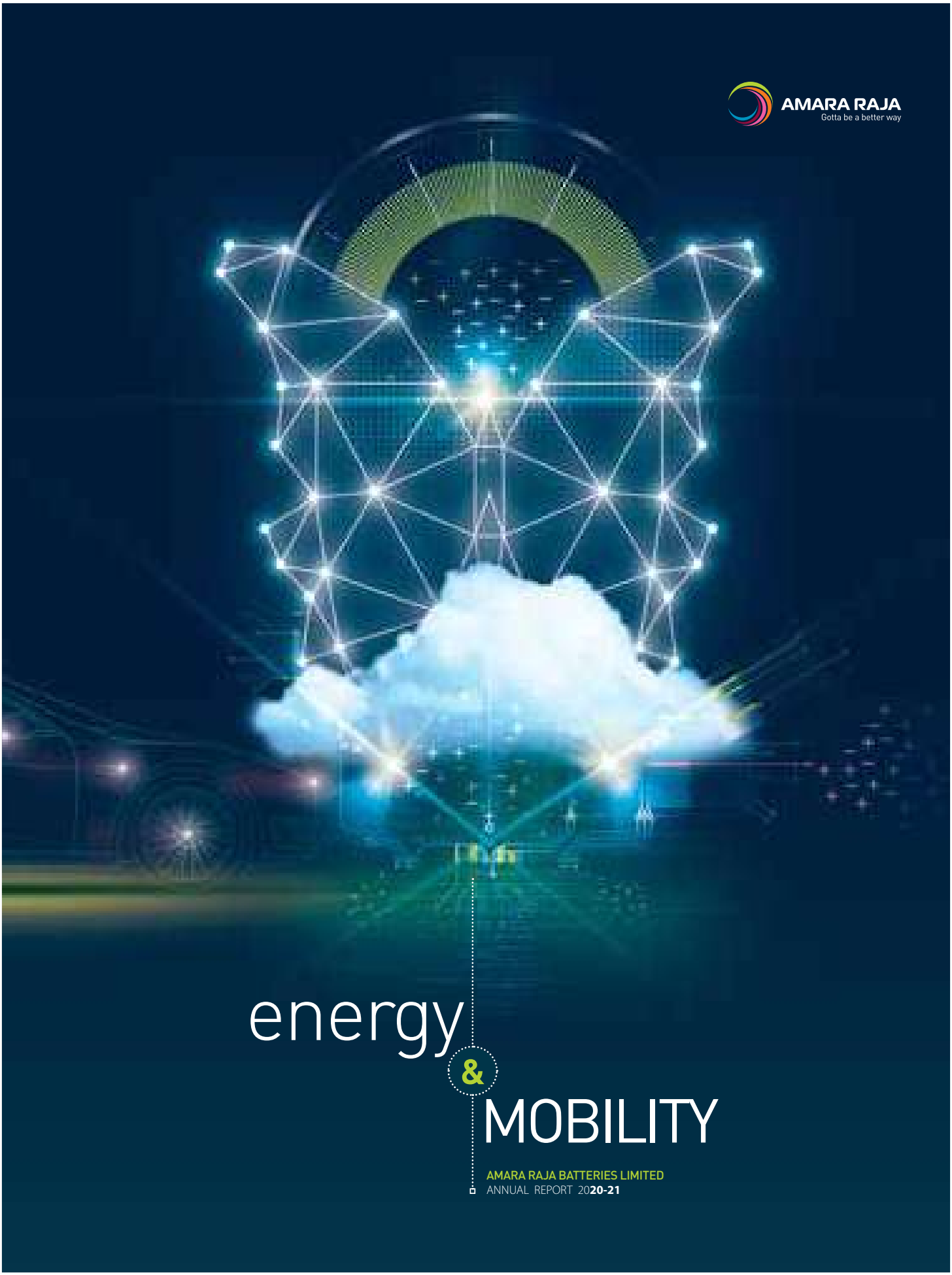
AMARA RAJA
Gotta be a better way



energy & MOBILITY

AMARA RAJA BATTERIES LIMITED
ANNUAL REPORT 2020-21

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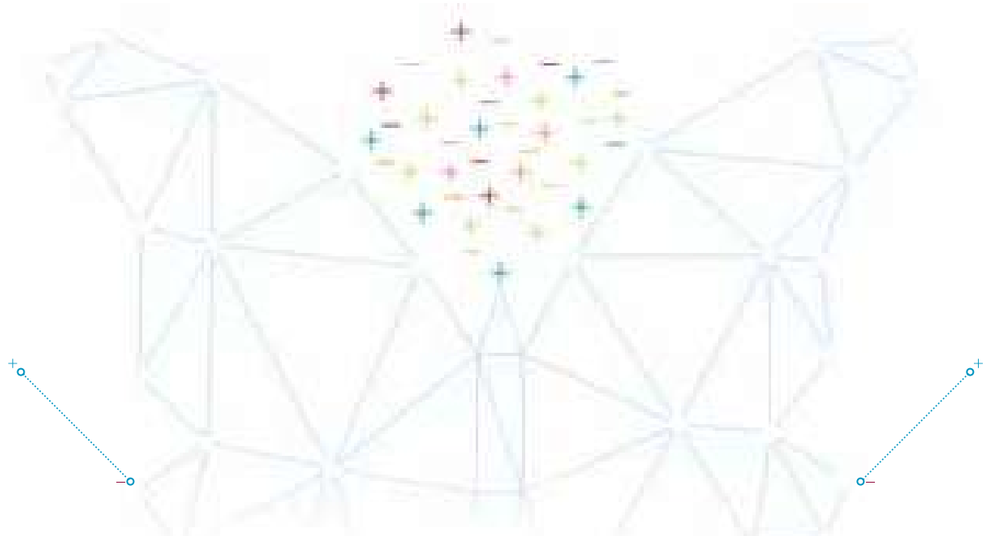


At Amara Raja, we are passionate about the **New.**

New objectives that push us to identify market trends and innovate accordingly.

New opportunities that mandates us to imbibe new technologies and master them.

New demands that drive us to rejuvenate our offering with renewed vigour.

New zeal that demands us to imbibe fresh intellectual capital to deliver better and faster than we have done before.

New aspirations that requests a new guard to steer the organisation to a new orbit.

This New Energy is the foundation of our 'Energy & Mobility' theme which will drive us to ensure that we continue to remain at the forefront of what we do.

VISION

Through **The Amara Raja Way®** and through enduring progressive partnerships we will be a Global Leader in Batteries and Battery Technologies and a dominant player in the Indian Ocean Rim

CORE PURPOSE

To transform our increasing spheres of influence and to improve the quality of life by building institutions that provide better access to better opportunities to more people… *all the time*

