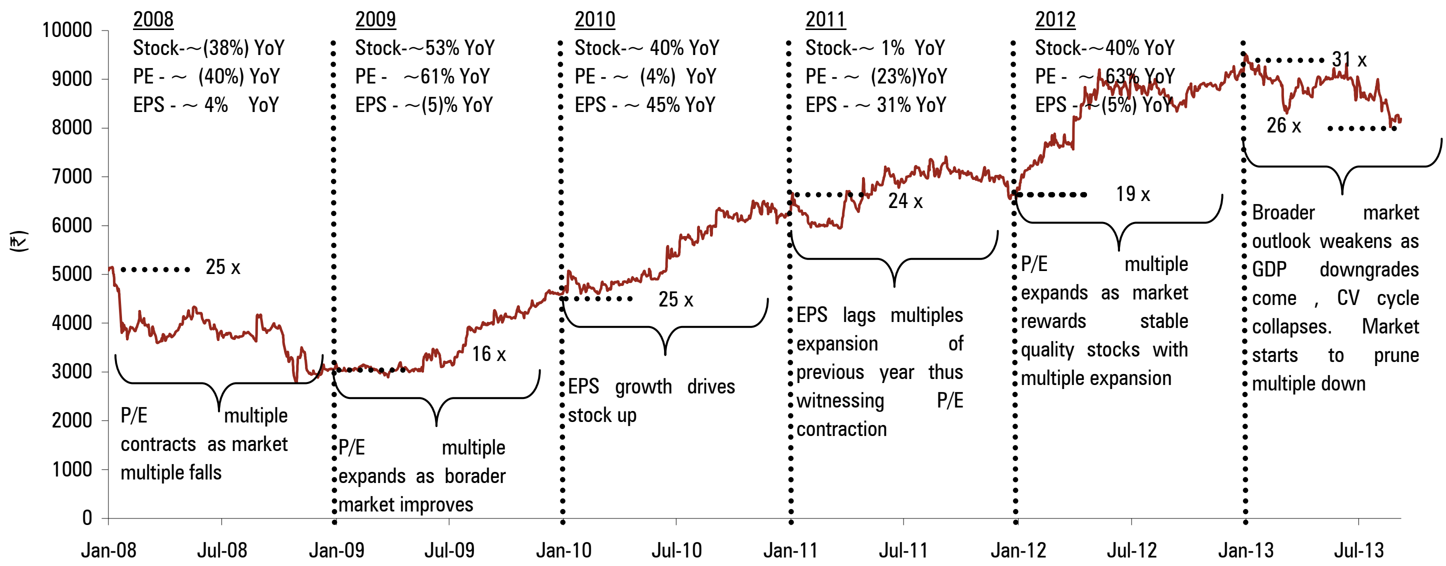
Exhibit 46: How do we stack up against consensus???

	I-Direct		Consensus		Variance from consensus	
	CY14E	CY15E	CY14E	CY15E	CY14E	CY15E
Sales (₹ crore)	9723.1	10977.0	10604.5	12726.0	-8%	-14%
EBIDTA Margin (%)	17.2	17.9	17.0	17.6	15 bps	34 bps
PAT (₹ crore)	1154.9	1388.8	1272.1	1514.3	-9%	-8%

Source: Company, ICICIdirect.com Research

We have been conservative in our estimates and lag the consensus topline, bottomline by 14%, 8%, respectively in CY15E. However, we believe Bosch's margin expansion will happen on the back of better realisations from strong automotive growth supported by emission norm changes.

Exhibit 47: Historical stock price analysis – Annual price movements break up "EPS vis-à-vis trailing PE multiple" change



Source: Company, ICICIdirect.com Research All PE is based on reported earnings of previous year thus on a trailing basis

Ex-post analysis on stock price performance!

