

# AMARA RAJA BATTERIES

## Charged up for growth

India Equity Research | Automobiles

Amara Raja Batteries Ltd (AMRJ) is India's second-largest manufacturer of lead-acid batteries. It enjoys ~28% share by volume in 4W OEM, 37% share in 4W aftermarket (organized), 25% share in 2W aftermarket, 32% in UPS and 46% share in telecom segment. Being the second largest player gaining market share from the leader Exide Industries (EXID) and unorganized market, the company will be a strong beneficiary of structural and cyclical uptick in the auto segment. Additionally, 40% of revenues from the industrial space protects it from the vagaries of the slowdown in the auto sector. We initiate a 'BUY' on the stock.

### Capacity ramp up to add tailwind to replacement growth

Having established its strong foothold in the auto replacement space, the company is increasing its capacity by 47% in 4-wheelers and 75%, in 2-wheelers, which will provide the scale and operational efficiency. Also company is expanding capacity by 32% in telecom segment and 100% in UPS segment which will set a base to capture industrial growth over next three years.

### Organized pie to increase

Having grown the organized space from about 35%, ten years ago, to 58% now; it is further expected to grow ~62% (INR24bn opportunity) over the next two to three years, on the back of capacity and distribution network expansion by AMRJ and EXID.

### Gross margin gap narrowing

AMRJ's narrowing pricing gap with EXID, have led to gross margins (ex-trading revenue) gradually converging with EXID. We expect the company to maintain ~34% gross margin and 15-16% OPM despite growing OEM presence.

### Outlook and valuations: Poised for growth; initiating 'BUY'

We expect the company to clock 22%/19% revenue/earnings growth CAGR over FY13-FY15E with strong ROE of 28% and 36% ROCE alongside capacity, market share expansion and pricing discipline. At 12.7x FY15E EPS, the stock seems to be pricing in concerns on the medium-term replacement growth. We initiate a 'BUY'.

#### Financials

Year to March	FY12	FY13	FY14E	FY15E
Revenues (INR mn)	23,645	29,614	36,526	44,360
Growth (%)	33.5	25.2	23.3	21.4
EBITDA (INR mn)	3,396	4,515	5,707	6,966
Net profit (INR mn)	2,151	3,050	3,366	4,177
Shares outstanding (mn)	171	171	171	171
Diluted EPS (INR)	12.6	17.3	19.7	24.5
EPS growth (%)	55.4	37.6	13.8	24.1
Diluted P/E (x)	24.7	17.9	15.8	12.7
ROAE (%)	29.3	31.4	28.1	27.7

#### EDELWEISS RATINGS

Absolute Rating	BUY
Investment Characteristics	Growth

#### MARKET DATA (R: AMAR.BO, B: AMRJ IN)

CMP	: INR 311
Target Price	: INR 369
52-week range (INR)	: 330 / 207
Share in issue (mn)	: 170.8
M cap (INR bn/USD mn)	: 53 / 862
Avg. Daily Vol. BSE/NSE ('000)	: 343.0

#### SHARE HOLDING PATTERN (%)

	Current	Q4FY13	Q3FY13
Promoters *	52.1	52.1	52.1
MF's, FI's & BKs	15.0	14.2	15.3
FII's	11.0	10.8	10.0
Others	21.9	22.9	22.6
* Promoters pledged shares (% of share in issue)	:		NIL

#### RELATIVE PERFORMANCE (%)

	Sensex	Stock	Stock over Sensex
1 month	2.3	3.8	1.5
3 months	1.4	25.0	23.6
12 months	8.6	30.1	21.5



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#### Shradha Sheth

+91 22 6623 3308  
shradha.sheth@edelweissfin.com

#### Manoj Bahety, CFA

+91 22 6623 3362  
manoj.bahety@edelweissfin.com

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## Investment Rationale

### Strong positioning led to market share gains

AMRJ has successfully challenged the dominance of incumbent and market leader, EXID Industries, through aggressive branding, advertising and product innovations. Making a presence in automotive batteries in 2000, the company has garnered a share of ~28% by volume in OEM batteries and 37% in replacement market for passenger cars. Positioning itself directly against EXID, by offering batteries with higher warranty life at lower prices, the company was able to garner market share at a faster pace. While other players have matched up AMRJ on product proposition, the price gap with competitor still continues. Also company maintains its lead in terms of product positioning with maintenance-free batteries from three to five year product range. With strong technology from the parent, JCI, continuing expansion in distribution network and capacity expansion leading to stronger relationship with OEMs coupled with stronger replacement market share over time, AMRJ is expected to continue gaining market share from the organized and unorganized markets.

Strong product positioning with price discount to competitor; maintenance free batteries across the spectra of products

**Table 1: Battery price comparison**

Battery for car model	Warranty (months)	Amaron		Exide		Price diff (%)
		Amp hr	Price	Amp hr	Price	
Maruti Swift Petrol	18+0	35	3,300	35	3,850	16.6
Maruti Swift Petrol	24+24	35	4,200	35	4,900	16.6
Honda City Vitec 1.5 Petrol	24+24	35	4,200	35	4,900	16.6

*Note: Prices are for a new battery (without old battery)*

*EXID took a price hike in September while AMRJ expected to take one soon to the extent of 6-7%*

*Source: Battery dealers*

### OEM market share to potentially rise with capacity expansion

The demand for batteries from the OEM side forms the base and gives a clear visibility to battery manufacturers in the form of continuous order flow. The estimated market size of the OEM segment is at around INR20bn. In the passenger vehicle segment, Amara Raja Batteries has lower market share of 28% as compared to EXID's 66%, so pressure from OEM slowdown in the current environment is less. Currently, the demand for the auto vehicles has slackened and is expected to grow by 1% in FY14 and around 7% in FY15. While sales to OEMs are likely to remain under pressure in FY14, EXID's willingness to let go some OEMs augurs well for Amara Raja. Declining supplies for OEMs by the market leader will favor battery players since they will not get squeezed out by OEMs on pricing. This can potentially arrest the margin decline despite increasing OEM share in the overall mix. With increasing capacity, we expect AMRJ to increase its market share from 28% to 33% in 4-wheelers OEM and from 0% to 17% in 2-wheelers OEM by FY15.

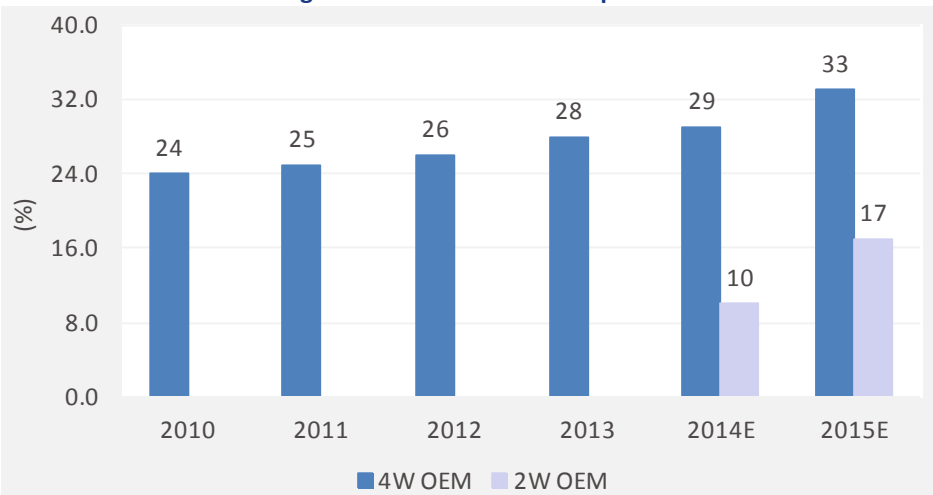
OEM is lower margin but critical for scale; revenue contribution to grow from 12% in FY13 to 14% in FY15E

Market share to expand from 28% to 33% in 4W and 0% to 17% in 2W OEM segment by FY15E led by stronger OE penetration and capacity expansion

Company has gained by strong 1100bps in 4 Wheeler replacement market share in last two years led by gains from organized market

Market share to expand from 37% to 41% in 4W and 25% to 29% in 2W replacement by FY15E led by stronger OE penetration, distribution expansion and gains from competition

**Chart 1: AMRJ auto OEM segment - market share to expand**



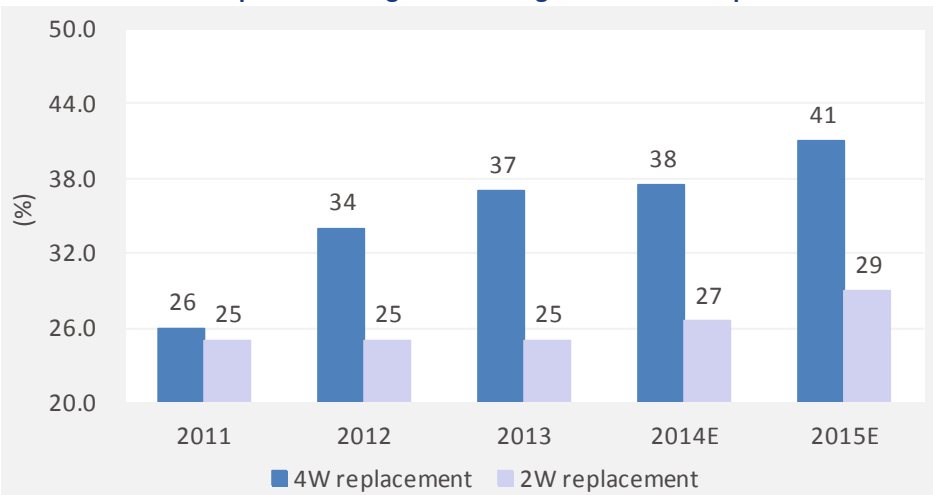
Source: Company, Edelweiss research

**Strong auto replacement market share penetration**

The company has a strategy in place to enter the replacement segment first, which ensures higher margins (given the huge margin differential between OE and after-markets), while also providing OEMs the batteries that are tested on road. Replacement segment constitutes to around 64% of the total auto battery consumption constituting a market size of INR35bn. Around 43% of the total revenues (75% of automotive revenues) earned by the company come from the sale of battery in the replacement (2-wheeler and 4-wheeler) market which is a higher margin business. AMRJ has 37% market share in the 4-wheeler replacement market and 25% in the 2-wheeler replacement market. Increase in franchisees, Amaron and power zone outlets will continue to be key drivers for higher after-market sales for AMRJ.

Between FY13-15E, we expect market share improvement in the four-wheeler battery replacement market to improve from 37% currently to 41% and two-wheeler from 25% to 29% driven by higher penetration in the OEM and unorganised sector.

**Chart 2: AMRJ auto replacement segment - strong market share expansion**



Source: Company, Edelweiss research

Replacement demand constitutes 66% of auto battery consumption ...

First time replacement constitutes 45% of replacement demand...

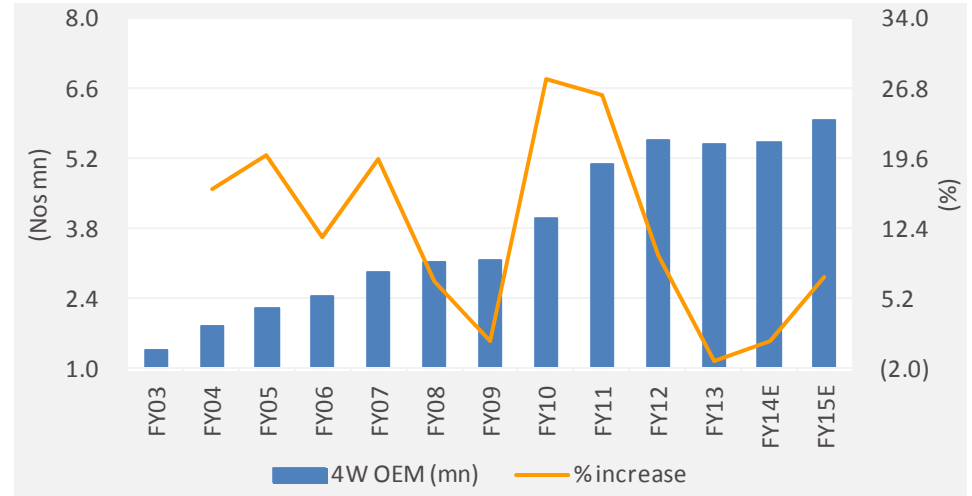
... Hence recent OEM slow down will have muted effect on overall battery demand.

However, we expect growth to pick up from FY16 onwards due to higher OEM growth during FY10 and FY11

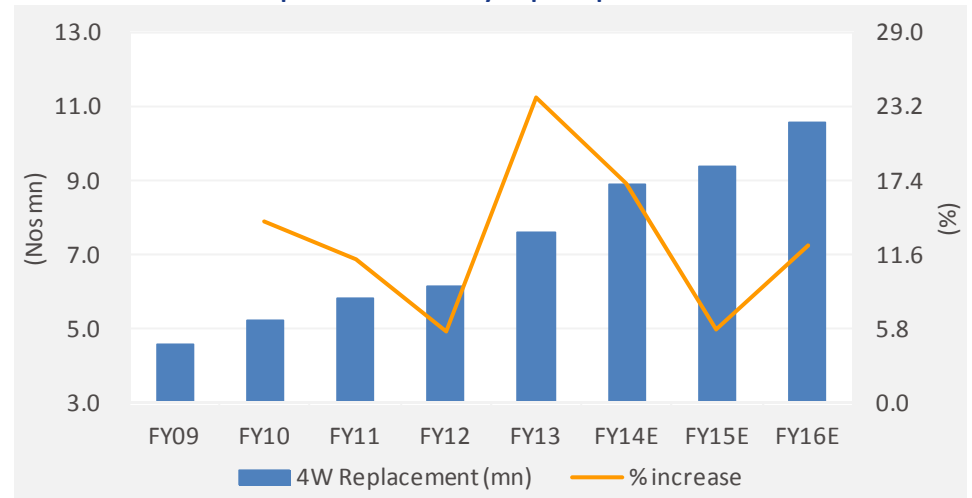
**OEM slowdown likely to have muted effect on replacement demand**

The current weakness in auto OEM sales has raised concerns on auto replacement growth starting FY16 (3.0-3.5-year replacement cycle). We note that first-time replacement accounts for only about ~45% of total replacement demand for auto batteries. Even if first-time replacement demand weakens, we expect overall replacement volumes to grow at 10% plus, beyond FY15. This is driven by the growth in OEM production volumes over the past ten years of 15% CAGR. The strong auto sales from 2009-12 of 21% CAGR will drive replacement sales till FY14. Also, the higher diesel car sales, as a proportion of total cars sold, increased from 36% in FY11 to 58% in FY13 and will add to the growth by 2-3% in replacement sales in FY15 and FY16. This is so because batteries used in diesel cars require higher power (Amp Hrs), they tend to be at least 50% more expensive than batteries that are used in petrol cars. Two-wheeler replacement battery demand is expected to grow on the back of increase in electric start option in most models released over the past four years.