CORE VALUES

INNOVATION

Innovation to us is proactively rebelling for better ways of doing things leading to newer possibilities

EXCELLENCE

Excellence to us is continually enhancing our performance to consistently produce outstanding results with lasting impact

ENTREPRENEURSHIP

Entrepreneurship to us is leading with courage and conviction to convert gaps into opportunities, create wealth and contribute to growth

EXPERIENCES

Experiences to us are what we create for our stakeholders, which makes them feel part of something special, leading to endearing relationships

RESPONSIBILITY

Responsibility to us is the total ownership of our thoughts and actions in every situation to achieve maximum common good in the best interest of Environment, Society, Customer, Supplier, Employee and Shareholders

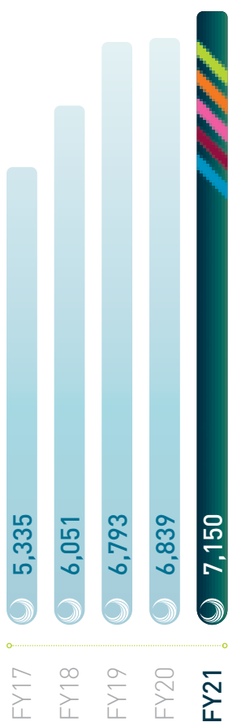
AMARA RAJA
Gotta be a better way

Key Performance Indicators

AMARA RAJA, turned headwinds into tailwinds to enable it to rise above the prevailing challenges. A comparative, five-year summary of key financial performance indicators highlights the Company's ability to sustain its momentum. It's the inherent energy within the organisation that keep its performance upwardly mobile.

