AMARA RAJA
Gotta be a better way

June 19, 2021

National Stock Exchange of India Limited "Exchange Plaza", Bandra – Kurla Complex, Bandra East Mumbai – 400 051 **NSE Symbol: AMARAJABAT** **Through: NEAPS**	BSE Limited Corporate Relations Department, Phiroze Jeejeebhoy Towers, Dalal Street, Fort, Mumbai – 400 001 **BSE SCRIP CODE: 500008** **Through : BSE Listing Centre**

Dear Sirs,

Sub: Analyst and Investors meet

Kindly refer to our earlier intimation dated June 12, 2021 and June 15, 2021 regarding Company's participating in an analyst and investors meet. In this regard please find attached the transcript of the said virtual analyst and investors meet.

The Company also interacted on June 16 and 17, 2021 on one on one basis with Nalanda India Equity Fund, Duro Capital, DSP Investment Managers, Wasatch Global Investors, Enam AMC, Kotak MF, HDFC MF, ICICI Prudential MF, Sundaram MF and IDFC MF.

We request you to take on record the same.

With regards,
For Amara Raja Batteries Limited
VIKAS SABHARWAL
Digitally signed by VIKAS SABHARWAL
Date: 2021.06.19 17:21:13 +05'30'
Vikas Sabharwal
Company Secretary
Encl.: as above

“Amara Raja Batteries Limited's Investor & Analyst Meet Conference Call”

June 15, 2021

MANAGEMENT:

MR. JAYADEV GALLA – VICE CHAIRMAN & MANAGING DIRECTOR,

MR. HARSHAVARDHANA GOURINENI – EXECUTIVE DIRECTOR,

MR. VIKRAM GOURINENI -- EXECUTIVE DIRECTOR,

MR. VIJAYANAND SAMUDRALA – PRESIDENT (NEW ENERGY BUSINESS),

MR. Y. DELLI BABU – CHIEF FINANCIAL OFFICER

Moderator: Ladies and gentlemen, good day and welcome to the Investor and Analyst Meet for Amara Raja Batteries. At this moment, all participant lines are in listen-only mode. Later, we will conduct a question-and-answer session. I now hand the proceedings over to Mr. Delli Babu. Thank you and over to you, sir.

Delli Babu: Good evening, friends. Welcome to this Investors and Analysts meet of Amara Raja Batteries Limited. Today, we are joined by our Vice Chairman and Managing Director. He will be on the call in five minutes because there are some minor technical glitches. We are also joined by two new Executive Directors, Mr. Harshavardhana Gourineni and Vikramaditya Gourineni. Then we are also joined by our CEO, now the new President for New Energy business. Now, I will hand it over to Mr. Vijayanand for his opening remarks and then we will move on to the information that we would like to share it with you. Vijay, over to you.

Vijayanand S: Thank you, Delli and very good afternoon to all of you here who have joined us at this time. We are pretty excited to engage with you on a very momentous occasion in the progress of this company. I am sure all of you have come across the announcements that came out yesterday based on the board meeting that we had this Saturday. For quite some time, we have been deliberating and seized with this discussion around new opportunities in the energy storage technologies evolving around us, more specifically around the electric vehicle momentum as well as renewable energy related applications which are new opportunities for the energy storage technologies.

As all of you know, Amararaja Batteries over the last 30-years has built a very strong business around lead-acid batteries and technologies. We have entrenched a very strong position in the domestic market in India across all the segments that we operate on the industrial side. On the automotive side, over the last few years we have accelerated our export revenue growth, we predominantly export to 30-plus countries in the Indian Ocean RIM, where we have both automotive and industrial batteries that go into multiple applications. So, all these efforts have given us strength in multiple dimensions. We are pretty close to a billion dollar in our revenue. We have announced our financial results for FY'21 last month and we also have a very strong product portfolio, we have world-class manufacturing facilities for the product lines that we have and we have very strong customer relationships across all the segments that we operate in.

While all of that has been a fantastic story of growth for us, I think it's also a moment for us to reflect on what's evolving around us, the COVID pandemic situation has definitely created certain amount of economic stress globally and I don't think India is an exception on that front. Thankfully, the segment that we operate in and also the resilience and agility of our people has ensured that we are able to navigate through FY'21 without as much scar as other industries have experienced, in fact, we have reported incremental positive growth both on the top line and the bottom line in FY'21.

But that pandemic period also gave us an opportunity for the top management team to sit around and think of the next trends evolving around us on the key segments that we operate. And also

new opportunities that are coming up in segments that never existed before or just about coming on the horizon. So, the management team with the help of external experts have sat together and built a group strategy narrative as to how do we need to handle our future growth prospects, what are the areas that we should be focusing on and what are the areas probably we should withdraw from or defocus. And that is how we have come out with what now we call as the "Energy and Mobility Theme" around our strategic focus.

We will delve a little more into the Energy and Mobility Theme. But I also want to bring in the reference that while that's the business focus, as an organization we have been growing and we have been having extraordinary leadership, driven by the promoter directors on the board and also the professional management team and in the journey of the organization this is also a momentous occasion, where our Founder Chairman who has provided us the vision, the courage and the direction to grow the business to where we have arrived, after 36 long years of navigating this organization, he has decided not to seek reappointment when he is due for retirement in August and hence he will be stepping down in August AGM. That means that Vice Chairman and the Managing Director of Amara Raja Batteries, Jay Galla would be taking over as chairman of the Amara Raja Batteries. And it also gives us an opportunity to look at the next generation leadership both on the promoter side as well as on the professional leadership. We have had 25-plus years of cumulative experience across many of the top leadership team and this is the time to probably, get the next generation to navigate the organization to the future shores. As part of that, both Vikram Gourineni and Harsha Gourineni who have been engaged with the group businesses at various levels and various responsibilities are inducted as Executive Directors and both of them will have very specific responsibilities to drive the strategic narrative of the Amara Raja Batteries as we go along.

I would request Harsha now to briefly introduce himself to the team here and say a few words about what's really there at the top of his mind. Harsha?

Harsha Gourineni: Thanks a lot, Vijay. Hello, everyone. I am Harsha. Just to give a little bit about what I have been doing in the recent past, I started my career at Johnson Controls Battery Division in the US, had some exposures as an operational supervisor on the shop floor and then moved to demand planning, in my stint with JCI, got a fairly good understanding of the lead-acid battery landscape and the demand potential. I came and joined the group about seven years ago, worked in various functions within ARBL and then took higher responsibilities in other group companies. Most recently, I worked as Managing Director and CEO of Mangal Industries. It has a very significant share of business from Amara Raja Batteries with component supply. With that I have gained further insights into demands of the lead-acid business, the supply chain intricacies, and very hands-on exposure with the management team. This has really set up a good path for my new role and I am getting into the business and excited about the new journey. I see that we have been growing fastest in the market share and I think we have come to a juncture where we have to take it to next level and we will be exploring those strategies going forward. Thank you.

Vijayanand S.: Thank you, Harsha, and we will get more opportunities to hear from you on the latest sections in the presentation. I would now request Vikram Gourineni to make a brief introduction of himself. Over to you, Vikram.

Vikram Gourineni: Thanks, Vijay. Very good afternoon to everybody. It's a great privilege and I'm very excited to be able to share our "New Energy & Mobility Strategy" with all the investors and analysts joining us today. I started my association with the group about eight years ago, I think in August this year, I will be completing eight years when I returned to India, I had the opportunity to play many different roles and different functions and businesses within Amara Raja group. Since 2017, I have been associated with the group company, Amara Raja Power Systems Limited.

In Power Systems, we got great opportunity to work hand-in-hand with ARBL and some of these New Energy initiatives. In the EPC business of Power Systems, we are able to venture into the renewable energy space. We made great inroads into utility scale solar as well as the rooftop. Cumulatively, we installed almost 25-30 MW of rooftop solar and on the utility side we broke in with our first 70 MW execution in Karnataka and most recently we are executing almost 150 MW on the DC side for NTPC in Rajasthan.

In addition to this, while Amara Raja Batteries is our largest company, Amara Raja Power Systems limited is the oldest business in the group. While we have been playing in more traditional products, like Industrial Battery Chargers in the Railway segment, we started venturing more into the futuristic spaces like EV Charging and any of the power electronics that goes into more advanced energy storage and systems. Along with the battery company, we were able to put the first energy storage system as a proof-of-concept in Chittoor in our ARGC facility. In addition to that, we developed a range of electric vehicle chargers and we deployed two swapping stations at Tirupati for e-Rickshaw operations. I take a joy in saying that last couple quarters we have been working on a group strategic blueprint and both Harsha and I were able to work hand-in-hand with not just the leadership in the group but also some business champions from the next generation of leadership in order to craft this Energy & Mobility Strategy which we get to share with you today.