**Chart 3: Four-wheeler OEM industry trajectory**



**Chart 4: Four-wheeler replacement industry to pick up from FY16**



Source: Company, Edelweiss research

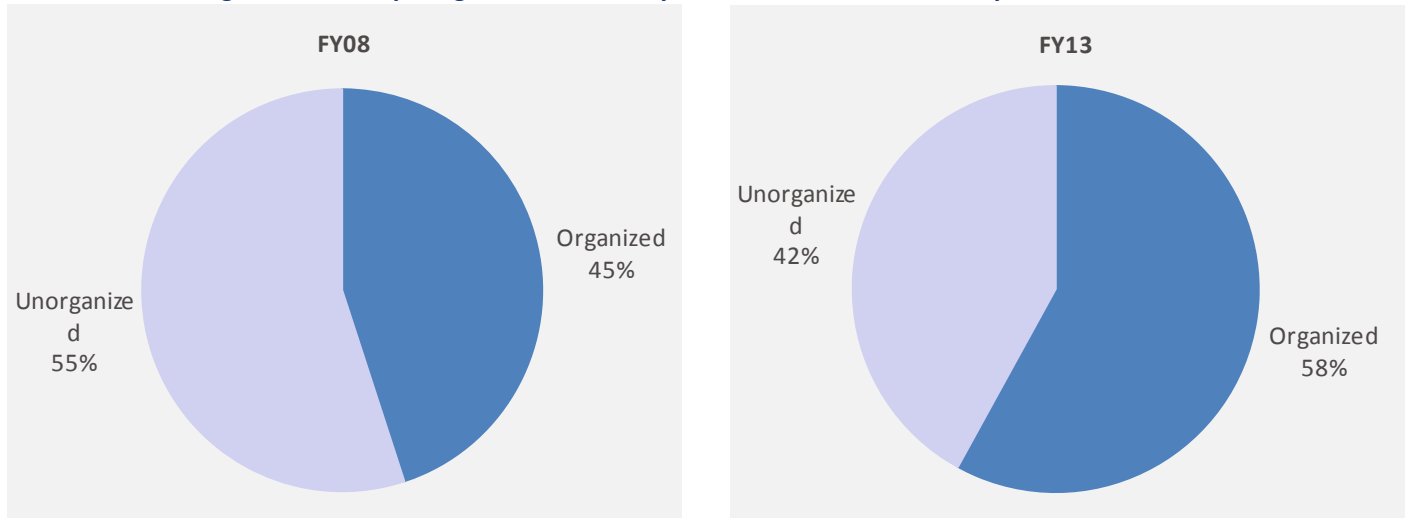
Share of organized market has grown from 35%, ten years ago, to 58% now and expected to grow by 200-250bps annually

**Increasing share of organized pie gives better pricing power**

Share of organized market has grown from about 35%, ten years ago, and 45%, five years ago, to 58% now, increasing around 200-250bps every year. While passenger vehicles (PV) are largely catered by the organized market, the unorganized market accounts for only 20% as compared to overall unorganized market of ~42%. The price-sensitive commercial vehicles and tractor users greatly opt for batteries from the unorganized market that accounts for 60-65% of their market. The increasing distribution network in the semi urban and rural markets will help AMRJ further capture the market share from the unorganized automotive battery industry (opportunity size of ~INR24bn, 40% of the overall replacement market). Also, the increasing organized pie gives the duopoly better pricing power to pass on lead cost increases.

We expect increasing preference of customers towards quality. The inability of unorganised players to match EXID and AMRJ on warranty periods and maintenance-free batteries could result in continued market share gains for organized players. We expect the organized replacement market’s proportion in the PV market to increase from 58% to ~62% over the next three to four years primarily on the back of larger penetration of EXID and AMRJ led by their capacity and distribution network expansion and with the effective implementation of pollution regulations for Indian players. With specific programs such as ‘Project Kissan’ targeted towards rural markets and ‘Humsafar’ module to motor garages in case of EXID; and AMRJ through its rural channel power zone outlets will help increasing the organized pie.

**Chart 5: Share of Organized industry has grown substantially from 45% to 58% in last five years**



Source: Company, Edelweiss research

**Self-start vehicles – a structural opportunity in 2-wheeler segment**

The advent of self-start from kick-start bikes have boosted the demand pattern for the replacement cycle driving requirement of high-quality batteries leading to faster growth. Earlier replacement demand for 2 wheeler batteries used to be comparatively low, as it was predominantly for lighting and horn purpose. With the onset of self start bikes, the battery quality and capacity requirement has increased alongside shortening of the replacement cycle for the battery required to start the vehicle. AMRJ was able to capitalize the shift of

JCI which owns 26% in AMRJ; a global leader with 36% global market share provides later access to latest automotive technology

batteries to self-starters at the right time with the introduction of 2W VRLA batteries in May 2008 (first to introduce VRLA, benefit being that it does not require topping).

Growth in ungeared scooter sales with faster employment among women; and shift from entry-level models to the 'executive' segment, in which most models have the self-start feature and the 'premium' segment, in which models with higher cc engines are needed, have led to faster growth in batteries.

The shift from kick-start to electric-start in 2008 in the motorcycle segment, have led replacement volumes grow to 50% in the overall sales mix versus ~30-35% in 2008 as battery replacement has been at a faster pace. Also with the premium in pricing of electric starter battery at ~2x the price of kick-start, the increasing proportion of electric starter batteries in replacement sales will enable the industry to grow faster. The 2W battery replacement industry is set to grow in double digit rate over a longer term led by this structural opportunity. AMRJ is poised to leverage on this opportunity with the increase in capacity by 75% in the 2 wheeler segment.

### **Barriers to entry – technology, brand franchisee and distribution network**

The barriers to entry in this business are technology, brand franchise and distribution network and AMRJ has worked hard to build the Amaron brand in the last ten years. The company unveiled technology intensive products like VRLA and maintenance free batteries alongside an extended warranty which was a key differentiator to strengthen its brand recall among users. Positioning itself as a "technology leader" has established a strong brand franchise for AMRJ. Having partnered with GNB Tech in 1991 helped AMRJ get an edge with the VRLA technology for industrial applications. As a result, the company is a preferred battery supplier to major cellular service providers and inverter/UPS manufacturers. This also helped AMRJ pioneer introduction of VRLA batteries for 2-wheelers in 2008. Also the tie-up with Johnson Controls gives AMRJ access to the latest automotive battery technology. Johnson Controls, which owns 26% in AMRJ, is the global leader in lead acid batteries for passenger cars, light trucks and utility vehicles, in addition to being the leading independent supplier of hybrid systems. Technology from JCI enabled AMRJ to introduce maintenance free batteries alongside extended warranty relative to competition—first to introduce batteries with 5-year warranties. JCI has the benefit of scale to constantly innovate (~USD6bn revenues from battery business, 36% global market share in SLI batteries), to stay ahead in technology and bring new efficient solutions for customers.

### **Distribution network**

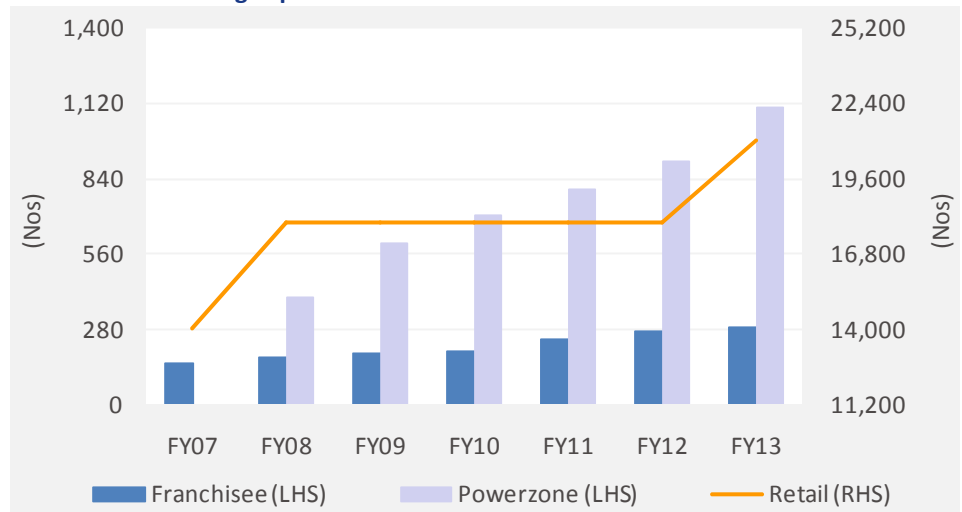
While EXID follows a direct dealer distribution model, AMRJ has a two-tier (company-distributor-dealer) model. EXID has around 16,000 dealers. These service their 14,000 humsafar touch points and other 10,000 touch points. AMRJ uses a franchisee model and has 287 franchisees who service 21,000-odd multi branded retail outlets. This was a good model to follow in the initial phase, as it enabled AMRJ to expand quickly while extending credit to only about 287 franchisees. This made the task of collecting money easy and secondary costs lower for them.

Going forward, AMRJ plans to continue using the two-tier model in the case of Amaron and a direct dealer model, in case of power zone since direct reach will be more effective here.

AMRJ follows a two-tier distribution system with 287 franchisees which helps in better receivable management; these service 21,000 plus multi branded retail outlets

The company aims to increase its power zone network to penetrate into the unorganized segment, which is ~40% of the automotive battery industry (opportunity size of ~INR24bn). The company is planning to add 100 power zone outlets on a base of 1,100 and expand distributor network in FY14. We also note that the company has strong presence in the northern and southern markets by leveraging brand and replacement presence. The eastern part of the country, which is a stronghold for EXID (since it is based in Kolkata), and western part which is weak in terms of distribution for AMRJ, is a focus area. It also plans to tie-up with new franchisees as their OEM sales pick up, to penetrate deeper into the existing territories.

**Chart 6: AMRJ: Strong expansion in distribution network**



Source: Company, Edelweiss research

AMRJ has created the barriers to entry in the form of a vast FMCG-like retail distribution network and created SKUs for different platforms within autos with different warranties for different models.

**Capacity expansion - Investing for growth**

To cater the rising demand for its products, Amara Raja has earmarked capex of INR7.5bn over FY14-15E. With OE demand expected to register 15% CAGR over the next few years and replacement demand expected to benefit from the past surge in demand, AMRJ, which plans to increase its annual battery capacity for 4-wheelers by 47%, and for 2-wheelers by 75%, should be a key beneficiary. The telecom segment, is also improving on increased demand from replacement and increased use of batteries as a substitute for diesel generators due to higher diesel prices. The company is undertaking expansion to the extent of 32% to capitalize on this which should come up by Q4FY14. In the UPS segment, company is doubling capacity to capitalize on the huge industrial demand and reduced imports from China post the crackdown by government. The company’s capacity utilization is over 85% in the industrial segment. Hence capacity would be a constraint in only industrial segment until Sep ’13. The new 4-wheeler capacity would get fully utilized over 2.5-3 years, and the two wheeler capacity would get utilized over the next 2-2.5 years. We estimate this capex would ensure sufficient capacity to meet the replacement demand until FY16. Considering the capex plan of the two large players, it is apparent that the demand-supply dynamics will keep turning in favor of the organized players.

**Table 2: AMRJ: Overall strong capacity expansion to the extent of ~66%**

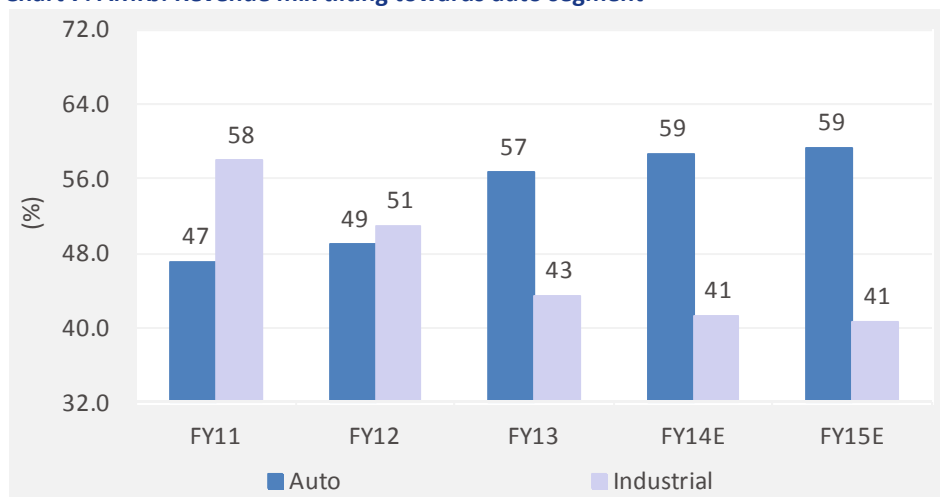
Segment	Existing capacity	Planned addition	Overall capacity post expansion	Capex (INR bn)	Time line	Expected revenues (INR bn)	Sales to Capex
4W (mn)	5.7	2.7	8.3	4.1	Q1/Q2FY15	7.5	1.9
2W (mn)	4.8	3.6	8.4	1.0	In a phased manner from Q3FY14	1.8	1.8
Medium VRLA (mn)	1.8	1.8	3.6	1.9	Q3 FY14	5.0	2.6
Large VRLA (mn Ah)	760.0	240.0	1,000.0	0.5	Q4 FY14	2.5	5.0
<b>Total</b>	<b>15.0</b>	<b>8.9</b>	<b>23.9</b>	<b>7.5</b>		<b>16.8</b>	<b>2.2</b>

Source: Company, Edelweiss research

Capex of INR7.5bn - expansion by 47% in 4Wheelers; 75% in 2Wheelers; doubling in UPS and 32% in telecom will favor the demand dynamics for the organized players

### Increasing focus on automotive segment to provide a stable platform

The automotive segment's share of AMRJ's revenues increased from zero in FY2000 to 30% in FY05 to 50% in FY10, and further to 57% as on FY13. Having improved its market share to 28% in 4-wheeler OEMs, the company is now eyeing the 2-wheeler OEM segment with supplies to Honda. Higher OEM share augurs well for the company as it is likely to help improve replacement market share as well. Historically, Amara Raja had been very strong in the telecom tower space which saw poor demand and high competitive pricing in FY11-12, thereby impacting profitability of the company. While profitability is stable in this division, due to lesser telecom tower addition expectation, we believe the revenue-mix shift towards the automotive segment is structurally positive.

**Chart 7: AMRJ: Revenue mix tilting towards auto segment**

Source: Company, Edelweiss research

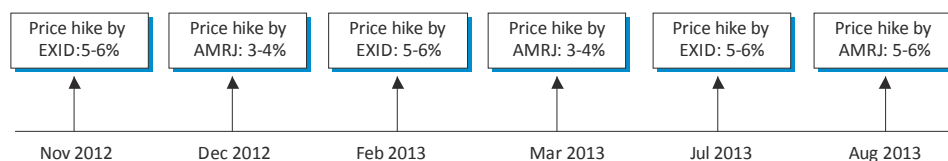
### Pricing discipline to protect operating margins

The Indian batteries market is primarily a duopoly with EXID and Amara Raja occupying over 90% of the organised automotive battery space. There are pass-through clauses with OEMs enabling pricing power and margin sustenance. In case of auto OEM and replacement cost increases are passed on with a quarterly lag while in case of Industrials segment, they are passed with a 1-2 month lag.

Pricing discipline returning in the industry with both the organized players having taken price hikes to the extent of 15-18% in last 9 months which should cover the impact of lead price inflation due to INR depreciation

With a virtual duopoly market, both players have refrained from aggressive price competition. This duopoly was temporarily disrupted in January 2011, when EXID cut prices of its batteries by 4%, in spite of an increase in lead prices. EXID's price cut was prompted by a need to stem its market share losses in the replacement segment caused by capacity constraints. However, normalcy was restored immediately with EXID increasing prices by 5% from mid-February 2011. Both, EXID and Amara Raja, have implemented three price increases aggregating to 15-18% in the nine months from November 2012 to September 2013 to cover inflation and lead price increase without affecting the replacement demand. We believe continued pricing discipline will help this duopolistic industry to tide over cost increases. Also in the interim, while most benefit of lower lead prices have been offset by rupee depreciation, risks to margins are reduced due to stabilizing lead prices.