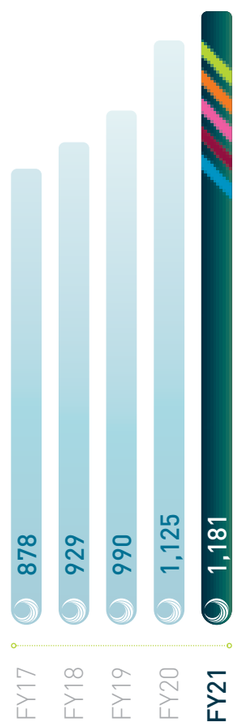
Revenue
(₹ crore)

7.6% CAGR



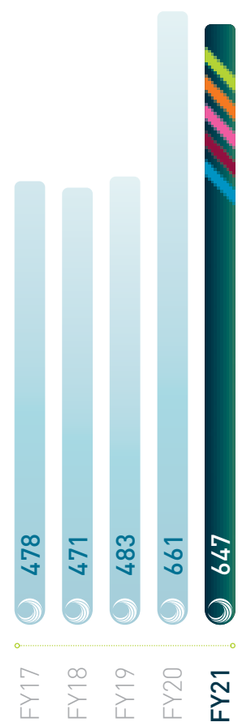
EBITDA
(₹ crore)

7.7% CAGR



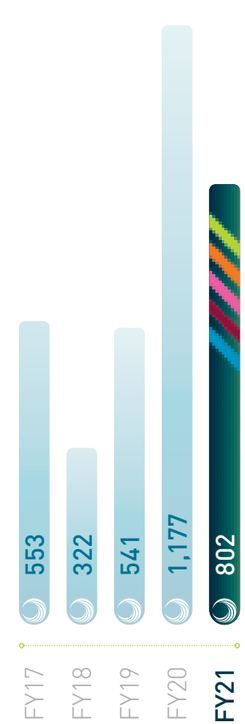
Profit after Tax
(₹ crore)

7.8% CAGR



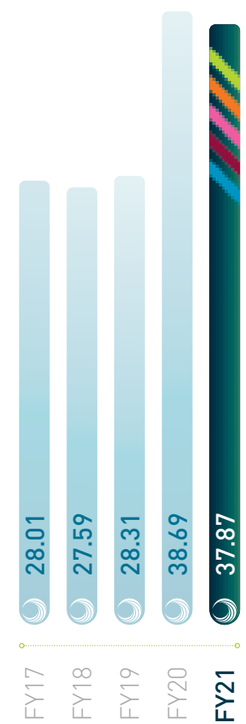
Net Cash from Operations
(₹ crore)

9.7% CAGR



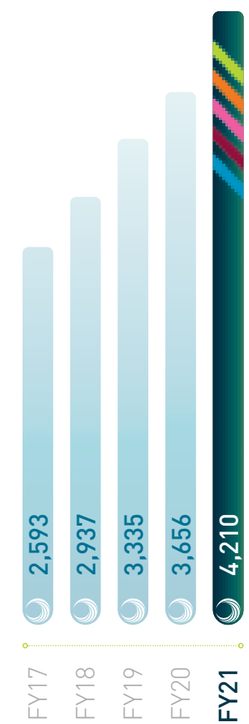
Earnings per share
(₹)

7.8% CAGR



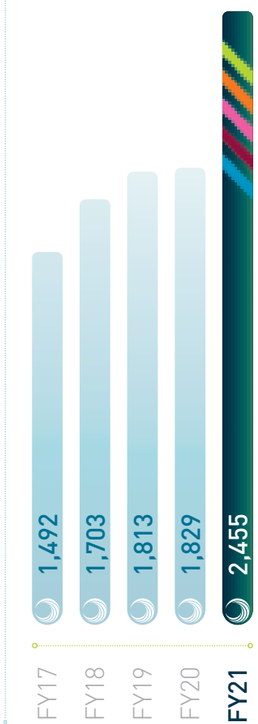
Networth
(₹ crore)

12.9% CAGR



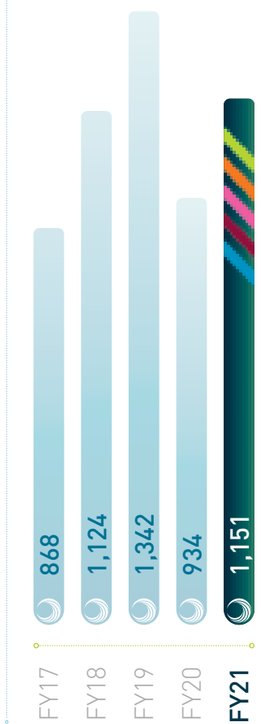
Net Fixed Assets
(₹ crore)

13.3% CAGR



Net Current Assets
(₹ crores)

7.3% CAGR



‘The pandemic period gave us, **the leadership team,** an opportunity to deliberate upon evolving trends in key segments that we operate in; ideate on new opportunities in segments that never existed before or are appearing on the horizon.
After intense deliberations, the team zeroed in on adopting a transformative approach. We call this narrative as the “**Energy and Mobility Theme**”...’