In addition to the business, I really hope that we are able to bring some new concepts. We have been looking as the world is becoming more and more uncertain and the pace of change is accelerating, we would not only look at what areas of business that we should be in but also how we conduct business within our own company. I have been working very closely with our HR department in the last couple of years when we started bringing in some great initiatives like digitizing people processes. I would hope to accelerate this and bring bit of agility and great flexibility in the way that we structure organization and organizational design to take decisions much faster which I feel are well needed. Back to you, Vijay.

Vijayanand S.: Thank you, Vikram for setting up the tone. I think Jay has joined us now. Let me check if he is audible. Jay, are you there?

Moderator: Sir, we are still not connected with him.

Vijayanand S.: Okay. Right. We will wait for him to join and we will move on to the next section in our program today. We have a very brief deck put together to give you a background and the overview of what this Energy & Mobility Strategy is all about, what are our ideas about it and plans as we go forward. I would request Delli to put up the presentation and take us through the initial section. Delli, over to you.

Delli Babu: We will run through the brief business profile and also we will elaborate on the strategic initiatives that we are proposing for our business. Before I get into the business details, our core purpose, what we have defined for our business is to transform our increasing spheres of influence and improve the quality of life by building institutions that provide better access to better opportunities to more people all the time. And in achieving this core purpose, our mission is to build partnerships and then become a global leader in the batteries and battery technologies in the Indian Ocean Rim.

We celebrate our way of doing things through what we call as "Amara Raja Way". The five forces, represent five values for us, Innovation, Entrepreneurship, Responsibility, Experience, Excellence. Each of these values are matched to a mind state where innovation is matched to the mind state of synthesizing and entrepreneurship to being creative, responsibility is to be respectful and ethical, experience is to being spiritual in terms of the mind state, excellence is about being disciplined.

As you know, Amara Raja Batteries today has a significant play both in the automotive batteries as well as industrial batteries. We have about eight manufacturing plants in the state of Andhra Pradesh and we have average age of our workforce today is about 29-years and we have one of the largest integrated VRLA battery factory. Currently, we have two manufacturing locations, one is near Tirupati, the other is near Chittoor where put together we have about eight manufacturing plants.

Our current capacities on an annualized basis are, four wheelers, we have about 14 million capacity, two wheeler about 20 million capacity, industrial batteries both the large VRLA as well as medium VRLA capacity is about 2 billion Ah and we have a capacity to make tubular batteries of around 1.4 million batteries per annum. These are annualized capacities. We keep adding capacities based on the demand signals as they emerge.

We have two strong brands in automotive side; one is Amaron and the other is PowerZone. We cater for all the applications through these two brands; Passenger Cars, Three Wheelers, Two Wheelers, Tractors, Trucks as well as Home UPS and Inverters. We distribute inverter batteries through our automotive channel. We group that business into our automotive side of the business.

Predominant brands on Industrial side are, Amaron Sleek, Amaron Volt, PowerStack and QUANTA. QUANTA is a range that we offer for our UPS applications. We are catering to all the sectors like Telecom, Railways and Power Control segments.

Vijay, would you like to explain on the next couple of slides on our capabilities around product and process engineering?

Vijayanand S.: Absolutely. Thanks, Delli. Our focus from the beginning has been to differentiate the product that we are offering to the market. We brought in significant transformation to the offering of lead-acid to batteries for various applications, starting from the VRLA product for telecom and railways way back in early 90s and subsequently expanding the product portfolio for various applications in this industrial segment. When we entered automotive, that DNA of creating differentiated products, contemporary from a global technology perspective has been there. So, we introduced all calcium products into the market, absolutely maintenance free and longer warranty. That technology edge continue to be there both in the product design and also in the process design. And some of the recent advancements that we have done is about a continuous plate making system, the punch grid or stamp grid technology that we use, the AGM products of two wheeler has been a significant innovation. When we introduced that in 2007-08, that was a niche product but I think the transformation in the market is almost near complete now that the entire two wheeler OEM as well as the aftermarket has very enthusiastically adapted the AGM products of two wheeler. Even on the vehicle side, there have been significant changes happening on the automotive space. I think the vehicles are becoming more power hungry, there is lot more automation and communication interface, safety system which is going up. The idle start shop system calls for a very different battery requirements. And keeping in tune with that the enhanced lead-acid flooded battery or AGM battery for the four wheeler applications is something that we have been developing on and the innovation related to the venting systems, innovation related to the cranking application requirements of the product has been at the focus of our development. Similarly, on the industrial side, we have developed a variety of products for commercial UPS application, solar application, rural UPS applications and the Motive Power application work is going on. If all these things are taken into consideration, I think we are pretty well positioned. Prior to our partnership with Johnson Controls, we have been in existence for about eight to nine years on the industrial space. Subsequent to that, 20-years of successful partnership with Johnson Controls. So, 25, 30-years of engagement with the lead-acid battery industry and having access to globally contemporary technologies has really built a significant amount of capabilities and, self-sufficiency in our engineering capabilities.

And then if we go on to the next slide, it talks a bit about the process innovation that we have brought in, starting with the efficiency improvements of the material, studying with micro structures, the crystalline arrangement in the plates which need to be robust enough to take care of the Indian applications. I already talked about various venting mechanisms which make the battery safe and of course the continuous plate making on the stamp grid technology.

Now, one of the things that we highlighted on the continuous plate making is that while Johnson Controls had this for the automotive application and we licensed the technology a couple of years ago, but we innovated even prior to that to bring in continuous plate making for the motorcycle product which perhaps is the first in the world to be able to do the stamp grid for the small little plate in the motorcycle. And we are now looking at a multi-stamp grid technology

that can be adopted for industrial products as well as two wheeler and four wheeler in terms of process capability. I think that sets us up for a significant advantage position on the overall product superiority, process innovation and operational efficiency when you combine all of them together. Delli, over to you back again on the next slide please.

Delli Babu: Thank you, Vijay. At least a couple of years ago, we have started with our digital journey in terms of transforming our core ERP to the new S4 HANA platform. Apart from that we have now digitized most of our employee engagement through our people strong network. And then now we are in the journey to bring our digital warranty product where we are trying to make the service on a digital platform going forward. There is a very clear plan laid out to bring both our vendors and customers on to the digital platforms so that the transactional activities can be done seamlessly and over a period of time, this data will enable strong business analytics, which makes the business decision making lot more scientific and fast. Today, we have about 23 branches spread across the country and about 32 warehouses. Our Amaron network works on a 400-plus franchisee network who serve about close to 40,000 retailers. And we have a strong PowerZone brand network, which is currently around 1,000 to 1,200 retailers. And then we have a 2,000 plus extensive service hubs, which take care of the service requirements of our customers.

Today, we are engaged with almost all the OEMs in the four wheeler and the two wheeler space. With the recent addition of TVS and Hero Motors to our two wheeler customer portfolio, we are serving all the OEMs. We also have a certain strong set of private label brands like AC Delco, etc., and then on the industrial side, we are engaged with some of the leading Tower companies both in India as well as abroad, and almost all telecom players are our customers in India. On the UPS side, several UPS manufacturers like Schneider, Vertiv, etc., are some of our leading customers for our power backup business.

Today, our exports are focused around Indian Ocean RIM countries, Southeast Asia, Middle East and African countries are our major markets. Last four years has been a very phenomenal journey as far as exports is concerned. We have been growing at a CAGR of 20% to 25% in the last four years as far as our export revenues are concerned, at the company level, about 12% to 13% is our exports revenue. So, this is a journey that we would like to further improve upon. So, we are also now creating local presence in some of the markets where we think there is a huge potential to grow our business. Recently, we have started engaging people in Indonesia and Nigeria. Exports will continue to be one of our focus areas for future growth purposes.

If I look at last 10-year journey for this company, the revenues have grown at a CAGR of about 15%. We have been mentioning that the EBITDA operating margin percentage can be in the range of 14% to 16%. Yes, there will be here some quarters where we will have a betterment around that performance. But we know that the lead-base impact also has an impact on the percentage numbers.

And in the last five years, if you look at it, our growth rates could be in the range of 7% to 8%, going forward with our strategy, as we unfold in the coming slides, our aim and objective is to see that we again go back to higher growth rates.

Now, I'll request Mr. Vijayanand to take forward the next couple of sections where we will talk about our new strategic initiatives that we are proposing. Over to you, Vijay.

Vijayanand S.: Thanks, Delli. Just want to check if Jay is on the line right now. Jay, are you there?

Moderator: No, sir, he's still not connected. Once he gets connected, I'll update you.

Vijayanand S.: OK. We talk about the strategic initiatives centered around the two pillars. That's about Energy & Mobility being the theme. We, after significant amount of deliberations and watching very closely the ecosystem evolving around us, felt that the synergistic and exciting growth opportunities are centered around these two pillars of lead-acid value maximization and new energy which can potentially be the new growth engine for us. The reason why we have looked at these two things is that while there is a lot of talk about the electrical mobility coming in and the new age chemistries coming in the energy storage technologies, a very careful scrutiny of the opportunities as we look at, going forward says that, lead is here to stay. It's not going to go away anytime soon. The total vehicle population on the roads across the globe crosses more than a billion vehicles. And they continue to need the starter lighter ignition application there lead acid batteries have entrenched themselves very strongly as the most optimal and effective solution for that. Similarly, we have seen globally around the telecom networks have continued to use lead-acid batteries of the most cost efficient and reliable solutions and many other applications, while there is some amount of niche categories where the new age chemistries are coming in, we continue to see that the demand for lead-acid is stable and incrementally growing globally. That's been the case even with the domestic segments in India.