**Fig. 1: Periodic price hikes – pricing discipline**



Source: Battery dealers

**Table 3: Pricing versus competition**

	10-Dec	12-Apr	12-Dec	13-Mar	13-Oct
<b>Maruti Swift petrol version - 35AH with 4 yrs warranty</b>					
Exide (Rs. Per battery)	4,835	3,946	4,247	4,480	4,900
% change	11.0	(18.0)	8.0	5.0	9.0
Amara Raja (INR per battery)	4,284	4,007	4,169	4,260	4,260
% change		(6.5)	4.0	2.0	
<b>Exide premium (%)</b>	<b>12.9</b>	<b>(1.5)</b>	<b>1.9</b>	<b>5.2</b>	<b>15.0</b>

Note: These are retail selling prices; AMRJ due to take a price hike of 6-7% anytime soon and hence the price premium of EXID to narrow to 8%

Source: Battery dealers

Price premium by competitor on the rise again

**Telecom – diesel substitution, an opportunity - we expect ~18% CAGR**

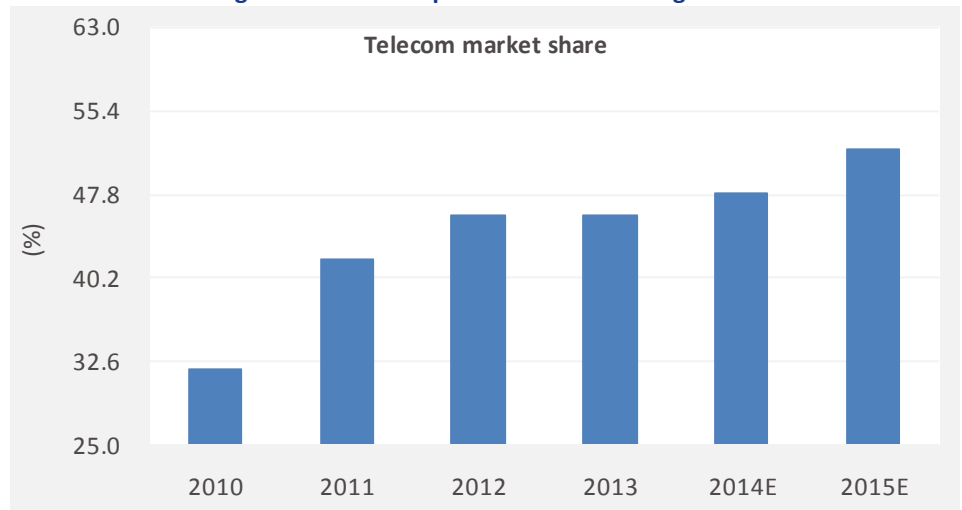
Currently there are around 3,87,000 telecom towers with expected battery life of around 3-4 years which should drive the replacement demand for batteries as tower additions had accelerated 3-4 years ago. While the pace of addition has slowed down, the number of towers are expected to grow at a 4% CAGR over FY13-17 to 4,20,000 by 2017. Telecom batteries are used as a backup power source in telecom towers. About 60% of the towers in India depend solely on diesel for power generation. Presently, telecom towers across the country run for 12 hours on electricity, 8 hours on diesel generators and 4 hours on batteries (17% of consumption). Increase in diesel costs have led to increase in capex and operational costs for these towers.

**Table 4: Cost benefit analysis**

Operational cost	Units	Value	Annual
Diesel consumption per day	LPD	14	5,110
Per unit cost	INR	53	53
<b>Total cost of diesel</b>	INR/day	735	2,71,000
<b>Landed cost of diesel generator</b>	INR	2,00,000	
<b>Landed cost of battery</b>	INR	1,45,000	

Source: DG Set dealer, battery dealer, Company, Edelweiss research

As a result, there is a shift from diesel gensets towards battery consumption leading to increase in the number of hours for battery usage from 4 hours to 6 hours. However this is the case only in areas where there is power supply. In some cases like Indus Tower, the company plans to move 20K towers to battery backup from diesel gensets (20% of its capacity). Amara Raja Batteries, being a market leader with 46% of the market share in this segment and around 18% of revenues will gain the most from this opportunity. Focus by tower companies to reduce power costs is expected to drive adoption for AMRJ's new QRS batteries.

**Chart 8: AMRJ: Strong market share expansion in telecom segment**

Source: Company, Edelweiss research

AMRJ's market share in the telecom batteries segment has expanded by 1400bps in last three years from 32% to 46%. We expect market share expansion to 52% by FY15 led by new product introduction with features like quick charge and deep discharge that helps optimize power costs

Going forward, demand in the telecom segment will be driven more by the replacement requirement of the towers set up before 2008. We estimate 8% CAGR in the telecom space over FY13-15E driven by:- (1) replacement demand; (2) 2G and 3G roll outs; 3) Batteries replacing diesel gensets (less polluting, more economical due to diesel theft); and 4) tower addition in areas with unreliable or no power grid (for example, rural areas, hence more battery usage and shorter replacement cycle). While the tower addition roll out will slowdown, spectrum re-farming, (moving 2G services on the 1800MHz from the existing 900MHz) which will call for redesigning of existing networks mainly through the replacement of telecom towers, will provide a strong opportunity for the telecom battery sector. With a shift in technology from 2G to 3G and now to 4G, there will be the need to build up necessary infrastructure for proper functioning of these services. AMRJ is increasing its capacity in this profitable segment by around 32%. As a result we expect sales growth of 18% CAGR over FY13-15E in this segment.

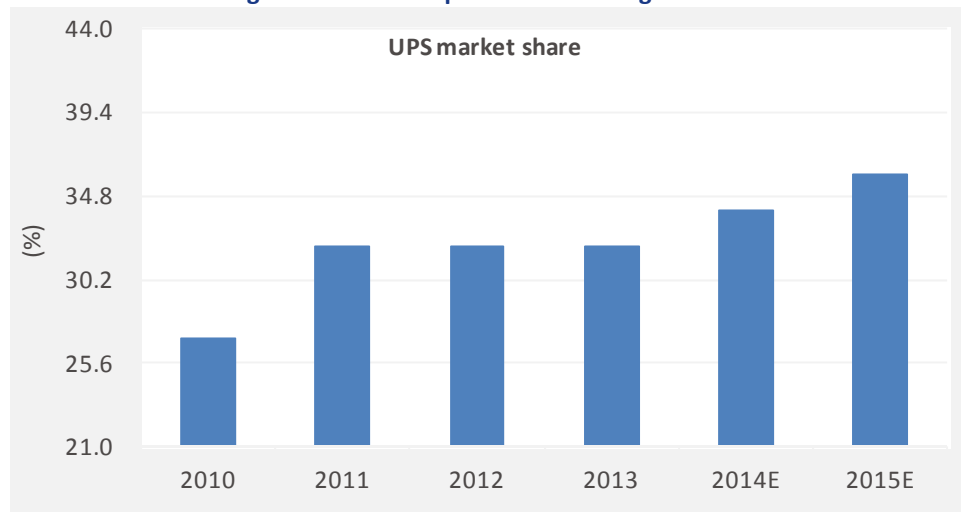
Having gained 500 bps market share in last three years to 32%, we expect 400 bps expansion in the next three years led by strong product proposition and reduced imports from China post the crackdown by government

We expect 19% CAGR in sales over FY13-15E led by doubling of capacity and new product introduction with better discharge alongside the demand driven by high powered data centers

**UPS demand remains healthy; we expect ~19% CAGR**

UPS batteries are primarily sold to OEMs, to be placed in UPS systems for home and industrial use to provide uninterrupted flow of power to electronic equipment such as computers and to minimise the impact of power surges and outages. Demand for UPS batteries will continue to be driven by addition of high-powered data centres in telecom, IT, BFSI, government sectors, continued growth in ATMs and the massive government-funded projects such as Accelerated Power Development and Reform Program (APDRP), and National e-Governance Plan (NeGP). The government directive driven expansion of public sector bank ATM network and expected growth in installed base of ATMs from 100,000 to 400,000 by 2017 will be a key driver. AMRJ with 32% market share in this segment and ~16% of revenues, will gain the most from this opportunity. We expect 19% CAGR in sales over FY13-15E led by doubling of capacity which will lead to volume growth of 14% CAGR.

**Chart 9: AMRJ: Gaining market share expansion in UPS segment**



Source: Company, Edelweiss research

Another opportunity is in the smaller UPS segment. The sub 1-kVA battery market (for emergency lamps, smaller UPSs etc.) was dominated by Chinese manufacturers. The competitiveness of Chinese imports have substantially reduced, post the crackdown on manufacturers by the Chinese government and the focus on environmental management. The same factors are also expected to drive exports.

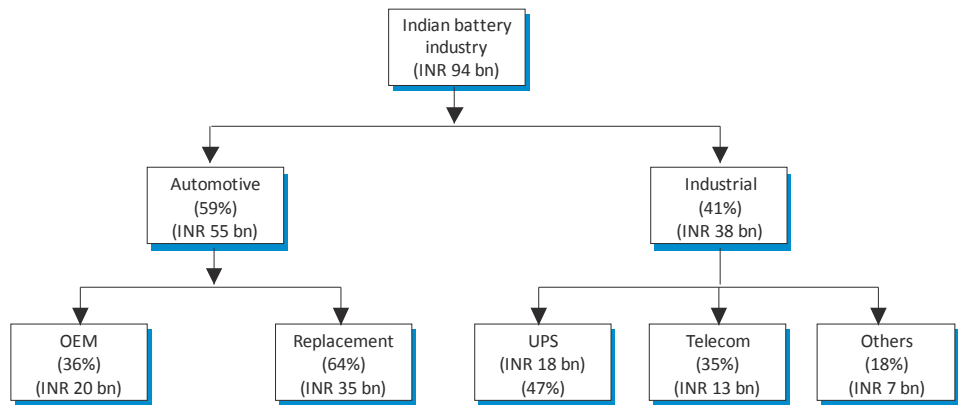
**Opportunity for AMRJ’s entry into inverters; can add 2-3% to EPS**

While the company currently caters to the home UPS segment by way of traded goods, in the future, it expects to enter the space with niche products and innovative solutions by manufacturing them. Inverters are used as back-up power supply systems by both, residential users and industrial plants. Continued power shortages and lack of reliable power in the country have led to a surge in demand for inverters. The company adopted this trading strategy to fill the gap in product offerings to its dealers. Home UPS and tubular inverter batteries sales for the company grew by 194% to INR2,585 million in FY13. The company is currently developing and testing products for the inverter battery segment. Commencement of manufacturing of inverter batteries will help AMRJ in gaining market share (currently 3-4%; EXID 30-35%) in the segment; and improve the margin profile of the business adding 2-3% to AMRJ’s in FY16E EPS.

## Battery Industry

Battery Industries in India is segmented into organized and unorganized sectors. Five years earlier the battery industry was segmented as 45% organized, 55% unorganized segment and imports (Chinese batteries). Currently, the scenario has changed to 60% organized and 40% unorganized, with small percentage of imported batteries which is included in the unorganized segment. The organized sector is primarily a duopoly with EXID and Amara Raja occupying over 90% of the organised space. Whereas unorganized sector consists of many local players having strong presence in rural areas mainly in commercial vehicles, tractors and CVs, given the customer profile. Unorganized sector is prominent in rural areas whereas urban market is more organized. In recent years there has been a shift in demand in rural areas for branded batteries leading to further penetration of the organized market. Recently there has been a reduction in the import of Chinese batteries due to environmental concerns, thereby leading to increase in the demand for local batteries in the domestic market and hence India is looked as the major battery producer in Asia. With the shrinking unorganised market, the duopoly is the key beneficiary of the same.

**Fig. 2: Overview of Indian battery industry**



**Note:** The above chart captures only the Organized industry  
 Source: Company/Industry/Edelweiss research

We expect 12% CAGR in overall battery industry over FY13-15E led by 11% CAGR in auto industry and 13% CAGR in industrial battery sales

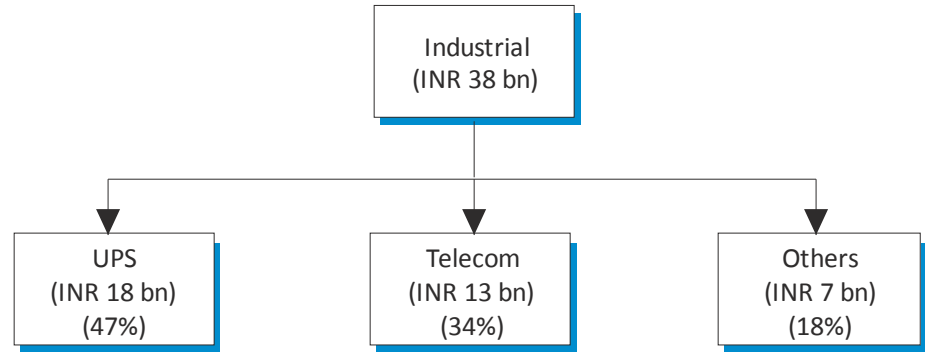
We expect 11% CAGR in auto battery industry led by 14% CAGR in replacement sales and 7% CAGR in OEM sales over FY13-15E

Automotive batteries segment is estimated to grow at 11% CAGR over FY13-15E from INR55bn in FY13 to INR69bn in FY15. This will be driven by:- (1) Demand for OEM batteries growing by ~7%; and (2) Robust new vehicle sales at ~21% CAGR over FY09-12 that will drive the replacement market. Replacement demand expected to grow at 14% CAGR, assuming a battery lifecycle of 3 years.

### Industrial batteries market

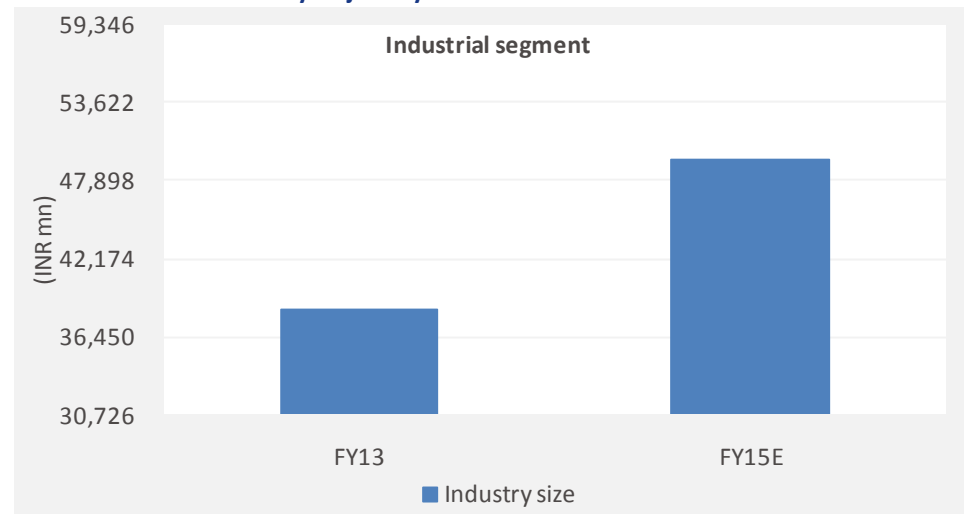
We estimate industrial battery segment (~40% of India batteries market) to post ~13% CAGR over FY13-15E from INR38bn to INR49bn. The Industrial battery segment is relatively more organized with limited players and higher technology requirements. While the telecom space witnessed almost negligible roll-outs in the last two years, industrial battery segment grew on strong demand from replacement demand in telecom and from UPS/inverters.

**Fig. 3: Industrial battery market**



Source: Industry, Edelweiss research

**Chart 10: Industrial battery trajectory**



Source: Industry, Edelweiss research

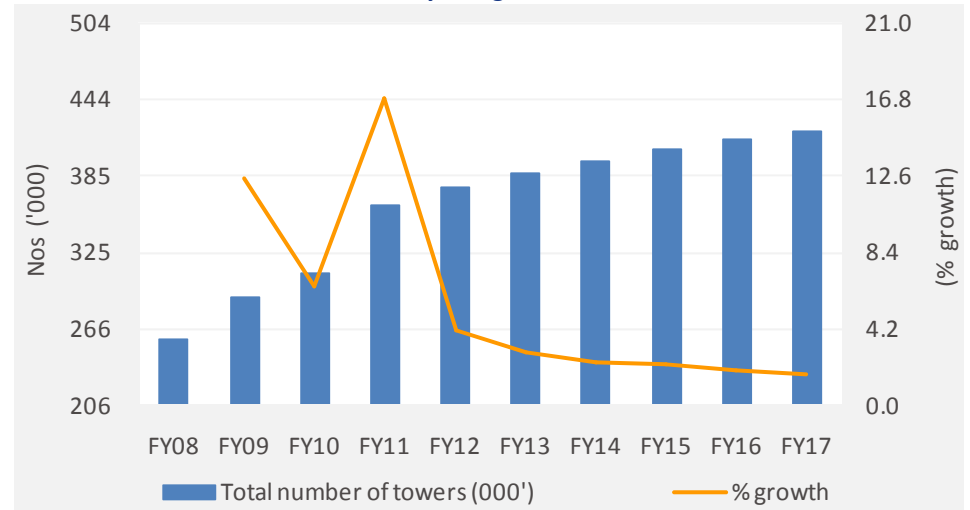
### Telecom segment

Demand in the telecom segment is driven by the replacement requirement given low new tower roll-outs as most were set up before 2008. The number of towers is expected to grow at 4% CAGR to 4,20,000 by 2017. We estimate 11% CAGR in the telecom space over FY13-15E driven by:- (1) replacement demand; (2) 2G and 3G roll outs; and (3) Substitution for diesel generators in telecom towers leading to increased hours of usage life from 3-4 years to 2-3 years will also create further demand in the replacement market.