We are trying to analyse the returns of the stock in a given year and how much of that cam via trailing PE multiples downgrade while how much was via EPS change that happened actually through the year

- Over CY08, Bosch India's stock price decline was mainly due to a contraction in valuation multiples, with limited changes in earnings expectations
- During CY09, most of the stock price decline of CY08 reversed along with the broader stock market recovery, with valuation multiples returning near the mid-cycle level of 20x P/E
- During CY10 (to date), the stock price appreciation has been mainly driven by a recovery in earnings expectations, in our view. We believe this is likely to continue during CY11 and expect multiples to move higher to up cycle levels

In our view, the stock price recovery from the downturns in 2001-02 and 2008-09 was also supported by the company's share buybacks. Though the stock has corrected even in the 2013 fall, it is still not to the same extent.

Sensitivity analysis

Base Case

In our base case scenario, we have arrived at a company valuation of ~₹ 9360, based on 14x CY15E rolling EV/EBITDA, an EBITDA of ₹ 1812 crore for CY14E/15E. The current multiple of ~12.5x is lower than historical averages.

Bull Case

In our bull case scenario, we are building in a 15% increase in our base case rolling EBITDA CY14E/15E to ₹ 2084 crore. We are also increasing the target EV/EBITDA multiple by 15% from our base case of to ~16x. This leads us to arrive at a per share value at ~₹ 11970/share.

Exhibit 48: Higher depreciation charge owing to increased capex

	₹ crore	EBITDA scenario -15%	-10%	-5%	0%	5%	10%	15%
EV/EBITDA	11.9	7119	7462	7805	8149	8492	8835	9179
	12.6	7462	7825	8189	8552	8916	9279	9643
	13.3	7805	8189	8573	8956	9340	9724	10108
	14.0	8149	8552	8956	9360	9764	10168	10572
	14.7	8492	8916	9340	9764	10188	10612	11037
	15.4	8835	9279	9724	10168	10612	11057	11501
	16.1	9179	9643	10108	10572	11037	11501	11966

Source: Company, ICICIdirect.com Research

Exhibit 49: Strong profitability consistency

		Impact on stock price (%) -15%	-10%	-5%	0%	5%	10%	15%
EV/EBITDA	11.9	-17	-13	-9	-5	-1	3	7
	12.6	-13	-9	-5	0	4	8	12
	13.3	-9	-5	0	4	9	13	18
	14.0	-5	0	4	9	14	18	23
	14.7	-1	4	9	14	19	24	29
	15.4	3	8	13	18	24	29	34
	16.1	7	12	18	23	29	34	39

Source: Company, ICICIdirect.com Research

Bear Case

In our bear case scenario, we are building in a 15% decrease in our base case rolling EBITDA CY14E/15E to ₹ 1540 crore. We are also reducing the target EV/EBITDA multiple by 15% from our base case of ~12x. This leads us to arrive at a per share value at ~₹ 7120/share.

Exhibit 50: Income statement

(₹ Crore)

(Year-end March)	CY11	CY12	CY13E	CY14E	CY15E
Net Sales	7,929.5	8,417.2	8,839.0	9,723.1	10,977.0
Other Operating Income	236.3	241.9	161.4	174.7	226.5
Total Operating Income	8,165.8	8,659.1	9,000.5	9,897.8	11,203.5
Growth (%)	22.2	6.0	3.9	10.0	13.2
Raw Material Expenses	4,395.2	4,753.4	4,900.8	5,359.4	5,993.2
Employee Expenses	896.1	1,037.1	1,175.9	1,298.7	1,435.7
Other expenses	1,255.9	1,388.8	1,442.5	1,561.8	1,791.2
Total Operating Expenditure	6,653.9	7,309.6	7,501.1	8,200.0	9,198.0
EBITDA	1,511.9	1,349.5	1,499.3	1,697.8	2,005.5
Other Income	320.3	369.2	409.1	478.0	580.0
Interest	0.4	5.5	0.5	0.4	0.2
Depreciation	257.8	367.0	424.4	498.6	568.0
PBT	1,574.0	1,346.2	1,483.5	1,676.8	2,017.3
Total Tax	451.3	387.9	466.0	521.9	628.5
PAT	1,122.7	958.3	1,017.5	1,154.9	1,388.8
Growth	30.7	(14.6)	6.2	13.5	20.2
EPS (₹)	357.5	305.2	324.1	367.8	442.3