Other thing is that lead-acid technology per se has really gained a significant amount of circular economy stability. 99% of what goes into a lead-acid battery is recyclable. That's probably the second most recycle product in the world after a coke can or a beverage can. That's the level of maturity that we have there. And the people have evolved over a period of time, safe way of handling lead.

On the other hand, there are new application and markets getting created around us starting with electric vehicles, and then energy storage, also with renewable energy.

Jay, welcome onto the show.

Jayadev Galla: Okay. Go ahead.

Vijayanand S.: You are very much audible, Jay. Stay on course. Thank you for joining us. We will get back to you very soon and there are other sections in this presentation.

Jayadev Galla: Thank you.

Vijayanand S.: So, if we move on to one more, Delli, there are two narratives core to our strategy based on what I just described about the lead-acid value maximization which focuses on improving efficiencies, by leveraging the process and product technology innovations that we have, expanding our markets, geographies, and product portfolio to serve the international markets, we have gained a significant traction on that. And also actively and enthusiastically evaluate the inorganic growth opportunities because worldwide, this industry is consolidating. That's true with India, and that's probably more true with the markets outside India. And we very clearly sense that there are good opportunities for us to aggressively look at certain inorganic growth opportunities.

But on the New Energy side, we'll spend more time talking about what we have in store for that, what are the ideas that we are currently engaged with and then what could potentially give us a kick start and the new growth engine for our engagement with the New Energy and New Age Applications.

With that, I would now hand it over to Harsha to take us a little more about the lead-acid value maximization because Harsha would be driving it from the front seat on how do we want to take this further to the next level. Over to you, Harsha.

Harsha Gourineni: Thanks a lot, Vijay. Good evening, again. As Vijay said, I'll be taking you through the lead-acid value maximization strategy, overall as of FY'20 the entire global market was $38 billion, of which 66% was Automotive, 29% Industrial, which is further broken down to Stationary Batteries and 18% is UPS, Telecom, ESS and Motive Power is about 11% which is primarily used for forklifts. When we come to India, total market size is about 36,500 crores and we have very strong positions in Automotive Replacement, Automotive OEM, on the Industrial side in UPS and Telecom. We have some headroom for growth in segments like Inverter, E-Rickshaw and Motive Power. Although we foresee lithium penetrating to some extent, we're carefully calibrating different options and disruptions to be able to adjust to those markets.

If we Look at the global automotive sales and forecast, of course, during the pandemic, there was a very significant impact in 2020. But we're also seeing a V-shaped recovery in all geographies. And most of these geographies are recovering by 2023.

Coming to India, if you look at the sales outlook by drive train for both passenger vehicles and two wheelers, passenger vehicles saw peak in 2019 and we'll be recovering around 2025. In 2030, we'll start seeing some significant electrification at about 6% going to 33% in 2040.

Lead-acid battery demand will continue to grow alongside with the ICE vehicle and also it'll have a new application as an auxiliary battery in the EV.

The Two Wheeler Sales Outlook. ICE engine begins to plateau around 2027 and then rapidly decline due to electrification. Lead-acid will continue to be strong in international industrial markets. This is the demand forecast for Europe in 2013. As you can see from these illustrations

in both UPS and Telecom, Lead-Acid which is dominant now will continue to be so going forward. For Motive Power, right now it's primarily lead-acid. Lithium sees very significant penetration while lead still has a relevant market share. ESS, which is a small market now and mostly lithium-ion will be predominantly lithium-ion going forward as well.

When we come to India, in certain segments, lead-acid will continue to be very strong, for example, if we look at the telecom industry, aside from Reliance Jio, other telecom companies are at the moment using lead-acid and will continue to do so going to the future as well. We see a very healthy growth in telecom volume at about 9.8% into the FY'25.

Coming to Data Center Market Outlook, we've seen globally that from 2014, the world markets have been growing at about 100%, more so in the APAC region at 180%, India at 520%, though of course we started a very small base here. But to supplement that UPS volumes will continue to grow at a steady 6.3% into FY'25.

To kind of put everything back into perspective, we see Lead-Acid continue to grow in demand until about 2030, we'll see some flattening and then a gradual decline. This flattening will be seen earlier in industrial than in automotive. And to put things into scale, ARBL's current output is about 15 GW hours, out of a global demand of 490. So, that shows that we have a very large headroom to grow which can be addressed through various expansions and inorganic means.

The board has also approved and we will be establishing lead recycling plant going forward for benefit of having a circular economy, environmental regulations, supply security, election through reverse logistics and cost savings.

Going forward, we're targeting a growth of 15% to 17% over the next five years, driven by organic growth in the domestic market, pushing international expansion in VRLA, automotive and we'll also be considering a local presence to serve the markets and geographies we're already exporting into. Then look at potential inorganic means to speed up that market share acquisition.

We had some growth and value drivers. On the Automotive side, we'll be introducing AGM Batteries for both ICE and Micro Hybrids. Also, as auxiliary batteries for EVs, and we'll be introducing Smart Batteries. These smart batteries will have the capability of predicting maintenance and replacement.

On the Industrial side, MSG technology, which is a continuous plate making technology will provide for higher wattage and a lower weight, making it more competitive internationally also. We will be able to remote monitor battery bank installations and also, we've implemented hybrid battery energy systems that are combination of Lead and lithium which are cost effective.

We'll be introducing the ASG range for automotive. This will bring cost savings. And the MSG technology which is once again continuously making, will not only differentiate the product, but enhance our current portfolio.

We'll also have Deep Discharge and high life cycle products for our E-Rickshaw applications and looking at digitizing of service and distribution operations. Thank you.

Vikram Gourineni: Thank you, Harsha, for taking us through the lead-acid maximization strategy. I now have the opportunity along with Vijay to take you through the second part of our Energy & Mobility Transformation, which is the New Energy. If we were to summarize what we look at as new energy, I'm sure all of us believe and glued into the lithium-ion opportunity within the country and the world. But the lithium-ion battery making actually makes up only one part of what we talk about when we're talking about new energy and therefore Energy & Mobility. It's probably the largest investment we will be making. But we're looking more than just being a battery company. We are looking at all of the additional services and integrated solutions we can offer to our customers, the largest segments being the electric vehicle, and then of course the energy storage systems.

To give an idea, while we'll go after the lithium cells and pack products, We're also looking at introducing a range of power electronics, such as EV chargers, electronics to go into energy storage systems, and giving integrated solutions in segments like telecom, data center and home energy.

Another departure from the way we've traditionally been looking at things is, we feel that there's a vibrant ecosystem of startups coming up in these new energy areas and we will be keen to supplement our own R&D efforts and making investments into very innovative startups that give us an edge into the areas that we wish to focus on.

Harsha covered this earlier, of course, looking at the electrification of vehicles in India. But I would like to take one more look. Below you can find the EV penetration across different segments in the vehicle space. While we may see a slightly slower ramp up in areas like passenger vehicle, I think we have to be alive to the fact that the electric two wheelers and three wheelers are seeing a much faster surge. I think this definitely has a huge part to play in the decade ahead. We see continuous growth in areas like E-Commerce and therefore last mile delivery and we're seeing emergence of several E-two wheeler and three wheeler fleets, which are driving this change. But even if you look at the four wheeler segment, over a 10year period, in FY'30, we see definitely numbers that we can't ignore, and a pretty sizable opportunity arising. Over the next 10 years, we're estimating a pretty significant opportunity coming and a pretty significant demand in gigawatt hours for lithium-ion batteries in India. But if you see, while we do still have a split between automotive and stationary applications, in the long term, the real driver for this volume is going to be on the electric vehicle side. This is clearly illustrated over a 10-year period and worldwide the significant driver for the giga factories that are being added in China, Europe and North America is on the electric vehicle.

When we look at the overall lithium demand over the next five years, even in a base case, we see that there's about 28 GW to 30 GW demand coming up by 2025, and close to 150 GW in

2030. When we put this into perspective, with the recent efforts by Government to set up 50 GW of local manufacturing, this is quite significant.

Looking at the overall value chain of the lithium battery making, we can split it up broadly into three sections: The first being the minerals and battery materials, the second being the cell manufacturing and the final is the pack assembly. At Amara Raja, we have been actively exploring both the cell manufacturing as well as the pack assembly. If you look at the overall value addition coming in each of these sections, I think it's fairly encouraging to say that, by starting at the cell manufacturing level, which we have proven in a more R&D pilot level, you're actually achieving close to 50% to 55% of domestic and in-house value addition. The balance 40% to 45%, which is not widely available in India today, we see definitely some low hanging fruit which can be easily localized and we can be purchasing this domestically as well, especially around the copper and aluminum foil and the separator. So, in Amara Raja we will be looking at probably starting at the cell manufacturing level, and even working backwards into it, at least procuring some of these materials and components domestically and possibly making some in-house as well.