We expect 13% CAGR in industrial sales for the industry led by 11% CAGR in telecom segment and 13% CAGR in UPS sales over FY13-15E

Although new tower addition to grow at only 4% CAGR, replacement of tower addition alongside replacement of diesel genset with batteries to drive 11% CAGR for the industry

**Chart 11: Total telecom tower industry and growth**



Source: Analysys Mason

## UPS segment

Around 40% of the battery consumption is for industrial use and of that 47% demand comes from the UPS segment. We expect UPS segment to register 13% CAGR growth with growing IT infrastructure and poor power availability. Moreover, the growth in BSFI sector will also give further boost to demand for the batteries.

## Overall industry outlook

We estimate the Indian batteries market to witness a 12% CAGR in value over FY13-15E driven by strong demand from automotive (~12% CAGR) as well as industrial batteries (~13% CAGR). While in the short term, the auto OEM demand has slowed down to single digit growth, over longer term, it is expected to grow in double digits based on the pent up demand.

The sector is structurally well-poised to grow due to:

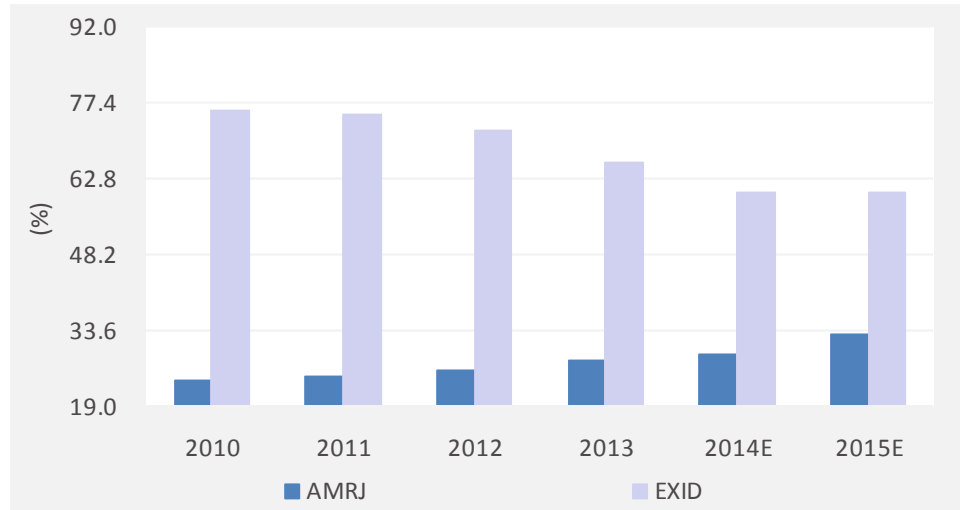
- increasing organized mix
- barriers to entry in the form of strong OEM tie-ups and a vast retail distribution network for both, EXID and AMRJ - with over 40k/21k retail touch-points respectively leading to a strong consumption-led play due to its strong retail sales in the overall mix;
- high revenue visibility (OEM tie-ups and three-year replacement cycle which can take care of the cyclical downturn) and
- a duopoly scenario with two players controlling 90% of the organized market which itself has grown from 35% ten years ago to 58% now.

## Competitive dynamics of the industry

### Market share

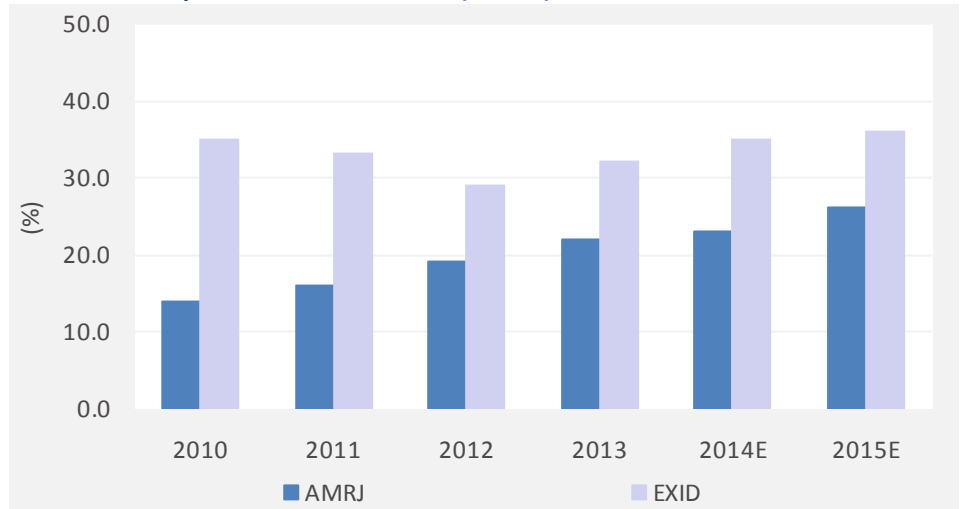
Within the organized space, the duopoly commands 90% market share. While EXID commands 66% market share in the 4W OEM space, AMRJ commands 28% from virtually nil in 2003. In the 4W replacement space, having begun operations in 2000, the company has already captured 22% market share in the overall space. Within the 2W OEM space, AMRJ has just begun operations by commencing supplies to Honda in July. In the 2W replacement space, having begun operations in 2008, the company has already captured 15% market share in the overall space.

**Chart 12: 4W OEM market share**



Source: Company, Edelweiss research

**Chart 13: 4W Replacement market share (overall)**



Source: Company, Edelweiss research

OEM market share to expand for AMRJ with strong capacity expansion

Organized players to gain market share from unorganized players

Despite the competitive intensity, the duopoly commands strong 90% market share in the organized market that commands 60% of the overall market share. Also, the planned capex of INR7.5bn by AMRJ and INR5bn by EXID over the next two years, will aid the duopoly gain market share from unorganized players by 200-250bps annually

**Table 5: Technology Collaboration of battery players**

Amara Raja	Johnson Controls Inc, US (JCI)
Exide	Shin Kobe-Hitachi Japan Furukawa Battery Japan
Tudor	Exide technologies
Tata Batteries	GS Yuasa Japan
NK Minda	Fiamm Spa Italy
HBL Power	Nife Sweden, Swedfund international AB, Sweden

Source: Industry, Edelweiss research

**Table 6: Business model: Competitive advantage**

Critical success factor for scoring	AMRJ	EXID
Brand premium	Moderate to high	High
Distribution reach	Moderate	High
OEM reach	Low	High
Replacement share	High	High
Market share gains	High	Low
Raw material: Captive sourcing	Low	High
Capacity	Moderate	High

Source: Industry, Edelweiss research

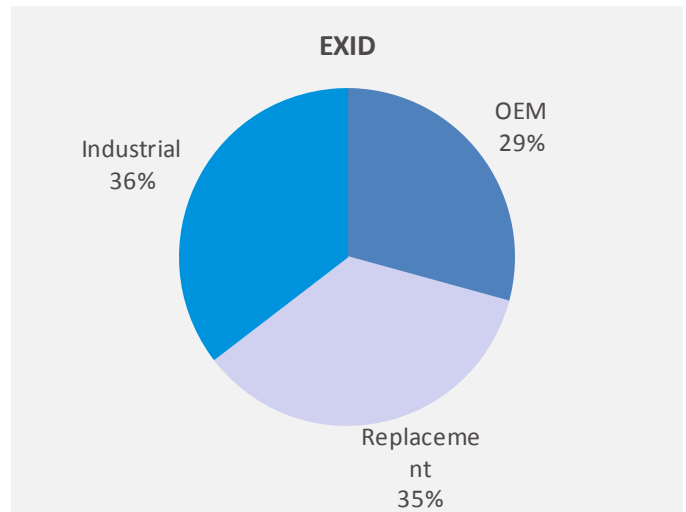
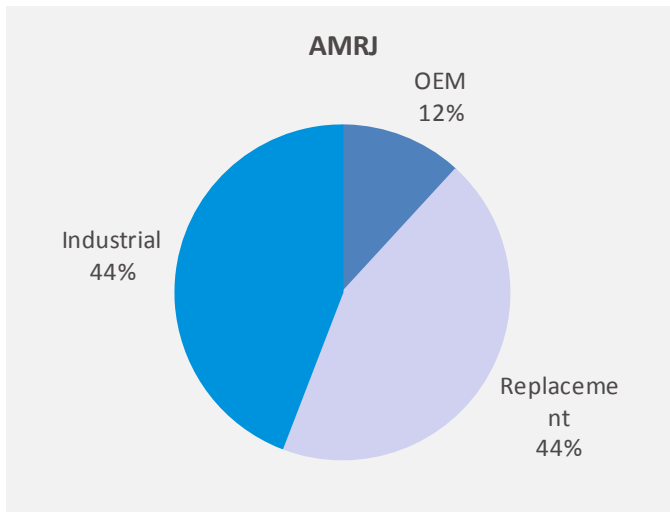
While both, AMRJ and EXID are well positioned in Auto and industrial segments, we are enthused by AMRJ's strengths in three particular spaces. In the automobile replacement market company has gained 800bps market share in last three years to 22% in 4 wheeler segment and 600 bps in 2 wheeler segment to 15%. Even within the industrial space company has gained 500 bps market share in the UPS segment to 32% and 1400bps market share in telecom segment to 46% in last three years. EXID has a strong lead in the OEM space (over 60% market share), replacement and inverter segment (a sub-segment of the power backup) in the industrial space.

**Table 7: Competitive landscape**

EXIDE	Two wheelers, four wheelers, Industrial	Strong in the OEM space both, 2W and 4W with a 66% market share. Also strong in the inverter space.
AMCO	Two wheelers, tractors	Strong in the two-wheeler segment. Market leader in the OEM two-wheeler space. In 4W, the company supplies to tractors and 3W to tillers.
HBL Power	Industrial	HBL is a very competitive player in the industrial battery segment, especially the telecom segment. The company plans to enter the automotive segment in the next two years.
Minda	Two wheelers, four wheelers	Minda has tied-up with Italian firm Fiamm SpA to sell batteries in India. The company plans to leverage on its automotive relations to gain a foothold in the market.
Tata Autocomp	Automotive	50:50 JV with GS Yuasa International, which started production in December 2006. Currently catering majorly to the replacement market, the company has 0.5mn units capacity and plans to expand to 2mn units.
Base batteries	Home Inverter	Presently a leader in home inverter segment having 190mn Ah capacity, the company plans to take up further capex in automotive segment .

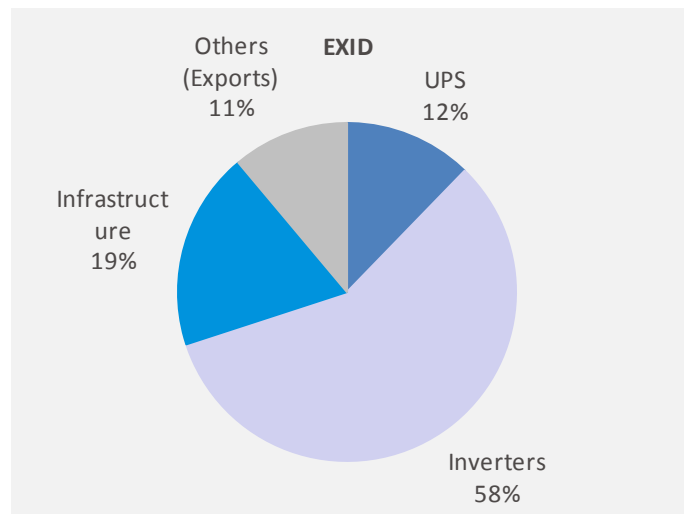
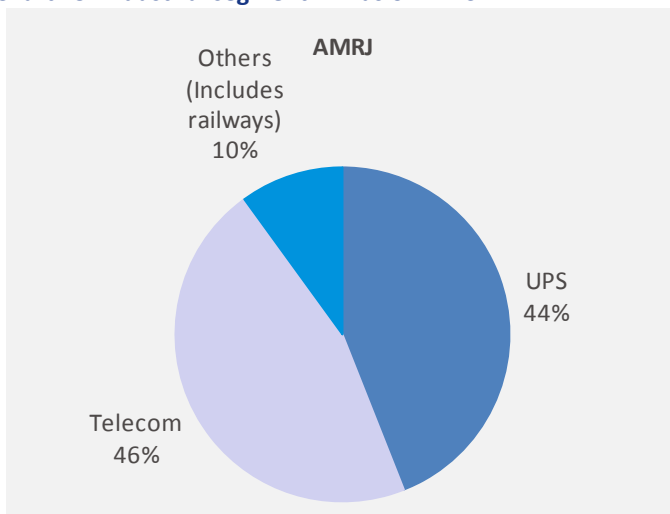
Source: Industry, Edelweiss research

Chart 14: Revenue mix as on FY13 – AMRJ versus EXID



Source: Company, Edelweiss research

Chart 15: Industrial segment mix as on FY13



Source: Company, Edelweiss research

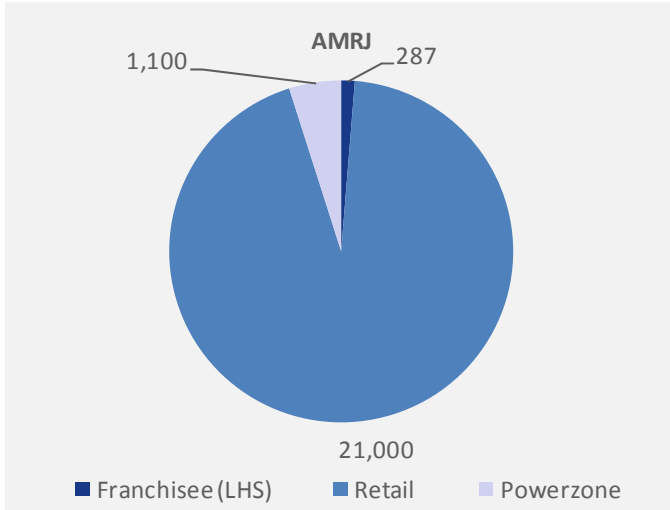
While EXID is strong in OEMs, AMRJ’s increasing capacity by ~60% in OEMs will give it a better visibility

AMRJ is strong in telecom and expected to benefit from replacement and diesel substitution demand in power back-up for telecom towers; EXID is strong in inverters which is less discretionary in nature

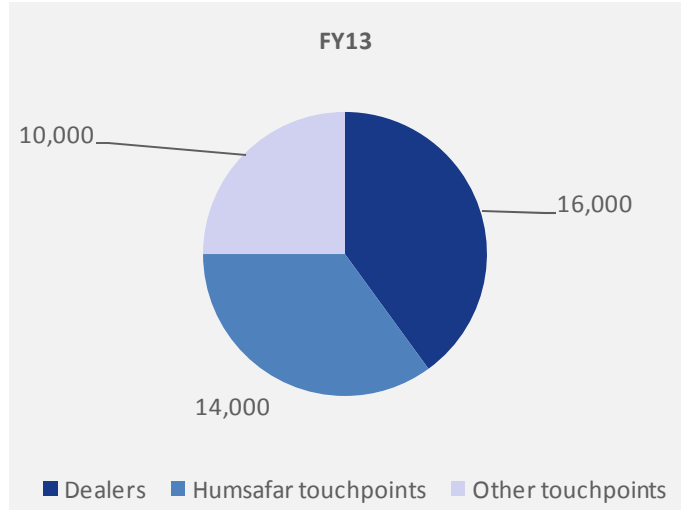
**Steady, stable, non-discretionary demand:** The overall automobile battery replacement demand in the economy remains steady irrespective of the economic scenario as it is based on vehicles sold in the past years (three replacement cycles of an OEM). We expect 10% plus growth post FY15 from the replacement segment in 4W. Within the industrial space, while demand for UPS systems and infrastructure sectors is linked directly to the economic scenario, telecom demand is driven more by the replacement cycle (three-year). There was strong tower addition in FY11 which will be a strong demand driver for AMRJ. Inverters which are utilized for domestic consumption are less volatile. This is positive for EXID for which this is a major contributor. Replacement and industrial demand thereby lead stability to demand and margins unlike auto ancillaries or OEMs.

**Branding/distribution:** The distribution network of AMRJ mirror that of FMCGs with layered networks—a primary dealer, sub dealer and so on.