Source: Company, ICICIdirect.com Research

Exhibit 51: Balance sheet

(₹ Crore)

(Year-end March)	CY11	CY12	CY13E	CY14E	CY15E
Equity Capital	31.4	31.4	31.4	31.4	31.4
Reserve and Surplus	4,696.9	5,541.9	6,340.4	7,239.8	8,336.6
Total Shareholders funds	4,728.3	5,573.3	6,371.8	7,271.2	8,368.0
Secured Loan	18.1	3.7	3.7	3.7	3.7
Unsecured Loan	227.3	181.3	181.3	171.3	101.3
Other Non Current Liabilities	37.3	33.4	33.4	33.4	33.4
Long-term provisions	171.5	218.4	258.4	308.4	358.4
Liability side total	5,182.5	6,010.1	6,848.6	7,788.0	8,864.8
Assets					
Total Gross Block	3,364.9	3,947.9	4,647.9	5,447.9	6,047.9
Less Total Accumulated Depreciation	2,773.2	3,084.6	3,509.0	4,007.6	4,575.6
Net Block	591.7	863.3	1,138.9	1,440.3	1,472.3
Total CWIP	320.7	417.1	417.1	417.1	417.1
Total Fixed Assets	912.4	1,280.4	1,556.0	1,857.4	1,889.4
Other Investments	447.7	450.0	460.0	470.0	470.0
Liquid Investments	1,187.0	1,069.8	989.8	1,139.8	1,639.8
Inventory	1,183.1	1,095.7	1,162.4	1,278.7	1,473.6
Debtors	895.9	1,021.0	1,114.0	1,198.7	1,383.4
Loans and Advances	889.4	878.7	922.7	1,015.0	1,145.9
Other Current Assets	103.6	140.3	235.7	259.3	292.7
Cash	951.5	1,487.2	1,914.0	2,237.9	2,490.6
Total Current Assets	4,023.5	4,622.9	5,348.9	5,989.6	6,786.4
Creditors	1,030.5	930.4	992.9	1,092.2	1,233.0
Provisions	396.8	506.5	540.5	594.6	671.3
Other Current Liabilities	521.1	456.9	479.8	527.8	595.9
Total Current Liabilities	1,948.4	1,893.8	2,013.2	2,214.5	2,500.1
Net Current Assets	2,075.1	2,729.1	3,335.7	3,775.0	4,286.2
Deferred Tax Assets	227.6	255.2	270.2	285.2	285.2
Long-term loans & advances	332.8	225.6	236.9	260.6	294.2
Assets side total	5,182.5	6,010.1	6,848.6	7,788.0	8,864.8

Source: Company, ICICIdirect.com Research

Exhibit 52: Cash flow statement

(₹ Crore)

(Year-end March)	CY11	CY12	CY13E	CY14E	CY15E
Profit after Tax	1,122.7	958.3	1,017.5	1,154.9	1,388.8
Depreciation	257.8	367.0	424.4	498.6	568.0
Cash Flow before working capital changes	1,380.9	1,330.8	1,442.4	1,653.9	1,957.0
	-	-	-	-	-
Net Increase in Current Assets	(645.8)	(63.7)	(299.1)	(316.9)	(544.0)
Net Increase in Current Liabilities	85.0	(54.6)	119.4	201.4	285.6
Net cash flow from operating activities	820.2	1,212.5	1,262.7	1,538.4	1,698.6
Long-term loans & advances	(332.8)	107.2	(11.3)	(23.7)	(33.6)
Other Investments	756.8	(2.3)	(10.0)	(10.0)	-
Liquid Investments	(784.2)	117.2	80.0	(150.0)	(500.0)
Deferred Tax Assets	(9.4)	(27.6)	(15.0)	(15.0)	-
(Purchase)/Sale of Fixed Assets	(510.0)	(735.0)	(700.0)	(800.0)	(600.0)
Long-term provisions	171.5	46.9	40.0	50.0	50.0
Other Non Current Liabilities	37.3	(3.9)	-	-	-
Net Cash flow from Investing Activities	(670.8)	(497.5)	(616.3)	(948.7)	(1,083.6)
Inc / (Dec) in Equity Capital	-	-	-	-	-
Inc / (Dec) in Loan Funds	15.1	(14.4)	-	-	-
Inc / (Dec) in Loan Funds	(46.0)	(46.0)	-	(10.0)	(70.0)
Total Outflow on account of dividend	(492.8)	(219.0)	(219.0)	(255.5)	(292.0)
Net Cash flow from Financing Activities	(523.7)	(179.3)	(219.5)	(265.8)	(362.2)
Net Cash flow	(374.3)	535.7	426.9	323.8	252.8
Closing Cash/ Cash Equivalent	1,325.8	951.5	1,487.2	1,914.0	2,237.9
Closing Cash/ Cash Equivalent	951.5	1,487.2	1,914.0	2,237.9	2,490.6