Vijay, I would invite you to take us through some of the steps we've already taken over the past few years.

Vijayanand S.: Thanks, Vikram. This work on getting into the EV space or energy storage space have been initiated about three years ago in the company. On various occasions I've had the opportunity to share with some of you, what we have done is establish a pilot scale pack assembly facility. We consider that as pilot scale because I think we can ramp it up to probably about 200 MWh. We currently support some customer requirements on the three wheeler and two wheelers. But the primary idea is to build the products and the solutions that are specific to Indian context, because the low hanging fruits of electrification are more likely to be in two wheelers and three wheelers. We have done extensive testing of our products for two wheelers and three wheelers in the fleet, cumulatively we would have had probably half a million miles accumulated on that so far.

We also had the technology collaboration agreement from ISRO, who have built the cell technology for space applications to start with, but have shared that with few select companies to start building the cells. We've established BMS capability integrated with the pack here for two wheelers and three wheelers in the low voltage category.

The lithium or what I call is a lithium experience zone has been created to get people understand what are the possibilities that we can delve into, what kind of applications can we serve, what specific Indian customer requirements in these areas.

Next slide please. In December, we have launched the Advanced Lithium-ion Technology Hub, where we can actually simulate the cell making process starting from the mixing and coating and drying and subsequently the electrode preparation followed by the cell assembly formation. It's almost simulating the real giga factory situation except that this would be little semi-automated at the research facility level. Perhaps this is the first private corporate sector

establishing a lithium cell making pilot plant. And we've been successful to make 18650 cells and 21700 cells tested on the test bench as well as put some other batteries of cells into the field applications, getting our hands soiled and see, what works best in the Indian condition. Considering that lithium offers a family of choices of chemistries here. So, we need to quickly come to a conclusion as to what works in the medium-term and long-term in Indian context.

Next slide please. Vikram, maybe you can take forward from here about what we have been able to do in integrating the ancillary and associate products with the basic battery pack.

Vikram Gourineni: Sure. Thanks, Vijay. We all are very well attuned and adapted to the lead-acid battery industry. In lithium, more things we have to consider. In a lead-acid battery, for example, we don't require any sort of electronic controls or a battery management system where as in lithium, the case is different. Over the past few years in Amara Raja Power Systems, a sister concern, we have been actively developing low and medium voltage battery management systems in the application areas like two and three wheelers, telecom and data center.

The BMS plays many roles. It has many monitoring and analytics capabilities in order to look at the health of the battery, and even have a little bit of control. But as we look at new business models emerging, the BMS also allows us to add many digital value additions, and actually enhance the value that we're able to deliver to the customer via geofencing, in terms of a fleet model, even shutting off the battery, for security issues, etc.,

Earlier, we referred to the EV charging portfolio that we've been building up. Over the past few years, we've been looking at building a whole host and range of EV charging solutions. So, in-house, we've been able to develop both AC and DC charging. Our DC fast chargers are currently being tested and certified by ARAI, and they'll be available later in the year. However, what's important is, while India as a country is still standardizing the types of plugs, voltages, etc., that the market would accept, we've currently developed a full range of these products, and we're able to deliver both charging and swapping solutions as well as AC charging for residential applications. So, we have this entire range and we would be putting all these pieces together to give an integrated solution to the customer.

Just to show a small illustration, of the entire value chain of the end user of a lithium-ion battery, and even backtracking all the way back to the original source of energy, we can see that this is going to be a pretty vibrant ecosystem. Unlike lead-acid batteries, you have this overlapping of the automotive industry along with the power. When looking forward, we'll probably have a host of charging solutions, the battery management system seamlessly connecting the user to these charging stations, the distribution, transmission, generation of power, with the generational source moving from thermal to renewable energy, predominantly solar and wind. As we bring in energy storage, we can give round the clock renewable power to charge our electric vehicles. Of course, in the future, you have all sorts of platforms, energy selling to vehicle grid. While some of these are more advanced features and coming in the future, at least what we see in this

illustration today Amara Raja Batteries, and it's ancillary units are able to provide all of these services and we have the in-built capabilities to do so.

So, we've talked so far about many of the market drivers that are starting to align and create a great opportunity for us in the lithium battery making. But of course, I'm sure all of you are aware that over the past several months, the government has been talking about this PLI scheme which has now been publicly made available for all to see. With an outlay of close to Rs.18,000 crores over the next 10-years, we believe that both market and policy drivers have aligned very well and create that ideal opportunity for us to invest behind lithium at this time.

I would invite Vijay to probably give a little bit more detail as to how Amara Raja would view these schemes.

Vijayanand S.: Thanks, Vikram. I think this is now a commonly known knowledge, but from industry perspective and from Amara Raja perspective, I have to say that this is a scheme we are all waiting for quite some time. In a larger sense, I'm happy with the way that the scheme proposals have come out finally. In some sense the ball is put back into the industry court now. And I know there is a lot of interest in many players in this. What's probably very key to focus on here is how fast can we get on to the mandated value addition of 60%. While that's not entirely in the control of cell manufacturers who are going to make investments, I think they have to strongly collaborate with other value chain investors in the upfront value chain in terms of materials, and also look at how to have an integrated manufacturing facility. That's something that excites us definitely. There's also a bit of a demand risk that we need to look at and see how to calibrate the capacity growth from a demand perspective. The FAME II scheme amendments that have been made a few days ago gives a sense of comfort that the government is taking all steps necessary to ensure that at least till the threshold level the demand is catering. In my sense, in two wheeler and three wheeler, if we can get at least one out of four or one out of five vehicles as the tipping point of population running on the roads, I think the consumer sentiment and consumer preference will catch up. Currently, vehicles that are being made are at the low end of the performance spectrum. They need to go up in terms of the power acceleration, range, the speed of recharge, and many things. That I think the industry and the development is in the right direction. I'm pretty hopeful for the next two years we will see significant changes coming in to ensure that electric vehicle is both affordable and attractive to the users.

Well, I think that's all we have got. We probably have spent a reasonable amount of time giving a picture of what's there in our mind, what's that we are thinking right now. If Jay is on the call, I would like Jay to make few remarks before we open the session for question-and-answers. Jay?

Jayadev Galla: First of all, let me apologize, I think this C Meeting software or platform, whatever we're using, it's the first time we're using it and we seem to be having quite a few technical difficulties. So, let me apologize for that to all the people who are viewing from the investing community. And Welcome to this Investor Meet. I'm very happy to be interacting with you at this very historic moment for us in our company in so many different ways. Really, we're looking at two major

narratives that seem to be emerging together and coordinated together which we expect to produce outstanding results. One is, of course, the Energy and Mobility story which all of you have seen presented by Delli, Vijay, Harsha and Vikram, and the other is, of course, the succession planning the generational change that's happening in the organization.

Coming to the Energy and Mobility story, you've seen that there's two very important parts to that. One is, of course, the lead-acid piece, which we are looking at. After being involved in this industry for more than 30 years in the lead-acid battery industry, we believe that we're at a very opportune time for us to look at global expansion and value maximization. I think the presentation that Harsha has made clearly shows that we are very confident about the future of this technology at least for the next couple of decades as long as there're IC engine cars on the road, there's going to be a market for lead-acid batteries for starter batteries. As he also mentioned, even with the growth of the electric vehicle market, in the passenger car segment and other segments, every electric vehicle today also has an auxiliary battery, which is lead-acid battery and is serving the purpose of the auxiliary battery, even in electric vehicles, while lithium-ion is used for propulsion and the powertrain, all of the electronics onboard, which are increasing dramatically day-by-day, are powered by the auxiliary lead-acid batteries. So, we believe that the future is bright for lead-acid, and at the same time, huge opportunity is in front of us in lithium-ion, is something we certainly want to take advantage of. We believe we have a lot of strengths to build on including our knowledge of battery applications, whether it's a lead-acid or lithium-ion applications, whether in telecom or in UPS segment, or in many other areas where we are currently using lead-acid batteries where there's going to be some penetration of lithium-ion taking place, we're already very familiar with these applications, where we have very strong relationships with the customers, we have a great reach in terms of our sales and service network across the country and in our focus markets, we have a very recognizable brand that we can build on. These are the strengths that we expect to utilize when we build our lithium-ion and new energy business as well. The market size in which we're going to be competing is also going to be dramatically different over a period of time, we're going to see that, as the electric vehicle revolution plays itself out across the world, the size of the lithium-ion battery market is going to dwarf the lead-acid market at some point of time. And we certainly don't want to be left out of that. And we're very keen to pursue that.