Mr. Jayadev Galla
Vice Chairman & Managing Director

DEAR SHAREHOLDERS, We are very happy to engage with you through the Annual report to deliberate on the satisfying progress and exciting prospects of your Company. FY21, was unprecedented for the world at large. Lives and livelihoods, enterprises and economies were severely impacted. Moreover, the pain continues as the virus mutants continue to plague nations across the world, in varying proportions.

While the world, in unison, is working towards progressive resurgence, the race between the virus and vaccine will guide the economic journey ahead.

India, too, suffered significantly owing to the pandemic. Thankfully, the segment that we operated in coupled with the resilience and agility of our team ensured that we steered through FY21 relatively unscathed. We reported incremental positive growth both at the top line and the bottom line in FY21.

More importantly, the pandemic period gave us, the leadership team, and an opportunity to deliberate upon evolving trends in key segments that we operate in; ideate on new opportunities in segments that never existed before or are appearing on the horizon. After intense deliberations, the team zeroed in on adopting a transformative approach. We call this narrative as the *"Energy and Mobility Theme"*.

Energy & Mobility: in our business space

Our strategic edifice is balanced on two pillars - (1) Value maximisation of our existing Lead Acid Business and (2) New Energy Business, which will be our new growth engines.

The emergence of lithium as an alternative energy storage technology opens up exciting growth opportunities. Hence, we are convinced that the New Energy platform will provide substantial thrust over the coming decade

In addition, there is a strong conviction on the long-term potential of the Lead Acid Batteries business. The vital role played by lead acid technology across a variety of applications provide significant growth opportunity in the domestic and international markets.

Further, we also recognise that there exists synergistic and exciting growth opportunities between these pillars, which widens our opportunity canvass further.

Lead-Acid Value Maximisation: Having worked on and built expertise in the lead-acid battery space for more than three decades, we believe that we are at an opportune position to seek global expansion and value maximisation.

The global market in FY20 was estimated in the range of US$38-42 billion, of which 66% was Automotive and 29% Industrial. In India, the market size is about ₹ 36,500 crore.

Amara Raja enjoys very strong positions in the Automotive (OE and Replacement) and Industrial battery space (UPS and Telecom). In other Industrial battery applications such as Inverter, E-Rickshaw and Motive Power, we realise that we have some headroom for growth. Although we see lithium penetrating in these domains, we are carefully calibrating different options and disruptions to be able to adjust to these trends.

Automotive segment: Global automotive sales, during the pandemic, expectedly nosedived. But are witnessing a V-shaped recovery. Most geographies are expected to be firmly placed on the recovery path by 2023. In India, passenger vehicles sales that dipped in the last two years is expected to witness a strong rebound over the medium term. These trends suggest promising prospects for the Company.

By 2030, India is expected to experience an accelerated adoption of electric mobility at varying degrees across vehicle categories - rising from about 6% of the on-road vehicle population to about 33% in 2040. Even as India transitions to e-mobility, Lead-acid battery demand will continue to grow alongside the ICE vehicle. Moreover, the growing traction of Electric Vehicles (EV) will further enhance volumes for lead-acid batteries. This is because it will have a new application - as an auxiliary battery in the EV.

Industrial segment: Lead-acid will continue to be strong in international industrial markets, despite lithium gaining traction. There are significant opportunities in Europe in UPS and Telecom applications. For Motive Power, lead-acid batteries continue to be the work horse and the preferred choice, a trend that will continue going forward.

In the Indian context, lead-acid battery demand will continue to remain robust in certain segments including telecom which would witness an annual growth rate of 8-10% into FY25.