Source: Company, ICICIdirect.com Research

Exhibit 53: Ratio analysis

(Year-end March)	CY11	CY12	CY13E	CY14E	CY15E
Per Share Data (₹)					
EPS	357.5	305.2	324.1	367.8	442.3
Cash EPS	439.7	422.1	459.2	526.6	623.2
BV	1,505.9	1,775.0	2,029.3	2,315.8	2,665.1
Operating profit per share	481.5	429.8	477.5	540.7	638.7
Operating Ratios (%)					
EBIDTA Margins	18.5	15.6	16.7	17.2	17.9
PAT Margins	13.7	11.1	11.3	11.7	12.4
Return Ratios (%)					
RoE	23.7	17.2	16.0	15.9	16.6
RoCE	25.2	17.1	16.4	16.1	17.0
RoIC	34.2	24.3	24.3	24.0	24.8
Valuation Ratios (x)					
EV / EBITDA	16.6	18.2	16.2	14.0	11.4
P/E	24.0	28.1	26.5	23.3	19.4
EV / Net Sales	3.2	2.9	2.7	2.4	2.1
Sales / Equity	1.7	1.5	1.4	1.3	1.3
Market Cap / Sales	3.4	3.2	3.0	2.8	2.5
Price to Book Value	5.7	4.8	4.2	3.7	3.2
Turnover Ratios (x)					
Asset turnover	1.7	1.5	1.4	1.3	1.3
Debtors Turnover Ratio	8.9	8.2	7.9	8.1	7.9
Creditors Turnover Ratio	7.7	9.0	8.9	8.9	8.9
Solvency Ratios (x)					
Debt / Equity	0.1	0.0	0.0	0.0	0.0
Current Ratio	2.1	2.4	2.7	2.7	2.7
Quick Ratio	1.5	1.9	2.1	2.1	2.1

Source: Company, ICICIdirect.com Research

Annexure

Why was diesel not favoured in earlier times?

The main reason was the nature of the diesel process and the limitations of early diesel technology. Unlike gasoline engines, diesels have no spark plugs to ignite their fuel mixture--they depend on heat generated by the intense compression of air in the cylinders to ignite the fuel when it's sprayed into the combustion chamber. And when cold, they need the assistance of glow plugs bolster the heating process. And furthermore, since there is no spark to initiate combustion, the fuel must be introduced to the heat as an extremely fine mist in order to properly ignite.

Fuel injection systems:-

The manner in which fuel is injected into the cylinder determines the engine's torque, fuel consumption, emission and noise level. Thus, a fuel injection system not only supplies fuel for combustion process but also decides how a particular system would be optimised. Modern fuel injection systems are responsible for injection timing, atomisation, and injection quality. They also provide several additional functions, which include rate shaping (or scheduling the injection of fuel), multiple injections, pilot injection and post injection. Components such as fuel injectors, electronic control unit (ECU), fuel pressure regulators, fuel pumps, etc. are vital in the proper functioning of a fuel injection system.

With the development of diesel injection technology, the automobile market saw a quick adoption of diesel engines in small passenger car segment. This led to growing preference for diesel cars across the globe. Improved fuel efficiency and power output, reliability, basic diagnostic capability, ability to accommodate some of the alternative fuels and lower exhaust emissions are some of the factors that propelled the demand for fuel injection systems in the automobile industry.