Coming to the second narrative, which I spoke about, which is a succession planning narrative, we have our chairman, who's the Founder-Chairman, who's been at the helm of affairs since the founding of the company 36-years ago, has decided that he's ready to retire from active business, and start spending more time and devote all of his time towards focusing on our Rajanna Trust, which is our CSR arm. Many of you may know how serious we take our CSR activities. We have been very active on this front right from the beginning. Maybe on a different call, we can talk more about that, I don't want to spend too much time. Other than the fact that we continue to donate 2% of our profit towards CSR not only as mandated by the government, but we've been doing this for more than 20-years, even before it was legally required. And that money has always been something that the chairman has taken personal interest. And I think a lot of villages have benefited in Chittoor district with our CSR activities. And he wants to take that up full

time, which means that I will be coming in as the Chairman for the group for the time being, for the Amara Raja Batteries as well.

And with our foray into the New Energy business, we have our CEO, Mr. Vijayanand who has been playing that role since 2016, is moving in as President of New Energy. And we have, of course, Harsha and Vikram, who have introduced themselves to you, coming in as the next gen of the promoter family, after having been very well groomed in the group, across businesses and in related businesses for them to understand the group and also our future plans. Both of them have been leading this strategy development of Energy and Mobility for the last several months. So, it's a very good alignment of stars for us, I would say, where these opportunities, and next generation coming into really spearhead these opportunities, gives us both the energy and the motivation to take on projects like this which are having long gestation periods. And I think the future looks very bright. I'm very excited to be meeting all of you and to be able to share these plans with you.

Now, we'd be happy to take any questions that you may have. Thank you.

Moderator: Ladies and gentlemen, we will now begin the question-and-answer session. The first question is from the line of Paul Simon from Spark capital. Please go ahead.

Paul Simon: You've clearly benefited from the partnership with Johnson on the lead-acid side. So, considering the tremendous amount of global R&D that has gone into all parts of lithium value chain, whether it's cell chemistry, pack, BMS, why have you decided to go alone starting from scratch, rather than partner with an established player.

Jayadev Galla: Let me clarify, because I think you may be mistaken, it's not that we have decided to go from scratch and do it on our own. We are right now on a partnership search and we are exploring partnerships with various organizations. What we've done on our own is more of R&D effort to understand the technology. We've set up a pilot plant, we've taken the technology license from ISRO, not that, that is the battery and the cell that we want to commercialize. But just to get our hands dirty and to understand the technology, and get our people to get that head start so that when we do start working with a technology partner, we're not starting from a zero base.

Paul Simon: Thanks. That's helpful. So, I look forward to that. And what kind of parameters are you looking for in a partner and what kind of partnership does this entail? If you can just give some rough colour there.

Jayadev Galla: See, one thing we understand is that in this space, unlike lead acid technology, the technology cycles are going to be much shorter. We have been watching this for more than a decade now. Going forward also you are going to move from lithium-ion to maybe solid-state batteries, and then to something else, and then to something else. So, the technology life cycles are going to be shorter. So, we have to plan our technology strategy in such a way that we are able to maintain that flexibility and that agility to move along with those cycles. So, we are thinking in that direction. As far as the lead acid battery is concerned, it's been around for almost 100 years, and

we expect that it may outlast lithium-ion cycle as well. So, that's our assessment. Vijayanand, would you like anything further to that?

Vijayanand S.: Yes, I think the question around the business model is not fully answered, so this one aspect as to what's the kind of value chain that will be built up and what role cell manufacturers can play, pack assemblers could play and what OEMs want to do vertical integration, both on the forward side of the backward side. I think the technology piece, obviously, we will be very keen to associate with the global leader on that to see that we are future proofing our technology. But we need to soil our hands even to be able to choose who is the right partner for us, for that is the effort we have been putting in for the last two, three years.

Paul Simon: And considering that there is a sizable investment involved, how would we look at it from the capital allocation perspective, would it be more leverage or would it be issuing new equity?

Jayadev Galla: I will let Delli get into that. But before that, let me just say that, the way we are looking at it right now is that we would be able to manage the startup capital. We are a debt free company. I think the startup capital is not something that's going to be difficult for us. But as we scale up, at that time we would have to be looking at various ways to raise capital without diluting the equity in the existing company. That would be our endeavor.

Delli Babu: Actually the lithium investment would demand amounts over the next 5 to 10 years for the capacities that we will have to add based on the demand signals. But considering the current financial situation of Amara Raja Batteries, which is absolutely unlevered as of today, and is generating good amount of free cash flows, roughly to the tune of Rs. 300 crores to Rs. 400 crores every year after the investments that we make in lead acid battery business, will be good enough for us to meet these investments, because these are going to be modular investments and they are not going to be in a single stroke. So, in that sense, if we were to go for a moderate leverage on balance sheet it should be possible. I think the investments are well within the reach of Amara Raja Batteries Limited to move into these new initiatives.

Moderator: Thank you. The next question is from the line of Ronak Sarda from Systematix. Please go ahead.

Ronak Sarda: So, I had a couple of questions, I think it was partly answered in the previous question as well. So, my question was, in the pilot project have we tried developing both the cylindrical and pouch cell batteries? And I mean, do you have any idea on the cost competitiveness as compared to the other players? That is the first question.

Vijayanand S.: The pilot facility that we created has the capability to make the cylindrical, prismatic and pouch cell. Obviously, the form factor will be determined based on end application. But since this is an R&D effort, we wanted to get our hands on all the form factors and look at the relative merits and demerits of both on the manufacturing side as well as on the performance side. In terms of cost benchmarking, we track the global cost parameters very closely. There are various projections available for future. Since it will take a bit of a gestation period for us to get into commercial manufacturing from now, we need to look at the future roadmap of the cost trends

and then ensure that whatever kind of design that we ultimately arrive at, or the kind of manufacturing facilities that we set up, we'd obviously have to benchmark with the cost targets. For example, the latest BNEF report do talk about a weighted average cost of about $137 per kilowatt hour at the pack level. But the lowest point has already gone below $100 per kilowatt hour. And there are predictions for 2025, predictions for 2030, I think those numbers keep changing every year when the survey is taken up. So, we are pretty alive to those challenges as well. The government is trying to make sure that the domestic manufacturers are competitive, at least for the domestic market. But eventually, we need to be having a competence at the global scale, and that would be our endeavor to see that our execution would be at that level.

Ronak Sarda: Sure, that's really helpful. And the other part of the question was, once we commercialize this so how do we differentiate what part of the business goes into the listed entity and what part of it goes to the other group companies? Because as I understood that some of the R&D work has happened at the group level as well.

Jayadev Galla: Everything that we presented today to you is going to be within ARBL, in the listed entity. Even if some of the work was done by the group earlier, what has been presented to you will be part of ARBL. What would continue to come from group entity, maybe some of the sheet metal, if it's required, or the plastics that are required, those ancillary units which we were talking about which serve the ARBL today, could possibly be supplying some of those things to the new manufactured products as well. But all of the technology, whether it's power electronics or batteries, or any of the other systems that we are talking about getting into would all be part of the listed entity.

Ronak Sarda: Sure, thanks for the clarification. The other question I had was on the electrical component. I think we touched upon this in the presentation. So, first, if you can just help us understand what are the components you are looking for? Have we started commercializing any of the project? Will this be a separate revenue stream beyond the lithium-ion cell and the battery manufacturing?

Jayadev Galla: I am not sure I understood your question.

Ronak Sarda: So, the electrical components which we spoke about, the power electronics, is this a separate revenue stream we are looking at beyond the cell manufacturing and the lithium-ion battery assembly?

Jayadev Galla: Right. That would be like the charging centers, the swapping centers, various parts of the system that would be required even along with the battery, battery management systems. Vijayanand, would you like to maybe expand on that a bit? Or actually since Vikram is coming from the power electronics side, maybe Vikram can expand on that further.

Vikram Gourineni: Sure. Thanks, Jay. Great question. So, when I said that we developed a lot of these capabilities across the group, the intent was to kind of slowly migrate all of this talent into one team, which is this new energy team. So, in addition to the battery and the battery packs, we have the BMS

capabilities or other software solutions that we are putting together. As I mentioned earlier, we have a full range of EV chargers, both on the AC and DC side. So, in terms of a standalone revenue stream, yes, it's very possible. But we are also looking at how to, as much as possible, sell completely integrated solutions to the customer. Just using one example, in the telecom space, as we see more emergence of 5G and small sites, we would not be looking to only sell battery packs to those customers, but even a complete DC power backup solution.

Moderator: Thank you. The next question is from the line of Sandeep Kothari from East Main Capital. Please go ahead.

Sandeep Kothari: Regarding the inorganic opportunities, what are the areas you would be looking for and how important it would be for the 15% to 17% growth for lead acid, which you guys talked about? And what sort of a capital would be allocated towards inorganic?

Jayadev Galla: See, right now, actually I would want Harsha to answer this question. I think he has been working very closely on this strategy with me. Just to hear it from him, he is going to be leading that initiative. So, Harsha, why don't you take this question?