The Data Center market in India, although currently nascent, promises exciting prospects. Since 2014, India's Data Center market has grown by 520% (against global average growth of 100% over the same period), albeit on a smaller base. Interestingly, this trend is expected to accelerate going forward as leading corporate have announced large investments in Data Center infrastructure over the coming years. Further the government's proposed data centre policy will also augment the growth. To supplement this, UPS volumes are expected to grow at ~7% into FY25.

In closing, we estimate that the demand for Lead-Acid batteries will continue to grow in for the current decade; post which we could see some flattening followed by a gradual decline.

While the word decline would ring 'alarm bells' in the minds of shareholders, the reality is that it provides a window for value maximisation - the numbers highlight our optimism. Amara Raja's current output is about 15GWh; the global demand stands at 490 GWh. We have considerable headroom for sustaining our growth momentum.

Our blueprint: Our roadmap comprises multiple milestones. We will take you through them.

One, the Board has approved the setting up of a lead recycling plant. This investment will partially secure our critical input, optimise costs and strengthen our commitment to evolving environmental regulations.

Two, on the Automotive side, we will launch AGM Batteries for both ICE and Micro Hybrid variants. We plan to introduce Smart batteries for auxiliary applications in EVs with additional features such as predicting battery maintenance and its replacement.

Three, on the Industrial side, we will deploy the Advanced Multi-Stamped Grid technology, a continuous plate making process which will provide higher wattage even as it reduces the battery weight. As a result, our products will gain an edge in the domestic and internationally markets. Further, our digital solutions to remotely monitor battery bank installations and implementing hybrid battery energy systems will help us widen our product and solution portfolio for industrial customers.

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.

Four, we will also consider establishing a local presence to strengthen our position in our international destinations. This would help us in entrenching our brand and products in those markets better. After having gained a healthy global presence, we would consider potential inorganic opportunities to accelerate market share acquisition.

Going forward, we expect to achieve a topline growth of 15-17% over the next five years, driven by organic growth in the domestic market and pushing international expansion.

New Energy: In the storage battery space, the focus on e-mobility has put the global spotlight on lithium-ion technology, although lithium-ion batteries have a plethora of other, equally critical, applications.

At Amara Raja, having studied this New Energy piece well, we are establishing a meaningful presence in this space. While lithium-ion cell manufacturing will be a central part of our plan, we have built a blue print to provide integrated solutions to our customers, the largest segments being the electric vehicle sector, renewable energy markets and the energy storage systems.

The expected ecosystem: The overall lithium demand over the next five years, even in a base case scenario, is expected to be about 30 GWh demand coming up by 2025, and close to 150 GWh in 2030. The Government's recent PLI scheme. The Government's recent ACC PLI scheme, with an outlay of Rs 18,100 crore to support setting up 50GWh of domestic manufacturing, appears to be the right policy at the right time. It provides a significant impetus for building a domestic supply chain for lithium and other advanced cell chemistries to serve the fast-growing EV and renewable energy sectors.

When we put this into perspective, we believe that both market and policy drivers have aligned well to create an ideal opportunity to invest behind lithium at this time.

From an EV penetration perspective, the electric two wheelers and three wheelers are seeing a faster surge than other automotive categories. We believe that this definitely has a huge part to play in the decade ahead. Within the four wheeler segment, over a 10-year period, in FY30, we see numbers that we cannot ignore; a pretty sizable opportunity is building up.

At Amara Raja, in addition to pursuing opportunities with the lithium cells and pack products, we are looking at introducing a range of power electronics, such as EV chargers, electronics that go into energy storage systems, to give an integrated solution customised to the Indian context.

Li battery packs: We have started a pilot scale facility for manufacturing of Li battery packs, to support three wheeler and two wheeler customer requirements; this unit can be ramped up to about 200 MWh., because the low hanging fruits of electrification appear to be more visible 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 have half a million miles accumulated on that so far. We also have a technology collaboration agreement from ISRO, who have built the cell technology for space applications to start with.

Li Cells: In December, 2020, we launched the Advanced Lithium-ion Technology Hub, where we are able to simulate the cell making process. We have successfully made 18650 cells and 21700 cells, tested them on the test bench as well as put some other batteries of cells into field applications, getting our hands soiled to see what works best in the Indian condition.

Battery Management systems: In our lithium venture, we have factored in many other aspects as well. Over the past few years Amara Raja Power Systems, our Group Company, has actively developed low and medium voltage battery management systems (BMS) in the application areas like two and three wheelers, telecom and data center.