Many of the two wheeler manufacturers across the globe are also focusing on the use of fuel injection technology in two-wheelers with less engine capacity (150 cc and below). The overall demand for fuel injection systems is expected to increase at a promising rate in the future.

Indirect injection system:-

In the indirect injection (IDI) system the fuel pump and injectors are completely mechanical, and though precision machined and ruggedly built, the working pressure of the fuel system is not sufficiently high enough to render a sustained and well-defined spray pattern of fuel.

And in these old mechanical indirect systems, the pump had to do double duty--not only supplying fuel system pressure, but also acting as the timing and delivery device (pump pressure forced the mechanical injectors to open). Additionally, these elementary systems rely on simple mechanical inputs (there were no electronics yet) such as fuel pump RPM's and throttle position to meter their fuel delivery.

The low pressure fuel is injected into a pre-chamber to insure proper atomization of the charge before it could move into the main combustion chamber to do its work. Hence it gets the name indirect injection system.

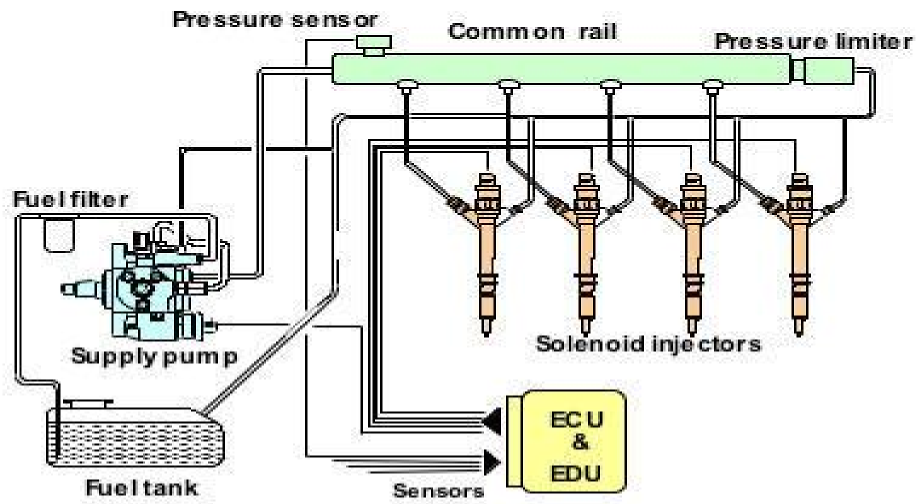
A high pressure supply pump pressurizes the fuel which flows to the common rail. A pressure limiter allows the fuel pressure to be maintained at a level set by the Electronic Control Unit (ECU). The common rail feeds the injectors. Sensor inputs to the ECU comprise of things like fuel pressure, engine speed, accelerator pedal travel and engine coolant temperature. Thus this all causes the engine to undergo smooth and efficient fuel combustion

Common rail diesel injection system:-

Modern diesels owe their resurgence in popularity to advances in fuel delivery and engine management systems that allow the engines to return power, performance and emissions equivalent to their gasoline counterparts, while simultaneously producing superior fuel economy. It's the high pressure fuel rail and the computer controlled electronic injectors that make all the difference.

- In the common rail system, the fuel pump charges the fuel rail at a pressure of up to 25,000 psi--but unlike indirect injection pumps--it is not involved in fuel discharge
- Each fuel injector is mounted directly above the piston within the cylinder head (there is no pre-chamber) and is connected to the fuel rail by rigid steel lines that can withstand the high pressure.
- This high pressure allows for a very fine injector orifice that completely atomizes the fuel and precludes the need for a pre-chamber. The actuation of the injectors comes via a stack of piezo electric crystal wafers that move the jet needle in tiny increments allowing for the spray of fuel. Piezo crystals function by expanding rapidly when an electric charge is applied to them.
- Like the fuel pump, the injectors are also controlled by the engine computer and can be fired in rapid succession several times during the injection cycle.
- With this precise control over injector firings, smaller, staggered quantities of fuel delivery can be timed over the course of the power stroke to promote complete and accurate combustion.