Chart 16: AMRJ: Strong distributor network



EXID: Vast FMCG like network



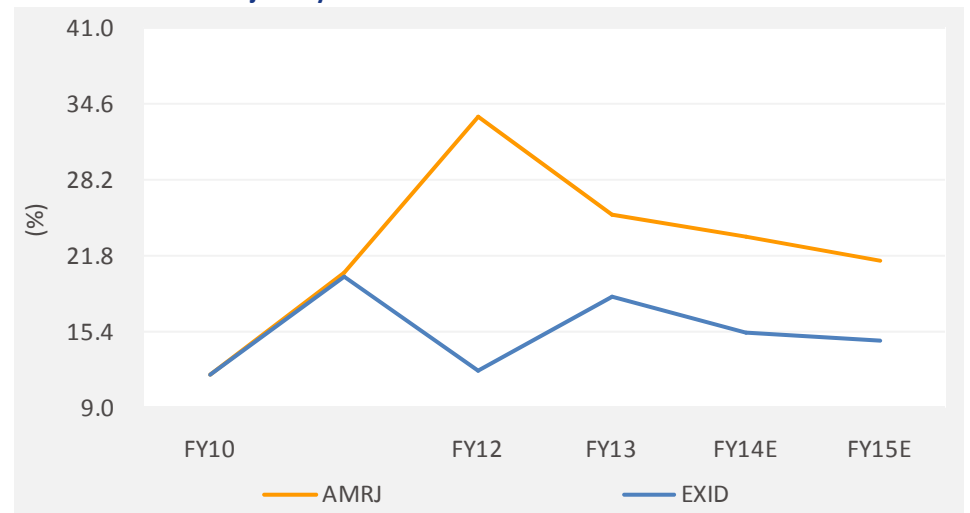
Source: Company, Edelweiss research

EXID and AMRJ’s business models are clearly more robust than the auto ancillary space and to an extent, better placed than OEM segment due to low volatility in demand.

**Revenue growth**

AMRJ’s revenue grew in healthy double digits with 22% CAGR over FY08-13 (2.7x) compared to EXID’s 16% CAGR (2.1x). The former’s growth has exceeded peers led by strong market share penetration. Also, in the downturn of the past two years, it has outperformed peers. Going forward, with structural and cyclical uptick for the industry, growth will accelerate for both the players with AMRJ expected to increase penetration across segments.

Chart 17: Revenue trajectory of AMRJ versus EXID

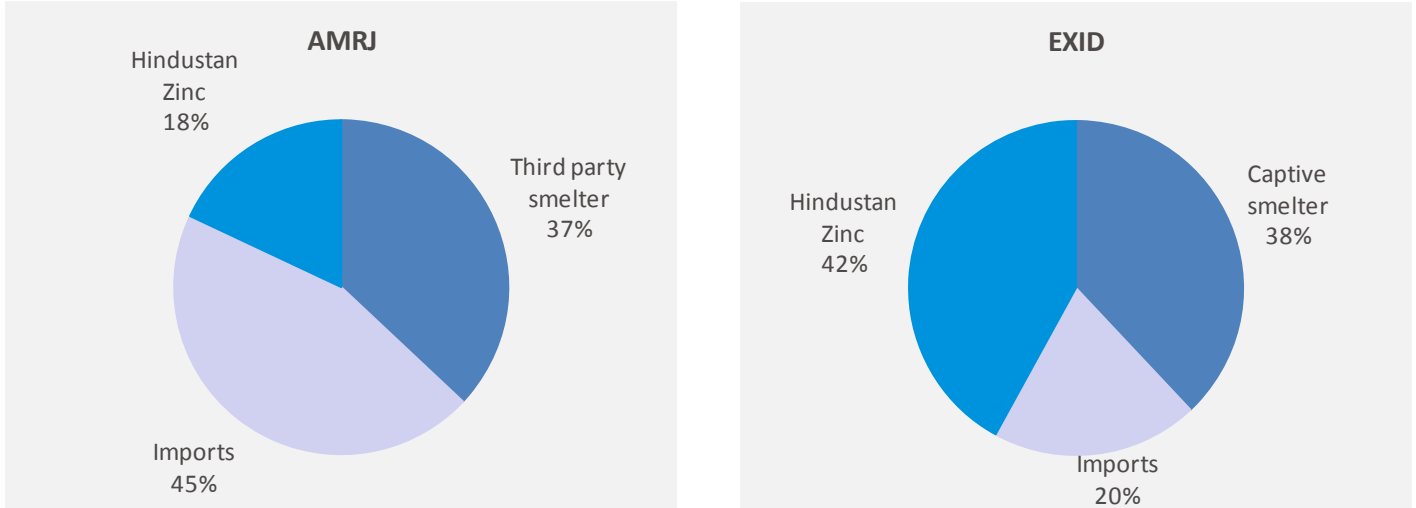


Source: Company, Edelweiss research

Going forward we expect 22% and 15% CAGR in revenues for AMRJ and EXID respectively. AMRJ’s outperformance will be led by stronger capacity expansion and EXID’s strategy to let go unprofitable OEMs

**Backward integration: Assured supply provides gross margin benefit advantage to EXID**

**Chart 18: Source-wise break up of lead as on FY13**

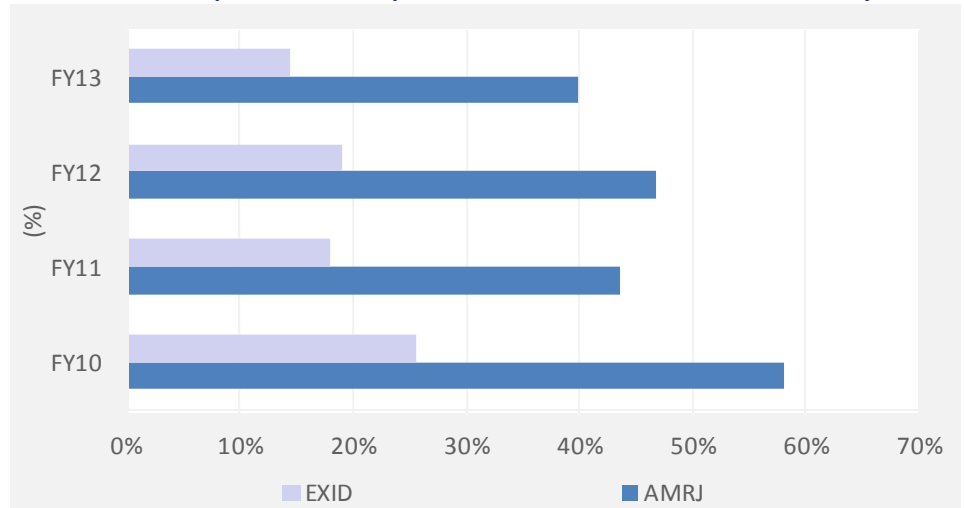


Source: Company, Edelweiss research

**Provides cost advantage**

EXID's acquired smelters in the battery segment which provides it a sustainable cost advantage. Given that lead forms nearly ~55-65% of net sales, an 18% additional usage of recycled lead have provided it with a ~5% cost advantage.

**Chart 19: Lower dependence on imported raw material reduces forex volatility**



Source: Company, Edelweiss research

Imports have reduced to 40% and 15% of raw material costs for AMRJ and EXID respectively

Owned smelters to meet 60% of EXID's lead requirements – up from 38% currently

Gradual convergence of gross margin of AMRJ with EXID due to better replacement sales

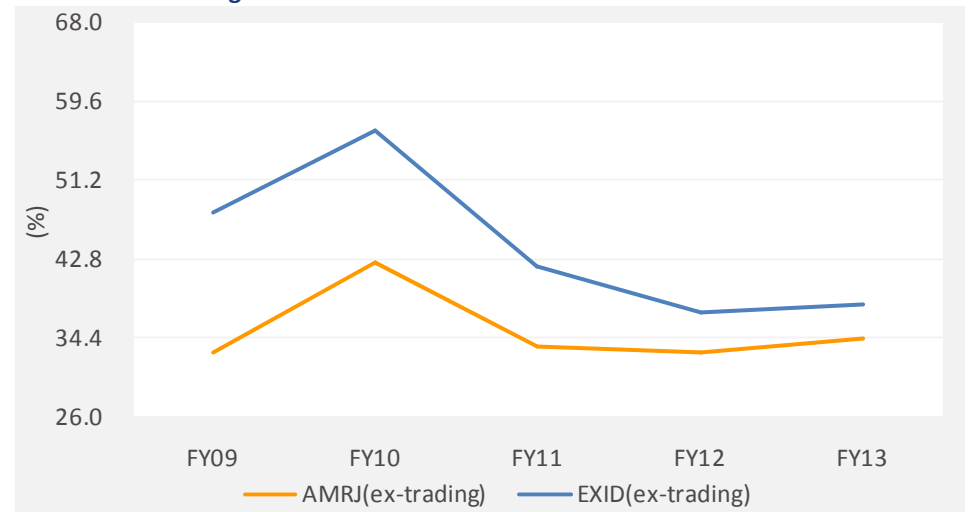
## Reducing lead supply to unorganised sector

The unorganised sector accounts for nearly 40% of the total battery supply. It enjoys a considerable cost advantage through lead obtained from unauthorised smelters. These unauthorised smelters (which require little capex but use environmentally dangerous techniques) in turn operate by purchasing used batteries. By purchasing used batteries and recycling them in its own smelter, EXID effectively reduces the lead supply to the unorganised sector. Therefore, backward integration contributes to an assured supply of low cost lead to EXID. The company's acquired smelters now supply ~38% of its total lead requirement. This is expected to touch nearly 60% in the next two years.

## Gross/operating margins

Historically, EXID operated at higher gross margin versus AMRJ driven by the former's premium pricing and higher reliance on cheaper recycled lead. EXID's reducing pricing premium over AMRJ has led to gradual convergence in gross margins for both the companies. With the converging of gross margins of the two players, AMRJ's superior cost structure now reflects in higher EBITDA margins as seen over the past two years.

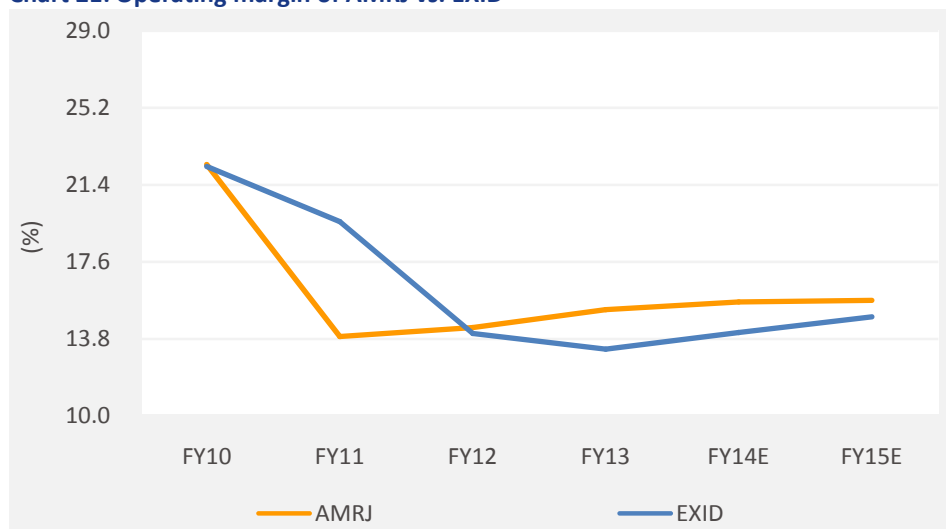
**Chart 20: Gross margin of AMRJ vs. EXID**



Source: Company, Edelweiss research

Operating margin of AMRJ 196bps higher than EXID in FY13 due to cost efficiencies

**Chart 21: Operating margin of AMRJ vs. EXID**



Source: Company, Edelweiss research

**Table 8: Cost efficiency matrix**

	AMRJ	EXID
Gross margin (%)	32.6%	37.5%
Less		
Employee Cost	4.3%	6.3%
Power and fuel/Battery Charging	3.3%	5.5%
Freight & Forwarding	1.9%	0.9%
Publicity and Sales Promotion	2.0%	4.0%
Product warranty	1.7%	2.1%
Other costs	4.2%	6.8%
Total operating expenses	17.4%	25.7%
<b>Gross margin (ex-trading revenues)</b>	<b>34.4%</b>	<b>38.0%</b>
<b>EBITDA margin</b>	<b>15.2%</b>	<b>13.2%</b>

Source: Company, Edelweiss research

### Return ratios

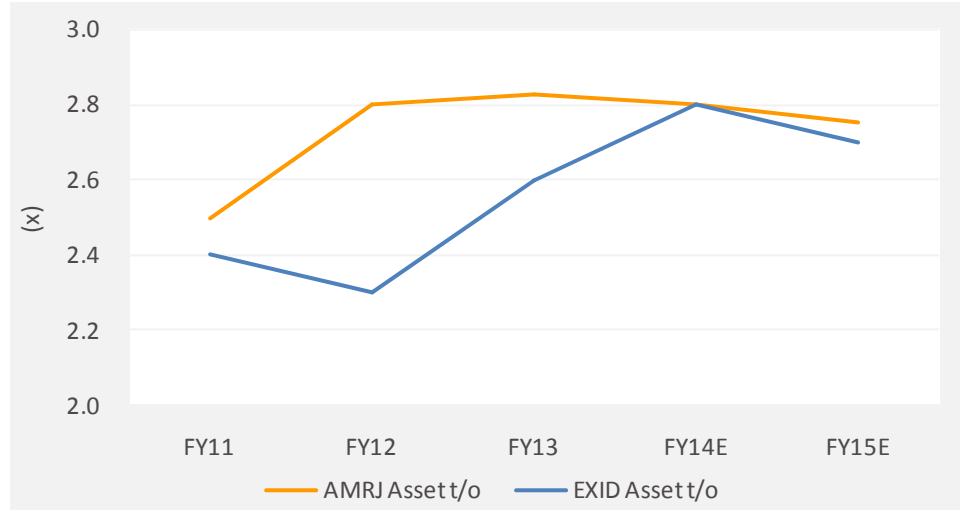
The sector has low capital intensity (asset turnovers of over 3x) and resultant strong return ratios (20% plus RoEs). AMRJ's RoE has been much better than that of EXID over the past two years. This has been driven by improvement in relative margin performance, asset turnover as well as EXID's investment in ING Vysya. AMRJ's asset turnover is almost 1.5x that of EXID. AMRJ has improved its working capital management by lowering inventory and debtor days. Its cash conversion cycle has come down by 26% from 97 days in FY08 to 72 days now. On the other hand, EXID's cash conversion cycle has been steady at around 55-65 days.