We have established BMS capability, integrated it with the pack for two wheelers and three wheelers in the low voltage category. The BMS plays many roles. It has monitoring and analytics capabilities to look at the health of the battery. 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.

EV charger portfolio: We realise that India, unlike other developed economies, has not been able to standardise the types of plugs, voltages, etc. In keeping with this reality, we have developed an entire charging portfolio that will be able to deliver charging and swapping solutions as well as AC charging for residential applications.

When looking forward, we will offer 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 the electric vehicles.

In a nutshell, many of the market drivers are starting to align and create a great opportunity for us in the great opportunity for us in the new Energy space.

Summarising our business prospects

We are convinced and confident about the future of the lead-acid technology at least for the next couple of decades. Our optimism is based on one reality - as long as there are IC engine cars or electric vehicles on the road, there is going to be a market for lead-acid batteries.

At the same time, the emerging trends in electric vehicles and renewable energy space presents a compelling opportunity for lithium-ion batteries and associated products and solutions. We have laid clear plans to leverage our strengths to tap into these opportunities.

We believe we have a lot of strengths namely knowledge of battery chemistries, segmental applications and evolving trends there in, very strong customer relations and a recognisable brand. We are confident that as we build on these strengths year-on-year, we will achieve our goal of delivering superior value to all our stakeholders.

Energy & Mobility: in the organisation

There is a second narrative, which is our succession planning blueprint. Our Founder-Chairman, who has been at the helm of affairs since founding the Company 36-years ago, has decided that he is ready to retire from active business, to invest his mind, space and energy in Rajanna Trust, our CSR arm.

We, at Amara Raja, take our CSR activities very seriously, since inception of the Group. We have been investing ~2% of our profits in social activities every year for the last two decades even before it was mandated by the Government. That is because our Founder Chairman is a social entrepreneur at heart. He firmly believes that an island of success cannot survive in a matrix of misery. The success needs to be shared with the community for it to be meaningful. Hence, I will be stepping in as the Chairman of the Group, and of Amara Raja Batteries as well.

Our CEO, Mr. Vijayanand who has been with the Group for more than two decades will be moving in as President of New Energy vertical. His rich knowledge and experience will be critical in navigating the Company to greater heights in this challenging new space.

In the promoter family, Harshavardhana Gourineni and Vikramadithya Gourineni, will be assuming leadership roles after having been very well groomed in the Group, across related businesses for them to understand the Group and also our future plans. They have been leading the Company's strategy development of Energy and Mobility for the last several months.

It's a very good alignment of stars, where the next generation will be spearheading these opportunities, giving us the energy and the motivation to take on challenging projects. Our future definitely appears riveting.

As we continue our journey of scaling new peaks, we would like to thank the Board for guiding us to execute our responsibilities in the best possible manner. We would like to extend our gratitude to each and every member of the Amara Raja team for their relentless efforts in making it a positively disruptive brand in the storage battery space.