Harsha Gourineni: Sure. Thank you. So, as far as inorganic opportunities, we are already exporting 3 million batteries into the Indian Ocean rim predominantly. Now, we will be exploring inorganic opportunities that would allow us to pick up market share faster. There would be some local manufacturing necessary for areas where duty structures and tariffs are especially unfavorable for exports from India. And we are also no longer bounded geographically by any partnership commitments. So, any good opportunities that come our way, we will be open to explore. That being said, a value really can't be given to that right now, because we are still at the exploratory stage.

Jayadev Galla: Just to add to what Harsha was saying, our focus markets have always been the Indian Ocean rim because these are areas that we weren't competing directly with our partner earlier. And also, because of the economies of reach made us competitive in this region. But if we have to grow our market shares further, we have done very well in some markets where the tariffs are low. Like we have been the market leader in Singapore now for quite a long time, recently we have become market leader in Malaysia, after their tariffs actually came down we are able to become the market leader even in the aftermarket in Malaysia. But many of the countries were not able to increase our shares because of tariff barriers and other constraints. So, we are looking to first prioritize expansion in the Indian Ocean rim. So, whether it's in the Middle East or Southeast Asia, we still have to decide. But whether that means having a good M&A opportunity, we would be open to it. But if we are not able to get the right target for an M&A, we are not averse to setting up a Greenfield plant, since we already have quite a good demand in this region.

Sandeep Kothari: And if you could comment on the 15% to 17% growth targets, like do you see the domestic market picking up substantially or export really driving that? Because it's still a small percentage of revenues, how do you sustain that 15% to 17% growth in lead acid business?

Jayadev Galla: Right now we are growing at about 7%, 8%, and we expect that to continue. But the international expansion, as I was saying, we could easily be very comfortable having a 6-million-unit capacity in either Southeast Asia or in Middle East and we would be able to fill 50% of that capacity, even at the get go. So, we would be comfortable having that kind of capacity in this region and that's the kind of growth that we are expecting. That along with the initial forays that we make in the energy and mobility space, we expect that all of this combined is going to get us up to that 15% growth rate. Vijay or Vikram, would you like to add to that?

Vijayanand S.: Jay, I want to make a comment before Vikram adds to it. Even in the last four years when the overall CAGR of the company was around 7%, 8% we had events like OEM volumes going down, then the Corona last year where we have been able to maintain a flat growth. If you isolate and look at the exports, we had as 25% CAGR and sometimes constrained by the capacity or lack of capacity to serve the export markets. But once we unlock that opportunity, I am very confident that we would be able to grow at the similar kind of pace, certain inorganic moves will only add to that. As long as we maintain the domestic market growth significantly higher than what the market growth is, our growth can be maintained at a higher level. I think getting back to 15% to 17% growth is not a problem, in fact, last 10 years CAGR of the company has been around 15%. So, there are ways and means of doing it. And it's a combination of those growth areas that we have not yet tapped into in the domestic market, growth areas in focused export markets and certain inorganic moves, which is what Harsha very clearly captured in his strategy on the lead acid side.

Vikram Gourineni: Let me also just add to that, because we have been neglecting to talk about our industrial battery opportunities. But we are very excited about a new product range that's coming out on our UPS battery line, where we will be the first medium VRLA battery made with the patented punched grid technology, which we expect is going to lead to superior performance and superior quality as well. So, that is something that we expect is going to be a world beating product in the UPS segment. And we haven't really explored beyond the Indian Ocean rim with that product line. But when it comes out, that's something that we will be looking at actually targeting global leadership in that segment i.e. in the medium VRLA segment.

Moderator: Thank you. The next question is from the line of Kapil Singh from Nomura. Please go ahead.

Kapil Singh: Sir, we have seen the leading OEMs like Suzuki as well as Tata Group, some of these talk about investing in lithium-ion technology. So, when you are interacting with some of these leading OEMs, do you get a sense that they would be sourcing batteries from outside or they would be doing it themselves or via a group company?

Vikram Gourineni: Thank you, first of all, Mr. Singh, for the question. I think it's not going to be a uniform approach for every single OEM. I think it's a pretty evolving business model. We are also looking actively in areas and geographies like Europe to see how it's kind of ending up. Where we feel that it will kind of balance out is that many OEMs may start getting into the battery packing themselves due to some proprietary designs and form factors that they would want to integrate into their

powertrains. But we do feel that with the overall demand, when really EV starts hitting significant critical mass, that the cell makers would have a significant chunk of the market and would be able to supply most of the OEMs that way. So, we have a good deal of confidence that there would be a pretty robust relationship in which you need to create plenty of cell capacity. I don't think the OEMs would be covering all of that themselves.

Jayadev Galla: I would also like to add that we need to understand that I think business models are going to be continuously evolving in the segment. How things are today will continue to change. We have seen that even in the telecom battery market over the years, where, who your customer is, has been changing. It was first the OE manufacturers, then it was the operators, and then it was the tower companies. So, we expect that there is going to be a lot of business model evolution and innovation that takes place here. We need to keep ourselves nimble enough to serve that. But if we have a good product, we have a good partner and technology, we think that we should be able to find our place.

Kapil Singh: And so this partnership would also be open to a JV structure or you would only be looking at technology tie-ups?

Jayadev Galla: At the moment, we are not ruling out what type of structure the partnership would take. We first want to go and meet the target companies that have the technology and other things that we are seeking to understand where their mind is, and then we will decide which way to go. We certainly don't need the money, we believe that we can execute this strategy without a financial partner, but we are not averse to it.

Kapil Singh: Okay. And lastly on the PLI scheme, whosoever wants to be in the business will need to bid for PLI right away, right? They cannot wait for four, five years and then take a call. So, in that sense, initially, we could have a much higher capacity than what may be required, at least for next three, four years.

Jayadev Galla: Possibly. First of all, it's going to take a couple of years to implement the plant. The plant, just because we win a PLI scheme doesn't mean that the capacity is going to be in place within three to six months, it's going to take a couple of years to get those plants in place, by which time the market would have further evolved. In addition to that, our strategy is, the biggest risk in my opinion is the demand risk in India, the domestic demand risk. But the strategy we are taking is to get to a globally competitive scale as quickly as possible, which we expect to be in the range of 8 to 10 gigawatt hour type of plant. So, we are going to endeavor to get to that size as quickly as possible, so that we can compete for global business also and not be just tied to the Indian market. If you look at the capacity additions that are happening globally versus the global demand projection, there will be a shortage of batteries and lithium-ion cells is what is being forecasted today.

Moderator: Thank you. The next question is from the line of Joseph George from IIFL Securities. Please go ahead.

Joseph George: So, the question that I had is on the PLI scheme. So, the notification that the government has put out says that the minimum size that is prescribed to bid for the PLI scheme is about 5 gigawatt hours. And in the context of India, obviously, that sounds like a big number. So, what I wanted to understand from you is, one, what according to you is the CAPEX that is required to build a plant or capacity of 5 gigawatt hours, which is the minimum number prescribed by the government? And once you have a hang of that number, given your size with respect to your balance sheet and revenues, etc., would Amara Raja be willing to take that big a plunge?

Jayadev Galla: Yes. As I was saying just before that we are actually not just looking at 5 gigawatt hours, but we would want to get to somewhere between 8 to 12 gigawatt hours as quickly as possible, minimum 8, probably more like around 10 gigawatt hours is where we expect that we could be having a globally competitive cost that we can compete for global business. And in terms of cost of the project like that, it's really a moving target. How big do we need to get to, to become globally competitive? Today it's at 8 to 10 gigawatt hour range. If there's innovation in manufacturing processes, that are continuing even today, maybe that threshold could come down also, we don't know. So, we have to be watching that first of all. And second thing is that the cost of equipment also could be changing over time. But if we were to look at today, if we had to set up that kind of capacity with the current state of technology and everything else, it seems to be in the range of about $1 billion to set up a capacity of 10 gigawatt hours. So, that's the kind of broad ballpark number that we could be looking at. And our board is aware of the scale of investments that would be required and they are certainly supporting those types of investments. Though we don't have specific project approvals in place, the strategic direction, knowing fully well what that means in terms of scale investments, the board is clearly aligned on that.

Joseph George: Understood. And in the context of Amara Raja's current revenues and current balance sheet size, do you feel $1 billion is for 10 gigawatt hours, but even if you have to stick to the government's minimum prescription, which is 5 gigawatt hours, it would be $0.5 billion. Do you think that is something that Amara Raja would be able to think about given your balance sheet size today?

Jayadev Galla: Before Delli answers that question, I would just like to also remind everyone that it's over a period of time, it's not a one-time investment all at once. Having said that, Delli will explain how we intend to do that.