Both the companies have high asset turns; EXID due to higher capacity expansion in the last two years was marginally lower; however both are converging due to higher utilization for EXID and capacity expansion for AMRJ

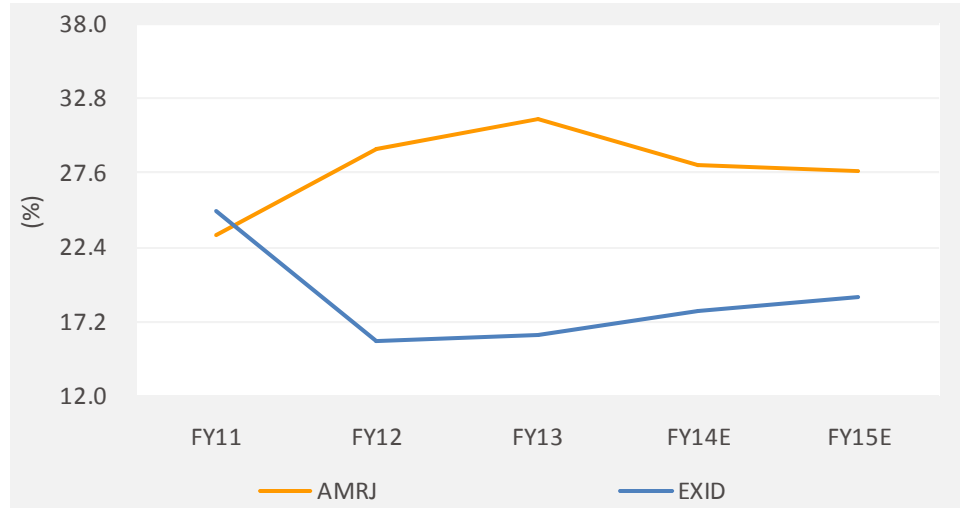
AMRJ's ROE to be maintained at over 25% while EXID's to improve from 16 to 18% over FY13-15E (including stake in insurance venture)

AMRJ's ROCE to be maintained at 36% despite such a huge capital outlay, largely funded internally. EXID's ROCE to improve from 22% to 26% led by margin expansion (including stake in insurance venture)

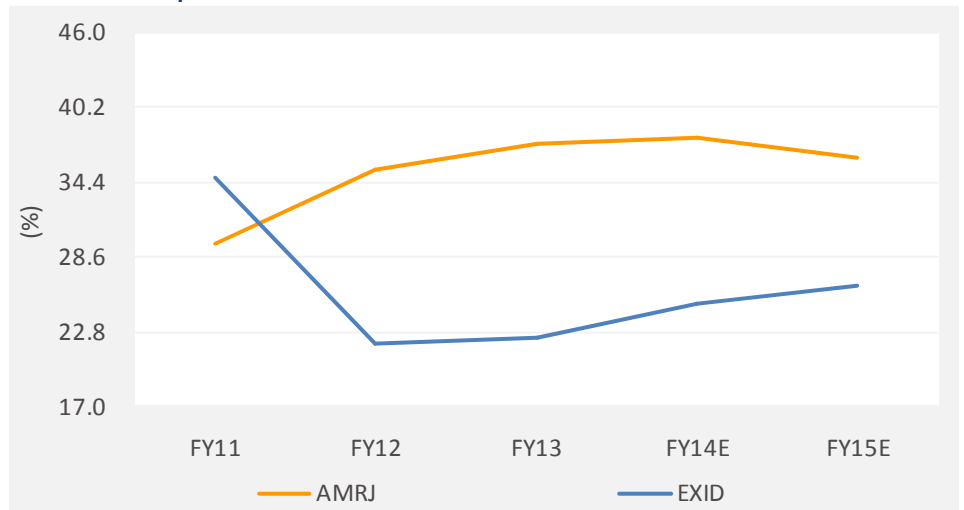
**Chart 22: High fixed asset turnover levels ensures leads to higher return ratios**



**Chart 23: RoE profile of AMRJ versus EXID**



**Chart 24: ROCE profile of AMRJ versus EXID**



Source: Company, Edelweiss research

Increasing capital employed in the insurance business has led to trending down of EXID's return ratios. There are talks of stake sale in its insurance business, however, there is still a huge gap in the ratios with AMRJ. Also, AMRJ's capacity utilisation levels are likely to drop in FY14 and FY15 due to sharp increase in capacity. However, we still expect it to clock higher return ratios. We estimate AMRJ to post RoE of ~28% and RoCE of 38% and 36% over FY14 and FY15, respectively.

### Cash flows

AMRJ has generated operating cash flows of INR7.2bn in last three years. Going forward we expect INR7.9bn of operating cash flows in the next two years led by better working capital management.

EXID has generated operating cash flows of INR14.4bn in last three years. Going forward we expect INR15bn of operating cash flows over the next two years led by increasing capacity utilization.

**Table 9: Strong operating cash flows**

	FY11	FY12	FY13	FY14E	FY15E
AMRJ	861	2,985	3,355	4,076	3,844
EXID	4,895	5,417	4,124	7,794	7,349

Source: Company, Edelweiss research

### Capacity expansion

Capacity expansion on-stream now; companies preparing themselves for next leg of demand upswing

**Table 10: Capacity expansion by the strong duopoly in the organized space**

	FY10	FY11	FY12	FY13	FY14E	FY15E
<b>Amara Raja</b>						
4W	4.20	4.20	5.60	5.60	6.00	7.50
2W	1.80	3.60	4.80	4.80	6.15	8.40
UPS	1.50	1.62	1.80	1.98	2.48	3.08
Telecom	3.21	3.21	3.21	2.71	3.04	3.57
<b>Total</b>	<b>10.71</b>	<b>12.63</b>	<b>15.41</b>	<b>15.09</b>	<b>17.67</b>	<b>22.55</b>
<b>Exide</b>						
4W	8	9.6	10.8	12.2		
2W	10	16.6	18	21.6		
Industrial	5.8	5.8	5.8	5.8		
<b>Total</b>	<b>23.8</b>	<b>32</b>	<b>34.6</b>	<b>39.6</b>		

Source: Company, Edelweiss research

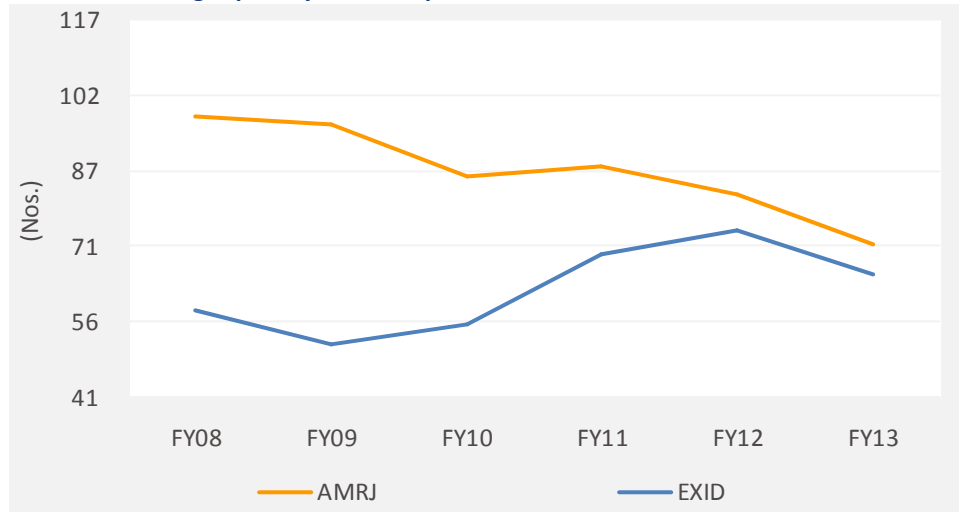
### Cash conversion cycle

AMRJ has improved its working capital management by lowering inventory and debtor days. The company's cash conversion cycle has dipped 26% from 96 days in FY08 to 72 days now. On the other hand, EXID's cash conversion cycle has been steady at around 55-65 days.

Having increased capacity by 40% plus, both the players are further increasing capacity; AMRJ increasing capacity by ~66%, while EXID has expanded capacity more aggressively in the past three years

AMRJ's cash conversion cycle has come down by 24 days to 72 days; EXID's cash conversion has been stable between 55 and 65 days

Chart 25: Working capital cycle has improved for AMRJ



Source: Company, Edelweiss research

## Dealer feedback



Both the battery brands are equally good. However Amaron is able to replace in about 2-3 days as compared to 8-10 days for EXID.

- Dealer 1

Technology-wise there is no difference. EXID is present in maintenance free batteries only in the five year segment, while AMRJ is present across the spectra.

- Dealer 2

Lot of consumers prefer not to shift to other brands and stick with their OEM brand while replacing. EXID is a leader among the OEMs. However, AMRJ has also started getting acceptability among OEMs.

- Dealer 3

While all of them offer maintenance free batteries, AMRJ has indicator of maintenance needed on its batteries as opposed to EXID which has the same only in their five year batteries.

- Dealer 4



EXID scores over AMARON because of its long track record of 40 years. Hence the premium of EXID will continue, although narrowing over time.

- Dealer 5

## Valuations

Table 11: Peer comparison

	Mkt cap	Revenues	Revenue CAGR (%)	EPS CAGR (%)	P/E	ROE(%)	EV/EBITDA (x)	P/B (x)					
	CMP	(INR bn)	(INR bn)	FY 13-15E	FY 13-15E	FY14E	FY15E	FY14E	FY15E	FY14E	FY15E	FY14E	FY15E
<b>Domestic players</b>													
Amara Raja	311	53	30	22.0	19	15.8	12.7	28.2	27.8	9.2	7.2	4.0	3.2
Exide Industries	130	110	64	14.8	21	16.9	14.0	17.2	18.3	9.0	7.1	2.9	2.5
<b>Global players</b>													
	CMP	(USD)											
Johnson Controls	43	1,809	2,598	2	12	16	13.2	14.0	15.7	10	8.8	2.1	1.8
GS Yuasa Corp	6	163	206	7.80	55	23	15.5	8.1	11.9	12.0	9.3	2.0	1.8

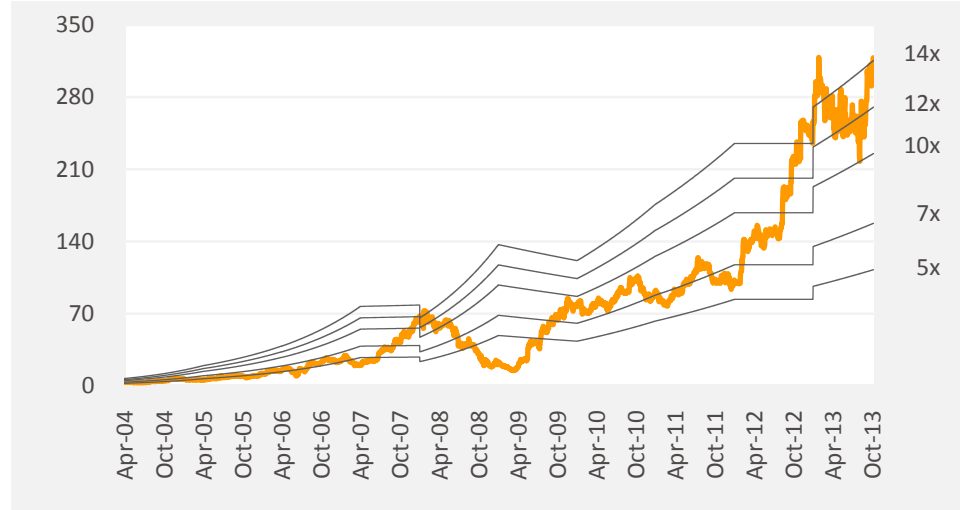
Source: Company, Bloomberg, Edelweiss research

AMRJ, the second largest battery player is structurally well poised with a strong replacement mix that acts as a hedge during a cyclical downturn. A diversified portfolio, strong distribution reach, service network and strong global partner provide significant competitive advantage. With the company constantly strengthening the front end (distribution network) and back end (capacity), the advantage is likely to sustain in the future. We believe, as Amara transitions into an OEM play, its business model will see discount to the market leader narrowing, rendering strong visibility to long-term replacement drivers of this business.

At the current market price, AMRJ is trading at a PE of 16x FY14E and 13x FY15E earnings estimate and at an EV/EBIDTA of 9x FY14E & 7x FY15E. The company is trading at higher end of its historic valuation. On a relative basis EXID, the market leader is trading at 15x FY15E. EXID is trading between mid to lower end of its valuation. AMRJ is trading at a discount of ~10% to its peer on valuation. AMRJ is expected to deliver top line growth of 22% CAGR and net profit growth of 19% CAGR over FY13-15E. On the basis of sustenance of replacement mix and cost efficiency, we expect the company to maintain its gross margin at ~34% and slight uptick in operating margins during FY13-FY15E from 15.2% to 15.7%.

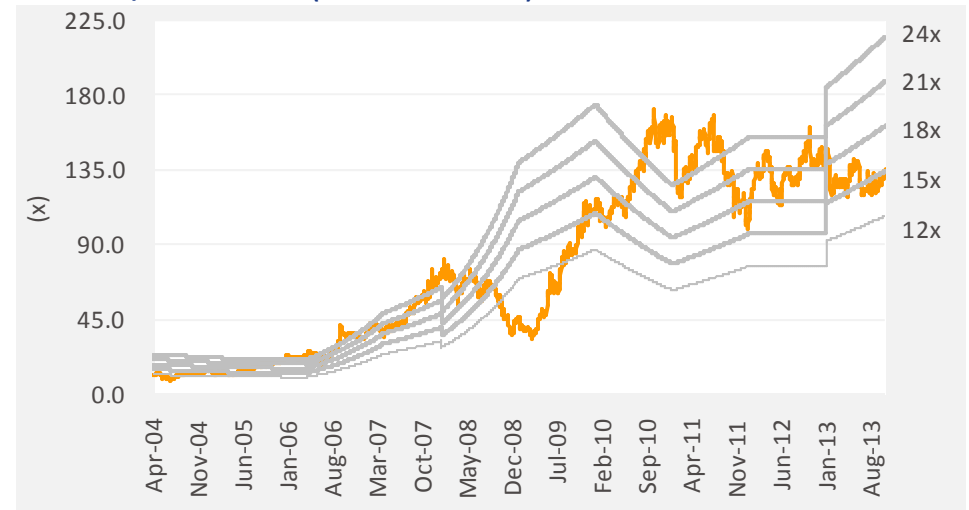
We believe the stock is a re-rating candidate given its consistent track record, quasi consumption nature of business, enviable returns profile and strong earnings growth trajectory. With sustenance of ROE's at 25% plus and ROCE at 36%, despite massive capex plan, will help the company to trade in line with the peer. We value AMRJ at 15x FY15E EPS. **'BUY'** for an upside potential of 19%.

**Chart 26: P/E band of AMRJ to get re-rated**



Source: Bloomberg, Edelweiss research

**Chart 27: P/E band of EXID (closer to mid band)**



Source: Bloomberg, Edelweiss research

## Key Risks

### Prolonged slowdown in OEM

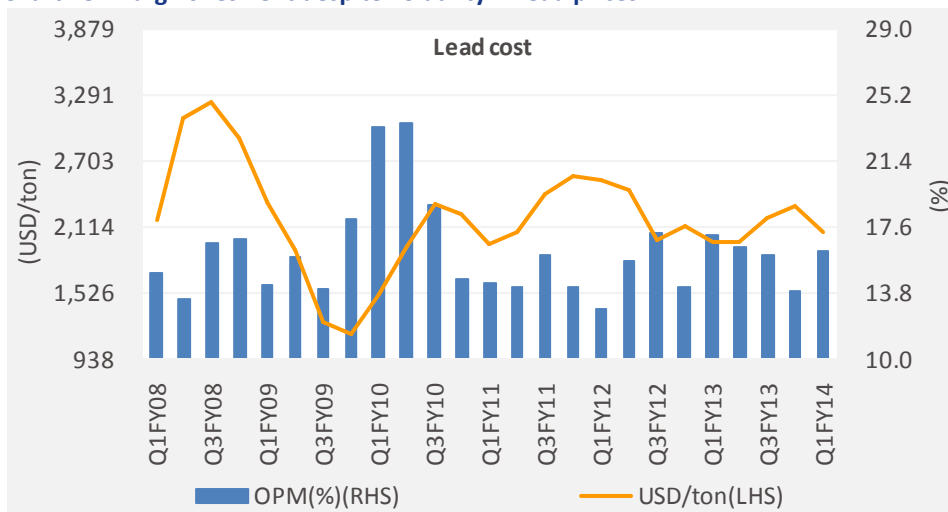
Ongoing slowdown in OEM sales starting FY12 could last till FY14. The current weakness in auto OEM sales has raised concerns on auto replacement growth starting FY16 (3.0-3.5% year replacement cycle). We note that first-time replacement accounts for only about ~45% of total replacement demand for auto batteries. Thus, overall replacement battery demand could slowdown, but to a lesser extent. However, a prolonged slowdown in OEM can impact the industry's and AMRJ's growth.

### Volatility in lead cost

Lead accounts for ~85% of AMRJ's total cost of production and ~55% of its net sales. The company sources 40% of lead via imports, hence a depreciating INR may increase costs for the company. However, to derisk its concerns over currency fluctuation, AMRJ has reduced imports to around 40% from 70% earlier; balance 60% lead requirement is met via domestic producers, thus reducing impact of INR depreciation on margin. Also, as regards imports, the company maintains procurement synergies with its joint venture partner Johnson Controls (US), enhancing procurement efficiency. It also hedges 50% of its currency risk and has built-in clauses in its contracts to pass through any lead-price fluctuations to its OEM and industrial customers. AMRJ's initiatives to avoid volatility in raw material cost will help it maintain margin.

Lead prices have been volatile in the past few years, touching a peak of USD3,890/tonne in October 2007 and then falling to below USD1,000/tonne in January 2009. In the past two years, lead price was in the USD2,100-2,200MT range and currently it has stabilised around USD2,100. Going forward, we expect lead to be in the same range

Chart 28: Margins resilient despite volatility in lead prices



Source: Bloomberg

### Increased competition

The battery space could get competitive in the future; there are a number of players vying to be a credible No. 3 in the next two-three years.