Exhibit 54: A flow diagram on CRDI working



Source: Wikipedia.org,Company, ICICIdirect.com Research

Differences between convention ignition systems and CRDI:-

- CRDi systems have engine control units (ECU), which control the system. ECU is a type of electronic control unit that controls a series of actuators on an internal combustion engine to ensure optimal engine performance
- A CRDi system results in higher fuel efficiency/BHP and a smoother power delivery, compared to the conventional ignition systems hitherto in use

Parts of diesel injection systems:-

- Injectors
- ECU
- Pressure regulators
- High pressure pumps

Facilities of Bosch Ltd in India:-

- **Bangalore :-** In 2012, the Bangalore plant attained moderate production level in all its products viz., inline pumps, elements, delivery valves, common rail pumps, glow plugs and single cylinder pumps. It is one of the oldest plants in the sphere but remains highly upgraded and is able to produce newer products with high degree of efficiency. The plant received the “Golden Peacock Environment management Award” for excellence and “Greentech Safety Award” for EHS best practices.

- **Nashik: -** The Nashik Plant has achieved the highest production levels in Common Rail Injectors (CRI) by crossing a milestone of 2.5 million production mark. The Plant invested ~ ₹ 360 crore in CY12 for mainly expanding the capacity in CRI systems and for building a new production hangar. Around 25% of production from this facility is towards exports

- **Jaipur: -** The Jaipur plant produced its four millionth VE pump in 2012. The plant has successfully transferred VE components from Bangalore to Jaipur and initiated an all-important strategic project on migration of production from Germany. The plant was honoured with the CII-Exim Bank’s ‘Commendation for significant achievements in “Business Excellence” award for 2012.

- **Naganathapura: -** In 2012, good productivity improvement of products manufactured was achieved by the plant with a substantial ramp-up. It recorded major milestones in the production of NBL generators in 2012. The main focus area of the plant remains gasoline systems and electrical divisions. The plant also undertook measures for increased localisation of power train sensors, accelerator pedal and fuel supply modules.

- **Verna: -** The latest additions to Bosch Ltd plants came in from the Verna Plant in Goa. CY12 witnessed the completion of the construction activities for the new plant that had commenced in CY11. The focus area of the new plant is the packaging division, which has been growing strongly in past years (CY12 revenue ~₹ 100 crore) led by the confectionary segment. This plant was made on an initial outlay of ₹ 34 crore and is spread on 33,000 square metre. There will be further investments in this plant to double the existing capacity by CY15E and CY16E.

RATING RATIONALE

ICICIdirect.com endeavours to provide objective opinions and recommendations. ICICIdirect.com assigns ratings to its stocks according to their notional target price vs. current market price and then categorises them as Strong Buy, Buy, Hold and Sell. The performance horizon is two years unless specified and the notional target price is defined as the analysts' valuation for a stock.

Strong Buy: >15%/20% for large caps/midcaps, respectively, with high conviction;
Buy: > 10%/ 15% for large caps/midcaps, respectively;
Hold: Up to +/-10%;
Sell: -10% or more;

Pankaj Pandey **Head – Research** **pankaj.pandey@icicisecurities.com**

ICICIdirect.com Research Desk,
ICICI Securities Limited,
1st Floor, Akruti Trade Centre,
Road No. 7, MIDC,
Andheri (East)
Mumbai – 400 093

research@icicidirect.com

ANALYST CERTIFICATION

We /I, *Nishant Vass MBA (Finance), Venil Shah MBA* research analysts, authors and the names subscribed to this report, hereby certify that all of the views expressed in this research report accurately reflect our personal views about any and all of the subject issuer(s) or securities. We also certify that no part of our compensation was, is, or will be directly or indirectly related to the specific recommendation(s) or view(s) in this report. Analysts aren't registered as research analysts by FINRA and might not be an associated person of the ICICI Securities Inc.