Delli Babu.Y: Today as a business from the lead acid side, we generate about close to Rs. 800 crores to Rs. 900 crores as free cash flow, and then we invest and give dividend out of that particular cash flow. So, even then our net cash flow accretion will be in the range of Rs. 300 crores to Rs. 400 crores. I am sure as the lead acid business gains more traction and growth; I think those cash flows can be further cemented. So, in that sense, over a period of 10 years, considering these CAPEX numbers on today's estimates, as we move ahead, as Jay was mentioning these are moving targets, I am sure it is well within the reach of Amara Raja Batteries with a moderate to leverage of our balance sheet. Today, our book net worth is around Rs. 4,000 crores, so with that kind of a balance sheet size, and with this kind of a free cash flow accretion, I think over a period of 5 to 10 years, mobilizing that kind of money is not insurmountable challenge. At the same

time, there are other possibilities as we move into this journey, which can be explored further in order to ensure that all these projects are well funded and at the same time, the balance sheet is not stressed. So, we are very clear that the financials of projects what we will take, will be well within the parameters, and the balance sheet will be moderately leveraged as and when required.

Jayadev Galla: Just to remind everyone, we are currently a debt free company.

Moderator: Thank you. The next question is from the line of Raghu Nandan from Emkay Global. Please go ahead. It seems there is no response from the line of Raghu, we will move to the next question that is from the line of Jay Kale from Elara Capital.

Jay Kale: On the capital outlay and into the previous few questions, you know, historically you have been a company who have been investing around Rs. 500 crores per annum on the lead acid business. Now, going forward, now you have spoken off, of course, the capital outlay extending to the lithium-ion giga factory, as well as future lead acid inorganic expansion as well, in the Indian Ocean rim. So, in a sense, from your priority basis how important is the expansion on the lead acid battery in organic side for you? As also, at what point of time will you kind of stop expanding on your lead acid battery business domestically, because eventually like you mentioned in the presentation as well that this lead acid business will kind of flatten out after maybe say, five, six years. And maybe two wheelers could be a little earlier. So, how do you plan to kind of balance between expansion on the lithium-ion side, as well as at what point do you plan to keep a lid on the investment on the lead acid, domestic organic side?

Jayadev Galla: We foresee that there's going to be a good demand for lead acid batteries, at least for the next couple of decades. So, our market share on a global level is, I would say, rather insignificant, there's a lot of headroom for us to grow. And at least for the next five years, I don't think that's going to be something that we really need to contend with. So, at least for the next five years we are going to be looking at being very bullish on that side of the business. Vijayanand, you had one chart that you were showing the market, where the growth of lead acid and growth of lithium-ion, could you just show that slide once.

So, while we get that slide up, let me also say that in terms of size of the market, when lithium-ion takes off on the back of EV penetration, it's going to become so large that lead acid market is going to get dwarfed by the lithium-ion battery market size. So, we are going to be competing on a much, much larger market in the lithium-ion side. But there is going to be a steady demand continuing for lead acid. We won't be having to expand capacities to the level that we are expanding lithium-ion, but the demand is going to be a stable demand which we can continue to benefit from. This slide will make it more clear to you once we get that out there. Vijay, could you just explain this graph?

Vijayanand S.: Yes. See, what we are looking at, at this point in time basically the slide is looking at the capacity or demand patterns for both lead acid and the lithium. And the lead acid is at around 500-gigawatt hour and is expected to grow in single digit globally. Whereas lithium is really taking off, not competing against lead acid. I think that's a very key operative understanding here. Lithium is

not growing by competing with lead acid, the lithium is growing on account of new applications and new markets getting created. Electric mobility was never the forte of lead acid, the energy storage integrated with renewable energy and other things are again other applications that are coming in, but predominantly driven by electric vehicle demand. But like Jay said, today, Amara Raja has 15 gigawatt hour and probably India has a market size of roughly around the 60 gigawatt hour of lead acid demand in the country, globally it's 500 gigawatt hour. So, what we are talking about is, Amara Raja has about 3%. Now with the lead acid either slowing down or coming down, down the line, it's possible that there is a significant amount of consolidation that's going to happen globally. I am sure there will be some good stressed assets that will be an opportunity for us. The motive power which has never really took off in India is a significant opportunity outside India as well. So, Mr. Kale, when you ask the question in terms of priority, I don't think our investment decisions will be trying to look at competing between these two things, there is take off that we need to have on the lithium side, on the new energy opportunity and there is something that needs to be consolidating our position in the lead acid side in domestic, but definitely accelerate our international revenue from the markets outside India. We will calibrate proportionately how much spend that needs to be put behind led acid if we are to grow it at around 15% CAGR overall. And we definitely have plans to look at how to enhance our investments and carve ourselves a good place on the new energy spectrum in India. I think new energy will be largely focused on domestic opportunities, whereas lead acid will have to think global. I think it's a long answer, but that's a good question to really address.

Jayadev Galla: Slide seems to be back on the screen.

Vijayanand S.: So, I think what I talked about, you look at ARBL at around 15 gigawatt hour in India out of the 65 gigawatt hour of the demand. I think the EV and lithium started changing the capacity and volume terms into gigawatt hour in India otherwise it was typically million-amp hour. But in the equivalent parlance, lead acid is around 60 gigawatt hour, 70 gigawatt hour of market size here, and we hold about 20% to 25% of that market size today, whereas lithium is growing fast globally and will probably cross around 2025 in volume terms, in value terms probably that intersection might happen much earlier. Not sure if that's helpful Mr. Kale, but I thought that was an interesting question.

Jayadev Galla: So, we expect that consolidation will take place in the lead acid market and we want to be part of that consolidation process.

Moderator: Thank you. We will move to the next question that is from the line of Nitin Arora from Axis Mutual Fund. Please go ahead.

Nitin Arora: Two questions there. One, I think just delving more on what the previous participant asked you, sorry I didn't understand the answer. So, basically, the question is that, when you look at on the passenger vehicle side, where, let's say, the Maruti's owned, the bigger OEM owned partner already having a plant here, I am sure they would be also thinking of putting another, if they want to put in PLI, because now what we understand the game is on the forced investment,

because if anybody don't do investment, if someone else do it and market changes, then it's going to be a problem for everyone. And Korea players like Hyundai and Kia is any which ways a good source globally. So, in India, they are taking from other third parties as well. But they would also look to team up. So, given that we have never made a battery, I understand we said you will do a tie-up and all, but even the product testing and all will take a lot of time. So, how confident are we or what are we trying to do to make sure that these OEMs does a tie-up with us, which is the same question what I am trying to ask, I think the previous participant also was trying to ask that, how you make sure you get those volumes in? That's number one.

Number two. The second question is that you talked about putting, I think, somebody asked a 5 gigawatt and you are saying you want to put a 10 gigawatt to become globally competitive. When we look at, and I am just sharing the examples of what we see in Korea and China, top three are more relevant owing we have many battery players and all. But in both the markets, top two or top three are relevant. Whether it's a LG or a Samsung, or an SK Innovation or a CATL, they had about closer to 30 gigawatt to 100 gigawatt of capacity and make about 6% margin on that. So, on 10 gigawatt how we become globally competitive, if you can throw some light that would be really helpful? Those are the two questions. Thank you.

Vijayanand S.: Surely. I think pretty insightful questions. And I think these are all things that we were very seized with. Let me give you a sense of it. Even if LG, Panasonic, CATL are in the scale of 30, 40 gigawatt today, and I am sure they are going to invest a lot more. What we are talking about is a manufacturing facility per location or manufacturing facility as a building block. Because the scale efficiencies on the conversion cost side gets limited beyond a point, there are diminishing returns beyond that. And even on the strategic sourcing contracts that you need to have, I am sure there are more and more sources of supplies that are evolving in this scenario. Just a sense of it, today maybe globally the capacity is about 300 gigawatt hour, utilization is around 60%, 65%, but growing at a significant pace. By 2030 the forecast is about 2,500 gigawatt hours. So, we are going to see if these predictions are right, going to say 7x to 8x growth in a 10-year period, which means there are to be a lot more sources of supply that need to evolve. And in that sense, 8 to 10 gigawatt hours should be able to give us a decent negotiating bargain to be able to establish strategic sourcing. And on the manufacturing side, the scale gets limited. Even in lead acid, if you put up a 6 million automotive facility, you derive all the scale benefits of running it. Anything beyond that, it will be a replication of that. So, on the global competitiveness, that's one aspect of it.