### Exit of Johnson Controls

Johnson Controls which has 26% stake in AMRJ brings technology advantage with 36% share globally. Thereby, the exit of JCI could be a risk for further innovation.



AMARON caters to urban markets with higher warranty period (from one year upto five years)



POWERZONE caters to semi-urban and rural markets with lower warranty period (from one year upto two years)

## Company Description

AMRJ is the second largest automotive battery manufacturer and the largest supplier of industrial storage batteries in India. It is a joint venture between the Galla family and US based Johnson Control (JCI) with 26% each. JCI, the global leader in lead-acid automotive batteries and advanced batteries for start-stop, hybrid and electric vehicles, provides technical support to AMRJ.

The company has been a technology leader in the Indian market, having introduced VRLA (valve-regulated lead acid) batteries for the first time for industrial applications and two wheelers. In the automotive segment too, AMRJ was first to introduce batteries with five-year warranties and zero maintenance fully charged batteries. Its business model is derisked as it caters to automotive as well as industrial segments. Sales are well diversified among automotive and industrial segments at 60% and 40%, respectively.

While their AMARAN brand caters to the urban market and has products catering to longer replacement life with warranty and guarantee upto 60 months, POWERZONE caters to rural and semi urban market and has products catering to replacement life with warranty only upto 24 months.

## History

AMRJ was founded in 1985 by Dr. Ramachandra N Galla and was incorporated as a private limited company; it went public in 1990. It entered the industrial battery market in 1991 with technology support from GNB Tech which helped AMRJ get an edge with the VRLA technology for industrial applications. The company began as a supplier of lead acid batteries to telecom service providers. It entered the automotive battery segment only in 2000-01 post its JV with JCI (in 1997) when it introduced AMARON batteries based on zero maintenance technology for the first time in India. Having begun with replacement batteries, the company entered the OEM segment for four wheelers from 2004. From 2007-08, it entered the two-wheeler replacement segment with the launch of VRLA batteries. It entered the two-wheeler OEM segment FY13 onwards by supplying to Honda. The automotive battery product portfolio offers capacities ranging from 2.5Ah to 180Ah. The industrial battery product portfolio offers capacities ranging from 26Ah to 5,000Ah. Being the pioneer in VRLA, it has prominent presence in auto and industrial segments with *Amaron* and *Quanta* brands.

## Management

Currently, Dr. Ramachandra N Galla is the Chairman of the company. Mr. Jayadev Galla, son of Dr. Ramachandra N Galla, is the Managing Director. AMRJ board has nine directors, including two from the Galla family and two from JCI. Balance five are independent directors. It is also worth noting that the Galla family has several other businesses, but AMRJ is the largest of all. Ms. Aruna Kumari Galla, mother of Mr. Jayadev Galla, is the Minister for Geology and Mines in Andhra Pradesh.

## Financial Outlook

### Automotive battery revenues to post 25% CAGR over FY13-15E

We estimate AMRJ's automotive segment's revenue to grow 28% and 22% during FY14E and FY15E, respectively. This will primarily be on account of volume growth in the replacement segment and increasing penetration in OEM segment led by capacity expansion alongside increasing market share. We estimate 18% CAGR in auto (4W) OEM segment revenue over FY13-15 led by cyclical uptick, leading to 13% CAGR in volume and increase in market share from 28% to 33%. In the auto (4W) replacement segment, we expect 23% CAGR over FY13-15E due to higher OEM sales during FY09-11 along with market share expansion from 37% to 41%. Within two wheeler OEMs, growth will be led by capacity coming on stream from Q3FY14 and the company securing new bulk supplies. Within the 2W replacement segment, we expect 30% CAGR over FY13-15E due to higher OEM sales over FY09-11 along with market share expansion from 25% to 29%. Over the long term, replacement in automotive batteries will be driven by gain of market share from unorganized market.

25% CAGR over FY13-15E led by capacity and market share expansion along with cyclical uptick in industry from FY15

Chart 29: AMRJ: Four wheeler sales trend

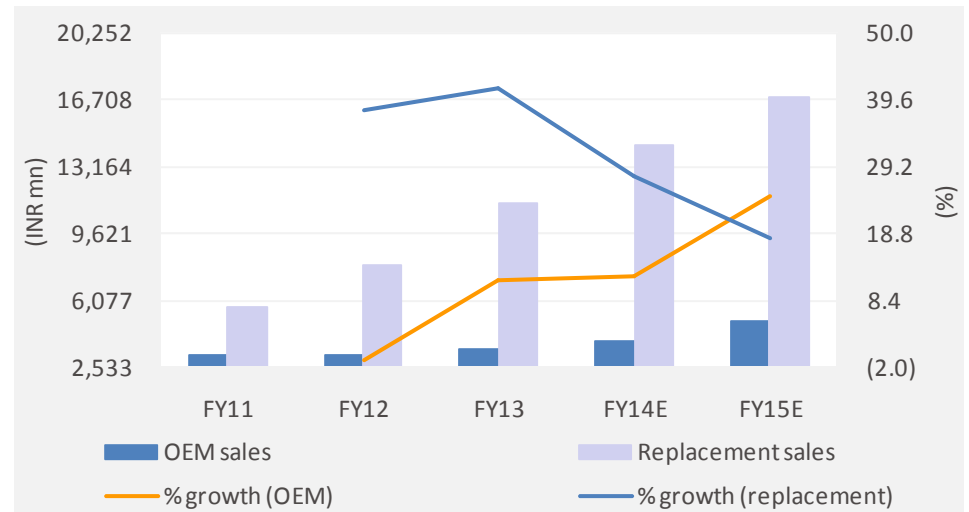
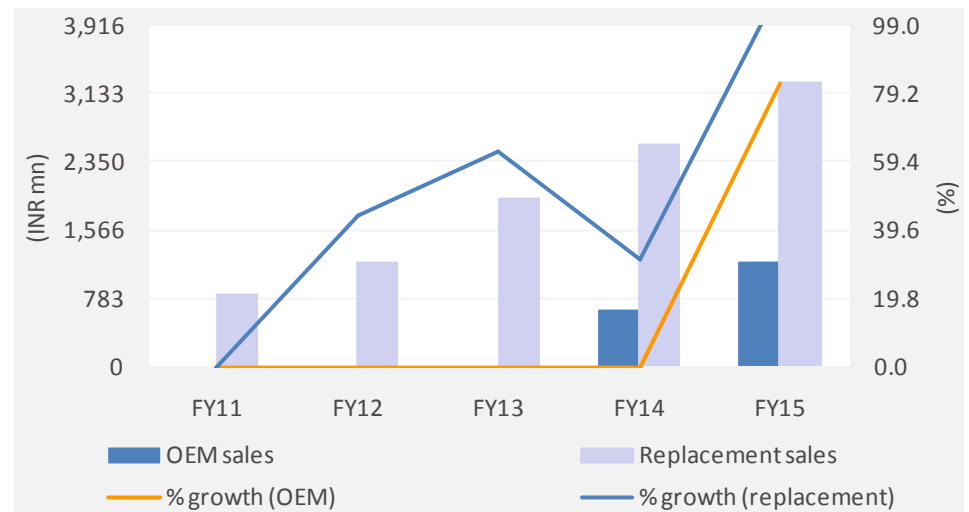


Chart 30: AMRJ: Two wheeler sales trend



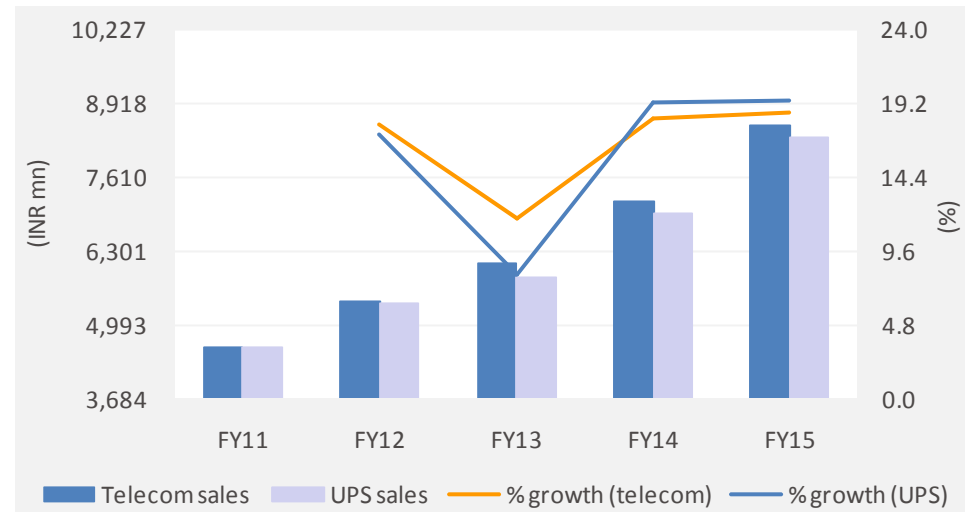
Source: Company, Edelweiss research

Overall, 18% CAGR expected in industrial sales over FY13-15E led by capacity and market share expansion; 19% CAGR expected in UPS and 18% CAGR in telecom revenue

### Industrial revenue to post 18% CAGR over FY13-15E

We estimate AMRJ’s industrial revenue to post 18% CAGR over FY13-15E driven by 19% CAGR in UPS revenue and 18% CAGR in telecom revenues. Enhancement of replacement sales and 3G rollout will drive the industrial telecom business. Also, market share expansion from 46% to 52% will drive growth in the telecom business. This business should continue to grow on back of diesel genset substitution which will drive long-term replacement for batteries. High-powered data centres in telecom, IT, BFSI and government sectors, continued growth in the number of ATMs and massive government-funded projects will drive growth in UPS sales.

**Chart 31: AMRJ: Industrial sales trend**



Source: Company, Edelweiss research

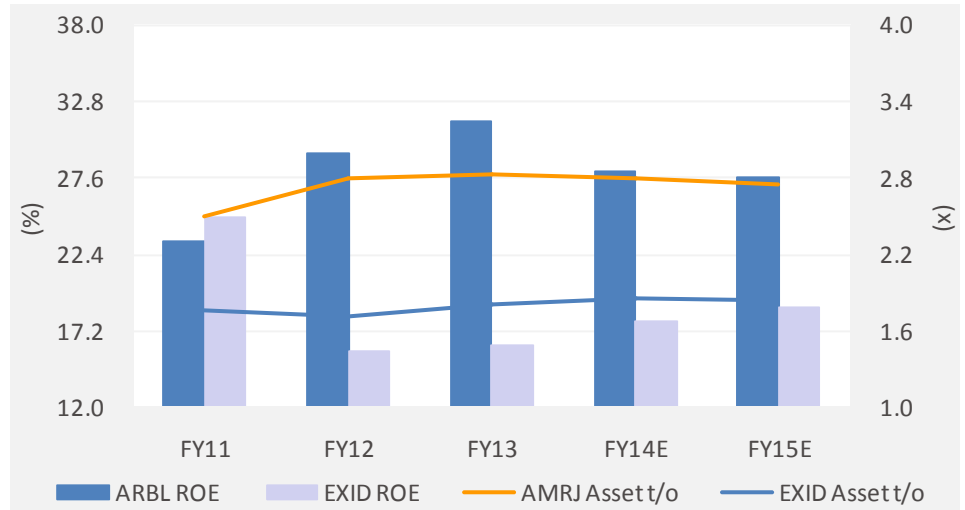
### Higher margin, asset turnover to boost return ratios

AMRJ’s RoE has been much better than that of EXID over the past two years. This has been driven by improvement in relative margin performance, asset turnover as well as EXID’s investment in ING Vysya. AMRJ’s asset turnover is almost 1.5x that of EXID. Despite huge capacity expansion in AMRJ leading to temporary dip in capacity utilization levels, we still expect it to clock a higher return ratio.

AMRJ's asset turnover at 1.5x of EXID is driven by investment of EXID in insurance business. Also, despite huge capacity expansion the company is expected to sustain RoE at 25% plus

AMRJ to sustain gross margin despite growing OEM mix due to sustenance of replacement pie in the overall mix

**Chart 32: Return ratios and asset turnover**

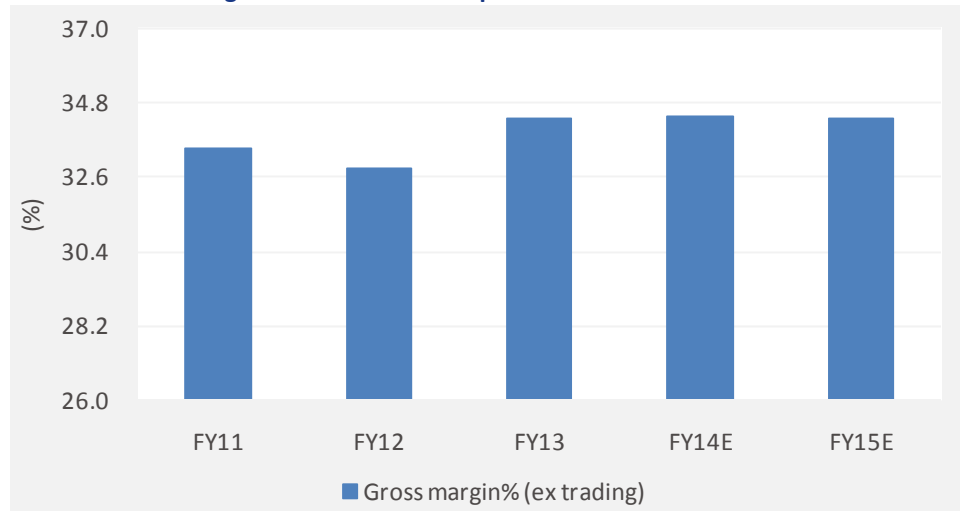


Source: Company, Edelweiss research

**Gross margins sustenance**

AMRJ's sustaining replacement pie in the overall revenue mix in the next two years, will lead to it maintaining gross margin despite growing OEM share.

**Chart 33: Gross margin to sustain due to replacement mix**



Source: Company, Edelweiss research

Capex of INR7.5bn to be majorly internally funded with net cash of INR3.4bn and operating cash flow of INR3.3 bn as on FY13

Cash conversion cycle has improved from 97 days in FY08 to 72 days in FY13 despite increasing OEM in the overall mix

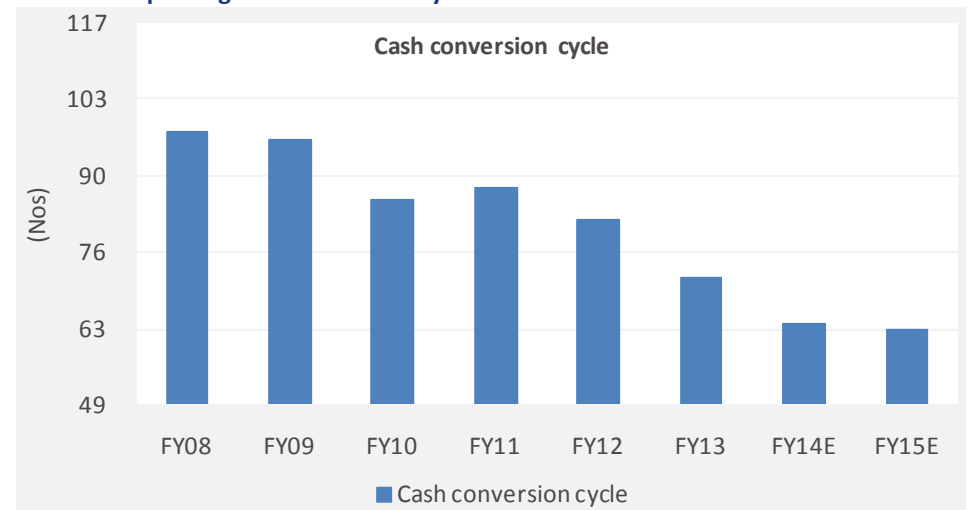
### Capex to be majorly internally funded

While AMRJ plans to take marginal debt of INR1.5bn Q1FY15, the INR7.5bn greenfield capex will be largely funded via internal accruals capitalizing on its strong balance sheet. Capacity expansion is underway with majority expansion expected to come up over the next one year. The company has already spent INR744mn in FY13 on capacity expansion. It has a strong balance sheet with net cash of around INR3.4bn. The company has been generating positive operating cash flow since past five years and is expected to do so going ahead.