Disclosures:

ICICI Securities Limited (ICICI Securities) and its affiliates are a full-service, integrated investment banking, investment management and brokerage and financing group. We along with affiliates are leading underwriter of securities and participate in virtually all securities trading markets in India. We and our affiliates have investment banking and other business relationship with a significant percentage of companies covered by our Investment Research Department. Our research professionals provide important input into our investment banking and other business selection processes. ICICI Securities generally prohibits its analysts, persons reporting to analysts and their dependent family members from maintaining a financial interest in the securities or derivatives of any companies that the analysts cover.

The information and opinions in this report have been prepared by ICICI Securities and are subject to change without any notice. The report and information contained herein is strictly confidential and meant solely for the selected recipient and may not be altered in any way, transmitted to, copied or distributed, in part or in whole, to any other person or to the media or reproduced in any form, without prior written consent of ICICI Securities. While we would endeavour to update the information herein on reasonable basis, ICICI Securities, its subsidiaries and associated companies, their directors and employees ("ICICI Securities and affiliates") are under no obligation to update or keep the information current. Also, there may be regulatory, compliance or other reasons that may prevent ICICI Securities from doing so. Non-rated securities indicate that rating on a particular security has been suspended temporarily and such suspension is in compliance with applicable regulations and/or ICICI Securities policies, in circumstances where ICICI Securities is acting in an advisory capacity to this company, or in certain other circumstances.

This report is based on information obtained from public sources and sources believed to be reliable, but no independent verification has been made nor is its accuracy or completeness guaranteed. This report and information herein is solely for informational purpose and may not be used or considered as an offer document or solicitation of offer to buy or sell or subscribe for securities or other financial instruments. Though disseminated to all the customers simultaneously, not all customers may receive this report at the same time. ICICI Securities will not treat recipients as customers by virtue of their receiving this report. Nothing in this report constitutes investment, legal, accounting and tax advice or a representation that any investment or strategy is suitable or appropriate to your specific circumstances. The securities discussed and opinions expressed in this report may not be suitable for all investors, who must make their own investment decisions, based on their own investment objectives, financial positions and needs of specific recipient. This may not be taken in substitution for the exercise of independent judgment by any recipient. The recipient should independently evaluate the investment risks. The value and return of investment may vary because of changes in interest rates, foreign exchange rates or any other reason. ICICI Securities and affiliates accept no liabilities for any loss or damage of any kind arising out of the use of this report. Past performance is not necessarily a guide to future performance. Investors are advised to see Risk Disclosure Document to understand the risks associated before investing in the securities markets. Actual results may differ materially from those set forth in projections. Forward-looking statements are not predictions and may be subject to change without notice.

ICICI Securities and its affiliates might have managed or co-managed a public offering for the subject company in the preceding twelve months. ICICI Securities and affiliates might have received compensation from the companies mentioned in the report during the period preceding twelve months from the date of this report for services in respect of public offerings, corporate finance, investment banking or other advisory services in a merger or specific transaction. It is confirmed that, *Nishant Vass MBA (Finance), Venil Shah MBA* research analysts and the authors of this report have not received any compensation from the companies mentioned in the report in the preceding twelve months. Our research professionals are paid in part based on the profitability of ICICI Securities, which include earnings from Investment Banking and other business.

ICICI Securities or its subsidiaries collectively do not own 1% or more of the equity securities of the Company mentioned in the report as of the last day of the month preceding the publication of the research report.

It is confirmed that, *Nishant Vass MBA (Finance), Venil Shah MBA* research analysts and the authors of this report or any of their family members does not serve as an officer, director or advisory board member of the companies mentioned in the report.

ICICI Securities may have issued other reports that are inconsistent with and reach different conclusion from the information presented in this report. ICICI Securities and affiliates may act upon or make use of information contained in the report prior to the publication thereof.

This report is not directed or intended for distribution to, or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction, where such distribution, publication, availability or use would be contrary to law, regulation or which would subject ICICI Securities and affiliates to any registration or licensing requirement within such jurisdiction. The securities described herein may or may not be eligible for sale in all jurisdictions or to certain category of investors. Persons in whose possession this document may come are required to inform themselves of and to observe such restriction.