The other question that you have talked about is how are we going to find our customer relationships in this? I will have to spend a minute here. In the next five to seven years, the demand is largely going to be driven by two wheelers and three wheelers segments. I am not too sure if you can really see two wheelers and three wheeler OEMs getting consolidated the way they were getting consolidated on the ICE side, it's going to be a lot more fragmented. And there will be a lot more new players that will be coming in. Every 1 million of two wheelers would require about 2 to 3 gigawatt hours of battery requirement. And depending upon how fast the adoption happens, if you are making around 20 million, 25 million two wheelers in this country,

even at that rate 30% adoption would mean 5 million to 6 million two wheelers moving on the direction. It can only get better than that because that's what we hear as predictions from everybody. So, even a 5 million two wheelers means you need about 10 to 13 gigawatt hours of battery capacity required. Add to that three wheeler and the four wheeler fleet, now whether it will happen by 2025 or whether it will happen by 2027 is only a question of when and not if. It is unlikely that these players would have backward integration into making cells themselves. They would look for strategic relationships. And at this point of time, I don't see any reason why we can't place ourselves as one of the strategic cell supplier, particularly with government supporting on the domestic manufacturing value chain. If we market demand goes up to 25 or 30 gigawatt hour, we need at least three or four giga factories in this country coming up by then and giving a five-year period for that. May be a little optimistic, but I think we need to be really optimistic in here, calibrate our capacity growth accordingly.

So, in the sum of it, if the total demand is 100, even if 30%, 35% of that is backward integrated by certain OEMs with their global relationships or their own investment, I still believe that 60% to, 65% of the market will be open for other people. And we fancy our chances pretty strong. There are some critical things that we need to do, some very strategic issues that we need to resolve. But I am absolutely sure that we would be able to get those things sorted out in the next couple of years and be ready for that. I know there are risks associated with that but there are probably bigger opportunities around it.

Nitin Arora: Sir, just last one. Thanks for answering that. When you and your partner puts up everything together, so just to give you an example, the question is more from a changing technology. So, we saw the largest player globally in EV market, again in the passenger vehicle side, suddenly started insourcing rather than outsourcing. I mean, he's not insourcing everything. But what is his patent and what is his technology in batteries insourcing now. And outsourcing guy, the battery maker is in a flux, because of the change in technology, let's say, from LFP to the solid state. And their R&D spends are I think if the cumulative I do it for many companies is just the R&D spend for these global outsourcers, the battery makers.

So, how do you make sure that when you and your partners will put up plant here, how will you assure that the risk to the changing technology, and I think this question been asked more on the balance sheet side, in terms of capital allocation, in terms of R&D, don't you think it becomes really stretch full given the almost changing dynamics of the chemistry in the battery part? If you can throw how will you assure that the risk will be covered? Because for him also, apart from your partner perspective, apart from the market and demand, that would be the major lucrative part, which is for you as well, given the existing business you have. So, if you can throw some light on that, that would be helpful. Thank you, sir.

Jayadev Galla: That's a very good question. And I would say that, you know, the decision is made at the board level, again, I would just like to remind everyone that we have not approved specific projects to go ahead with, we have approved a general strategic direction. And as we start talking to potential partners, and understand more about it, and we would be putting a business case

together and a business model together, and getting that specifically approved. And at that time, I think answering all of these questions would be much easier. At this stage, I think it would be a little early to give a very definitive answer to what you are asking. Now, having said that, I will ask Vijay to respond to you.

Vijayanand S.: Yes. On the technology side, I think at this point of time there are multiple new technology proposals that are coming on the landscape, solid state battery being one of that, certain innovations on the anode chemistry being the other aspect that we need to keep in mind. And then there are quite a few innovations on the manufacturing process technology. So, in our scouting around for the partnership, we will definitely look at for future proofing the technological roadmap that we have, and the cost roadmap that's important. So, obviously, the choice of partner that we would have to choose, we will have to take these into considerations. All said and done, whether it is Tesla or Panasonic or LG that you are talking about, certain amount of flexibility and certain amount of agility to adapt to the changing technologies, is an inbuilt risk in this. A lot of it depends on which segment of the Indian industry is scaling up. For example, if you look at solid state battery, many people talk about that being good for very high performance cars. I am not too sure in India when we will get to a stage where we need a solid state battery to power a two wheeler or a three wheeler in this country. Maybe we would probably see that at the very niche end, but the foundation demand of logistics solution that we are trying to solve, transportation problems that we are trying to solve in the Indian context could require a set of technologies and chemistries before you talk about going to the next level.

So, in our interaction with NITI Aayog and many policymakers, this has to be at the core of it, you can't get swayed by what's happening elsewhere and continue to be uncertain about what you are targeting at. We have a problem of mobility to be solved, we have an opportunity to provide the transformation to e-mobility, and urban mobility is our core issue. And urban mobility is very clearly characterized by both people and the material logistics. Those problems are well defined and we just need to find good solutions for that. I am not too sure if that answers your question, but we are happy to catch offline if that's something that you still want to have certain certifications.

Jayadev Galla: I think when we have a concrete business proposal, we will be going back to the board for approval. And at that time, we would be able to answer these questions much more clearly.

Vijayanand S.: I just want to clarify that it's not of, at this point of time, lack of clarity. It's about the choices we need to make based on choices that are available.

Moderator: Due to paucity of time we will be able to take the last question, that is from the line of Hitesh Goel from Kotak Securities. Please go ahead.

Hitesh Goel: Sir, just elaborating on previous question, why would LG and Panasonic, Samsung, these bigger guys will not set up the giga factories themselves? Why do they need to tie-up with Amara Raja or Exide for that matter? I mean, they are also getting a PLI scheme, right, and they have global sourcing of raw materials, they can set up their own units.

Jayadev Galla: Vijay, you will have to clarify whether they bought the bid documents or not. I am not sure about LG and Samsung, whether they bought the bid documents or not. But it's not just LG and Samsung, we were looking at the map the other day, and there are almost 50 manufacturers who are setting up new capacity around the world right now. So, there are quite a few people in this space that could be potential partners. And all of them may not be ready to come in and participate in this market on their own, but would prefer to work with a partner like us where we have a good brand already in place, we have a good reach across the country, we have good relationships with the vehicle manufacturers already. So, there are strengths that we bring to the table. Maybe a Samsung or an LG who have those strengths already may not find us attractive, but I think there would be many partners who would. So, we are confident about being able to secure a good relationship.

Vikram Gourineni: Just to slightly supplement this. When we made our first quantum leap in the company's history, we entered automotive batteries. At that time when we were going around and hunting for all the different global leaders and the partners, the first response we got in the late 90s when we met Johnson Controls, India was not on their map. So, today, when you look at the kind of capacities being added, already existing in East Asia being added to North America, being added to Europe, we are talking about a 50-gigawatt addition in India. And where the rest of the world you are seeing 100s, and Vijay was saying that there's a target to add almost 2,500 gigawatts over the next few years. So, it's not so much that these global majors that you mentioned cannot invest in India, but the attention is probably spread elsewhere. And this is not quite as attractive for them at this point of time. So, we feel that we would be a pretty ideal partner for any of them.

Jayadev Galla: Yes, it's a very good point, Vikram. Even when Johnson Controls, when we tied up with them, they were busy expanding in South America and Europe and elsewhere, where they weren't even thinking about the Indian market. So, we were able to grab that opportunity and get them interested. So, it's a similar situation we find ourselves in today.

Hitesh Goel: Sir, sorry to just elaborate a bit. Denso is already setup with Suzuki, right? And we are also hearing from Tata Motors that they are in advance talks in terms of doing a tie-up, etc. Because OEMs also would be worried about the battery pick up would agree that the global players are far ahead. So, I would be surprised if these global players would have no interest in setting up a factory, frankly. So, let's see this space. Yes, it's interesting and we are glad that you guys have some plans.

Jayadev Galla: Yes, I think Vijay has already actually answered that saying that, in our view, the real penetration of EV in India would likely start more with two-wheeler and then with three wheeler, before it actually gets to passenger vehicles. And how many of those two-wheeler and three wheeler manufacturers are going to get into cell manufacturing, we haven't heard about anybody doing that. So, the market evolution in India is going to be a little different than what we are seeing globally.

Moderator: Thank you. Ladies and gentlemen, that will be our last question for today. I now hand the conference over to the management for the closing comments. Thank you, and over to you.

Jayadev Galla: Thank you all once again, for joining us. I think we were expecting far fewer people to participate today, so we are thrilled that so many of you joined us today and continue to participate throughout the conference. We thank you for your interest and your faith and continued support. And I hand it over to Vijayanand to make the closing remarks.

Vijayanand S.: Going by the number of people who were keen to be part of this presentation and Q&A and the number of questions that we have seen, if it is any indication of the excitement around this area, I think it definitely stands for the evidence of how keenly people are watching this. Our plans are definitely very focused, very clearly committed to what we have narrated in terms of both the energy and mobility strategy. The succession planning is a great opportunity for us to put in real new energy into our thoughts and actions. We will come back to you more frequently in future to keep updating as to what is really happening, key decisions we are able to take as soon as we have some clear approvals from the board, and look forward to a closer interaction. I know Delli is available for many of you in case if you need some offline interaction. Please feel free to reach out to us and we will provide more clarity on that. Thanks again for your patience for almost a two-hour session here. And happy to connect with you all again. Thank you. Have a good day.

Moderator: Thank you very much. Ladies and gentlemen, on behalf for Amara Raja Batteries, thank you very much for your participation. You may now click on exit meeting to disconnect. Thank you.