### Cash conversion cycle has improved

AMRJ has improved its working capital management by lowering inventory and debtor days. The company's cash conversion cycle has improved from 96 days in FY08 to 72 days now. On the other hand, EXID's cash conversion cycle has been steady at around 55-65 days.

**Chart 34: Improving cash conversion cycle**



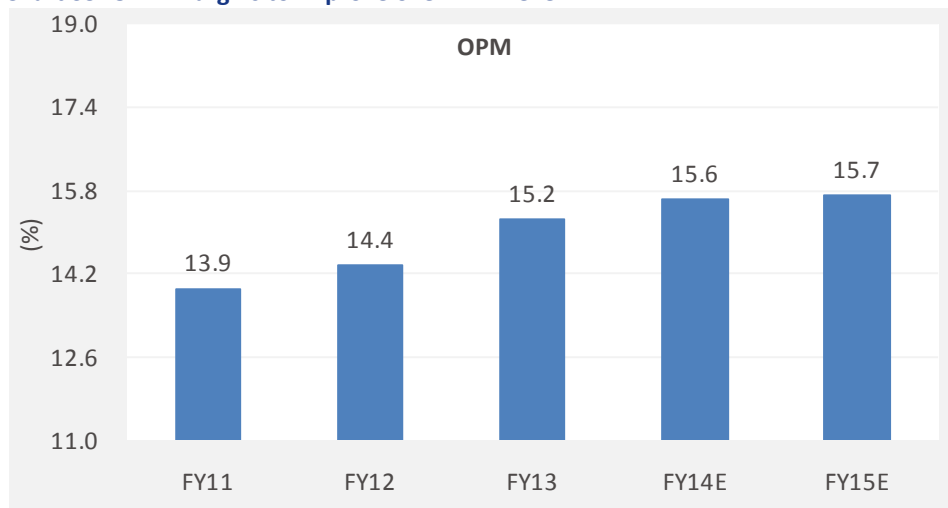
Source: Company, Edelweiss research

### Margin to stabilize

The concern is rising focus on the two wheeler OEM business (low margin) with capacity expansion which will restrict AMRJ's margin expansion. The company has been focusing on utilising existing capacity towards higher realisation products, thereby making the mix more beneficial. Even within the telecom segment, with operating at 90% plus utilisation, the company has strategised with 50% of supplies towards higher realisation 'Quick recharge' range of batteries. Price hike taken to the extent of 12-14% in the past nine months will offset currency depreciation and stabilising lead prices will help sustain margin in coming quarters. In the interim, increasing replacement along with OEM will lead to an average OPM of 16%. Post OEM increase leading to eventual gain in replacement market share in auto and growth in higher margin industrial business, margins are expected to stabilise at 15-16%. Also, eventual manufacturing of home inverters will improve the overall OPM.

Margin expected to be maintained between 15-16% with rising replacement in the mix despite growing OEM mix

**Chart 35: OPM margins to improve over FY11 level**



Source: Company, Edelweiss research

**Table 12: Related party transactions**

(INRmn)

	FY12	FY13
<b>Purchase of goods from related parties</b>		
Amara Raja Power Systems	5	2
Amara Raja Electronics	329	1,242
Mangal Industries (Component sourcing)	1,795	2,048
Amara Raja Infra	17	6
Amara Raja Industrial services	33	46
<b>Sale of goods/services</b>		
Amara Raja Power Systems	200.0	123.3
Amara Raja Electronics	282.9	318.4
Mangal Industries	1.8	6.6
<b>Purchase of capital goods/services</b>		
Amara Raja Infra Pvt limited	195.4	665.7
Amara Raja Industrial	0.3	0
<b>Donations paid</b>		
Rajnna trust	63.9	84.4
Mangamma and Gangulu Naidu memorial trust	0	27.7

Source: Company

Though related party transactions exist, the presence of JCI (26% shareholder) provides comfort since arms length pricing for such transactions is audited and approved by JCI. A significant portion of related party transactions is towards purchase of invertors (currently traded) and other components from Amara Raja Electronics and Mangal Industries. Payment to Amara Raja Infra is for construction of new capex. Related party transaction also includes compensation to the Chairman and MD of INR376mn which continues to be 8.7% of PBT (same as past seven years).

## Financial Statements

Key assumptions				
	FY12	FY13	FY14E	FY15E
<b>Macros</b>				
GDP(Y-o-Y %)	6.5	5.0	4.8	6.0
Inflation (Avg)	8.8	7.4	6.0	6.0
Repo rate (exit rate)	8.5	7.5	7.8	7.0
USD/INR (Avg)	47.9	55	62	60
<b>Industry assumptions</b>				
<b>Volume sold (mn units)</b>				
4W OEM	5.6	5.5	5.5	5.9
4W replacement	6.1	7.6	8.9	9.4
2W OEM	15.4	15.7	16.2	17.0
2W replacement	7.2	11.1	12.8	14.7
<b>AMRJ assumptions</b>				
<b>Capacity (mn units)</b>				
4W	5.6	5.6	6.0	7.5
2W	4.8	4.8	6.2	8.4
Medium VRLA (UPS)	1.8	2.0	2.5	3.1
Large VRLA (Telecom)	3.2	2.7	3.0	3.6
<b>Market share (%)</b>				
4W OEM	26	28	29	33
2W OEM	0	0	10	17
4W Replacement	34	37	38	41
2W Replacement	25	25	27	29
Medium VRLA (UPS)	<b>32</b>	<b>32</b>	<b>36</b>	<b>40</b>
Large VRLA (Telecom)	46	46	48	52
<b>Revenue mix (%)</b>				
4W OEM	12.62	11.63	10.54	10.90
2W OEM	-	-	1.74	2.62
4W Replacement	31.56	36.89	38.03	37.21
2W Replacement	4.76	6.38	6.76	7.19
Trading	-	1.70	1.61	1.41
<b>Auto</b>	<b>48.93</b>	<b>56.60</b>	<b>58.68</b>	<b>59.34</b>
Medium VRLA (UPS)	22.82	19.20	18.50	18.31
Large VRLA (Telecom)	22.98	20.00	19.09	18.79
Railway and Others	5.14	4.20	3.73	3.56
<b>Industrial</b>	<b>50.94</b>	<b>43.40</b>	<b>41.32</b>	<b>40.66</b>
Trade batteries	2.05	4.51	4.02	3.81
Trade Home UPS	1.33	3.30	3.47	4.29
<b>Cost assumptions</b>				
Raw Material Cost as % Net Revenue	67.97	67.37	67.18	67.40
Other costs as % of sales	17.67	17.38	17.20	16.90
Average Depreciation rate (%)	8	10	8	8
Tax rate (%)	33	33	33	33
Dividend payout ratio (%)	17	17	18	18
Capex (INR mn)	(813)	(1,465)	(6,500)	(1,000)

Income statement <span style="float: right;">(INR mn)</span>				
Year to March	FY12	FY13	FY14E	FY15E
Income from operations	23,645	29,614	36,526	44,360
Direct costs	16,986	21,393	26,272	31,960
Staff cost	1,003	1,266	1,571	1,885
Aministration expenses	669	785	968	1,153
Selling & Advt. exp	1,591	1,655	2,009	2,395
Total operating expe.	20,249	25,099	30,819	37,394
EBITDA	3,396	4,515	5,707	6,966
Depreciation and amortisation	465	661	835	1,176
EBIT	2,931	3,854	4,872	5,790
Interest	24	10	31	31
Total other income	280	465	146	429
Profit before tax	3,186	4,310	4,987	6,189
Provision for tax	1,036	1,351	1,621	2,011
Core Profit	2,151	2,958	3,366	4,177
Extraordinary income/(loss)	0	92	0	0
Profit after tax	2,151	3,050	3,366	4,177
Profit after minority interest	2,151	3,050	3,366	4,177
Shares outstanding (mn)	171	171	171	171
EPS (INR) basic	13	17	20	24.5
Diluted shares (mn)	170.8	170.8	170.8	170.8
EPS (INR) diluted	12.6	17.3	19.7	24.5
CEPS (INR)	15.3	21.7	24.6	31.3
Dividend per share (INR)	1.9	2.5	3.0	3.8
Dividend payout (%)	17.4	16.5	18.0	18.0

## Common size metrics- as % of net revenues

Year to March	FY12	FY13	FY14E	FY15E
Operating expenses	85.6	84.8	84.4	84.3
Direct costs	71.8	72.2	71.9	72.0
Aministration expenses	2.8	2.6	2.7	2.6
Depreciation and amortisation	2.0	2.2	2.3	2.7
Interest expenditure	0.1	0.0	0.1	0.1
EBITDA margins	14.4	15.2	15.6	15.7
Net profit margins	9.1	10.0	9.2	9.4

## Growth metrics (%)

Year to March	FY12	FY13	FY14E	FY15E
Revenues	33.5	25.2	23.3	21.4
EBITDA	37.8	33.0	26.4	22.1
PBT	50.8	35.2	15.7	24.1
Core net profit	55.4	37.6	13.8	24.1
EPS	55.4	37.6	13.8	24.1

# Automobiles

## Balance sheet

(INR mn)

As on 31st March	FY12	FY13	FY14E	FY15E
Equity capital	171	171	171	171
Reserves & surplus	8,064	10,427	13,188	16,613
Shareholders funds	8,235	10,598	13,358	16,784
Secured loans	56	99	99	99
Unsecured loans	785	773	773	773
Borrowings	841	872	872	872
Deferred tax (net)	220	195	195	195
<b>Sources of funds</b>	<b>9,295</b>	<b>11,665</b>	<b>14,425</b>	<b>17,851</b>
Gross block	6,181	6,675	14,200	15,200
Depreciation	2,656	3,120	3,955	5,112
Tangible assets	3,525	3,555	10,245	10,087
Intangible assets	21	34	34	34
Capital work In progress	315	1,030	-	-
Investments	161	161	161	161
Inventories	2,666	2,929	3,531	4,333
Sundry debtors	3,197	3,807	4,503	5,591
Cash and bank balances	2,293	4,111	1,196	3,432
Loans and advances	1,306	2,010	1,621	2,011
Other current assets	32	68	68	68
Total current assets	9,493	12,925	10,919	15,435
Sundry creditors	876	1,363	1,915	2,311
Other Liabilities	1,137	1,807	1,807	1,807
Provisions	2,207	2,870	3,211	3,747
Total curr.liabilities & provisions	4,220	6,040	6,933	7,866
Net current assets	5,273	6,885	3,986	7,570
<b>Uses of funds</b>	<b>9,295</b>	<b>11,665</b>	<b>14,425</b>	<b>17,851</b>
BV per share (INR)	48	62	78	98

## Free cash flow

Year to March	FY12	FY13	FY14E	FY15E
Net profit	3,186	4,218	4,987	6,189
Depreciation	460	577	835	1,176
Others	(1,026)	(1,366)	(1,662)	(2,011)
Gross cash flow	2,620	3,429	4,160	5,353
Less: (Increase)/Decrease in wor.ca	120	(94)	(77)	(1,494)
Operating cash flow	2,740	3,335	4,083	3,859
Less: Capex	813	1,465	6,500	1,000
<b>Free cash flow</b>	<b>1,927</b>	<b>1,871</b>	<b>(2,417)</b>	<b>2,859</b>

## Cash flow metrics

Year to March	FY12	FY13	FY14E	FY15E
Operating cash flow	2,985	3,355	4,083	3,859
Financing cash flow	(418)	(350)	(504)	(606)
Investing cash flow	(742)	(1,205)	(6,500)	(1,019)
Net cash flow	1,825	1,800	(2,921)	2,235
Capex	(813)	(1,465)	(7,530)	(1,000)
Dividend paid	(222)	(323)	(504)	(606)

## Ratios

Year to March	FY12	FY13	FY14E	FY15E
ROAE (%)	29.3	31.4	28.1	27.7
ROACE (%)	35.3	37.4	37.8	36.2
Inventory (days)	59	48	45	45
Debtors (days)	48	43	42	42
Payable (days)	26	19	23	24
Cash conversion cycle	82	72	64	62
Current ratio	2.2	2.1	1.6	2.0
Debt/EBITDA	0.2	0.2	0.2	0.1
Interest cover (x)	119.8	386.2	159.7	189.8
Fixed assets turnover (x)	7.1	8.4	5.3	4.4
Total asset turnover (x)	2.8	2.8	2.8	2.7
Equity turnover(x)	3.2	3.1	3.0	2.9
Debt/Equity (x)	0.1	0.1	0.1	0.1
Adjusted debt/Equity	0.1	0.1	0.1	0.1

## Valuation parameters

Year to March	FY12	FY13	FY14E	FY15E
Diluted EPS (INR)	12.6	17.3	19.7	24.5
Y-o-Y growth (%)	55.4	37.6	13.8	24.1
CEPS (INR)	15.3	21.7	24.6	31.3
Diluted P/E (x)	24.7	17.9	15.8	12.7
Price/BV(x)	6.4	5.0	4.0	3.2
EV/Sales (x)	2.2	1.7	1.4	1.1
EV/EBITDA (x)	15.2	11.0	9.2	7.2
Dividend yield (%)	0.6	0.8	1.0	1.2

## Additional Data

### Directors Data

Dr. Ramachandra Galla	Non-Executive Chairman	P Lakshmana Rao	Non-Executive Independent Director
Jayadev Galla	Vice Chairman and Managing Director	Nagarjun Valluripalli	Non-Executive Independent Director
Ravi Bhamidipati	Executive Director	N Sri Vishnu Raju	Non-Executive Independent Director
Shu Qing Yang	Non-Executive Director	T R Narayanswamy	Non-Executive Independent Director
Eric Stuart Mitchell	Non-Executive Director	Raymond J Brown	Non-Executive Independent Director

Auditors - M/s. E Phalgun Kumar & Co., M/s. Chevuturi Associates

*\*as per last annual report*

### Holding – Top 10

	Perc. Holding		Perc. Holding
Templeton Asset Management	4.61	T Rowe Price Associates	1.46
HDFC Asset Management	2.41	Franklin Resources	1.35
Prudential ICICI Asset Management	2.31	TATA Asset Management	0.93
Sundaram Asset Management	1.83	SBI Funds Management	0.93
Capital Research Global	1.75	JP Morgan Chase & Co	0.42

*\*as per last available data*

### Bulk Deals

Date	Acquirer / Seller	B/S	Qty Traded	Price
28-Dec-11	Beaver Investment Holdings	Buy	1,200,930	200

### Insider Trades

Reporting Date	Acquirer / Seller	B/S	Qty Traded
12-Jun-12	Franklin Templeton Mutual Fund	Sell	84,485
14-Feb-11	Franklin Templeton Mutual Fund	Buy	25,220

**Edelweiss Securities Limited**, Edelweiss House, off C.S.T. Road, Kalina, Mumbai – 400 098.  
Board: (91-22) 4009 4400, Email: [research@edelweissfin.com](mailto:research@edelweissfin.com)

Vikas Khemani	Head Institutional Equities	vikas.khemani@edelweissfin.com	+91 22 2286 4206
Nischal Maheshwari	Co-Head Institutional Equities & Head Research	nischal.maheshwari@edelweissfin.com	+91 22 4063 5476
Nirav Sheth	Head Sales	nirav.sheth@edelweissfin.com	+91 22 4040 7499

## Coverage group(s) of stocks by primary analyst(s): Automobiles

Exide Industries

### Recent Research

Date	Company	Title	Price (INR)	Recos
18-Jul-13	<b>Exide Industries</b>	Profitable growth ahead; <i>Result Update</i>	134	Buy
30-Apr-13	<b>Exide Industries</b>	Lower expenses push up margins; <i>Result Update</i>	135	Buy
23-Jan-13	<b>Exide Industries</b>	100% stake in insurance JV to strain core ops; <i>EdelFlash</i>	126	Hold

### Distribution of Ratings / Market Cap

Edelweiss Research Coverage Universe

	Buy	Hold	Reduce	Total
Rating Distribution*	127	44	8	180
* 1 stocks under review				
	> 50bn	Between 10bn and 50 bn	< 10bn	
Market Cap (INR)	112	54	14	

### Rating Interpretation

Rating	Expected to
<b>Buy</b>	appreciate more than 15% over a 12-month period
<b>Hold</b>	appreciate up to 15% over a 12-month period
<b>Reduce</b>	depreciate more than 5% over a 12-month period

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