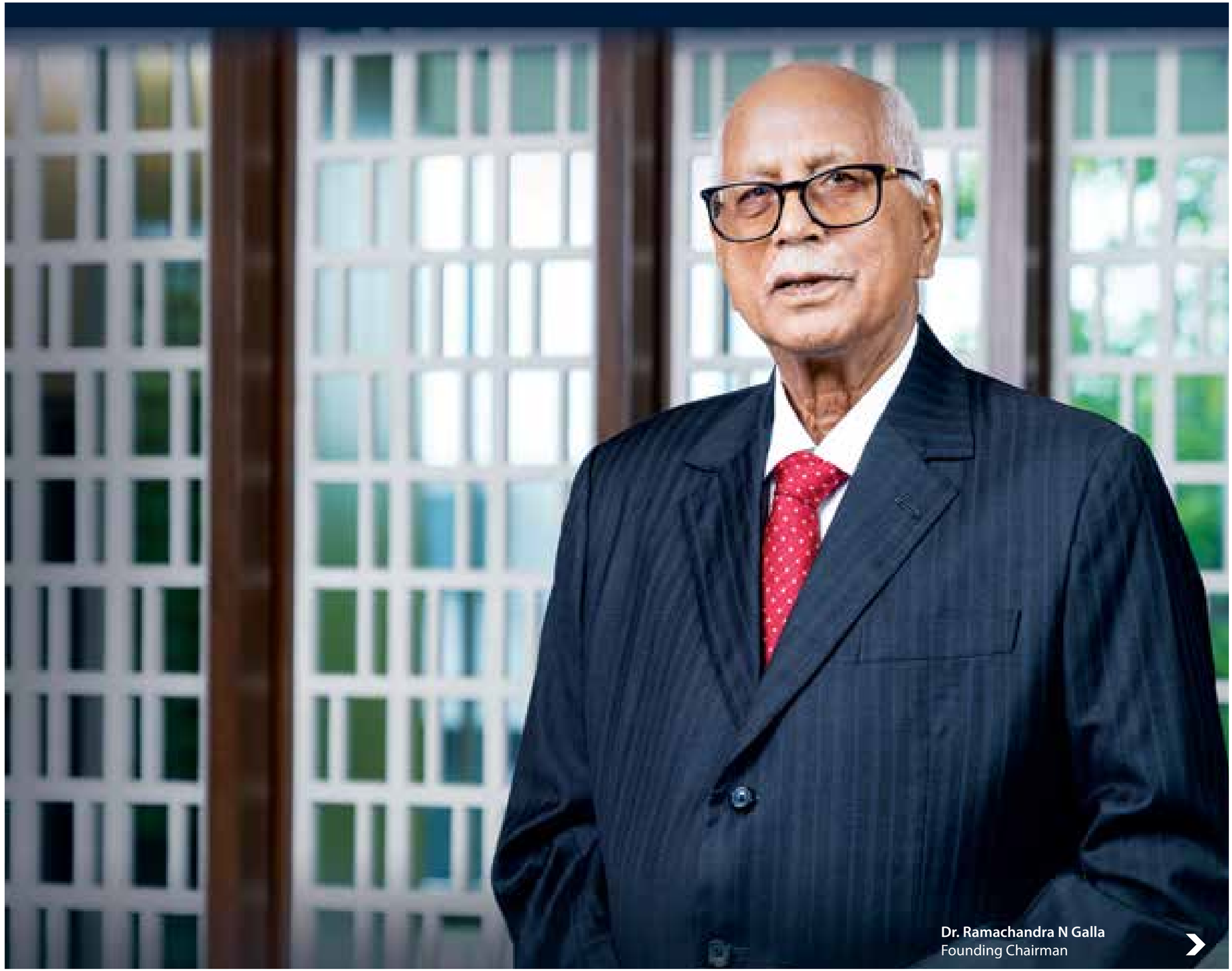
We would also thank all our stakeholders, bankers and government authorities for the support and assistance they provided throughout our journey.

AMARON™... Yes that is the green battery!

You have known the battery. You have used it. You know the brand. You associate with it.
But do you know the man behind this?

He is Dr. Ramachandra N Galla,

the social entrepreneur



Dr. Ramachandra N Galla
Founding Chairman

A MAN OF MANY VIRTUES. One who put underprivileged Indians before himself. One who uplifted India onto the global storage battery map. One who single-handedly and successfully altered the journey of the Indian storage battery industry.

Man of the soil

SON of farmer, in true intent emerged as Son of Soil. The glamour and success stories of the US has smitten many a youth since decades and still do; they yearn to settle in the 'Land of Opportunities' with the objective of living a life of luxury. But not for Dr. Ramachandra N Galla.

Having worked in the US for more than a decade, the longing for the home town, drew Dr. Ramachandra N Galla back to India. The irresistible urge to participate in India's growth soon seized him. He embarked on the journey of setting up one of India's largest integrated manufacturing location for advanced lead-acid battery systems across the globe. Living upto the ethos… **For India. In India. By India.**

Man of steel

AT 50 year, generally one would be readying himself for retirement (retirement age being 58), and life in the second innings with family and friends. But not for Dr. Galla. At 50, he decided to come back from the US to his agricultural roots in Andhra Pradesh to set up two entities, Amara Raja Power Systems Ltd at a project cost of ₹ 2 crore and Amara Raja Batteries Ltd at ₹ 20 crore, both with just 12 employees. This sure must have needed some strength of conviction.

Intent on making a difference to the underdeveloped area of his home district, Chittoor, Andhra Pradesh, by ushering modern development, he set up the units in this far flung area where there was proper road connectivity, infrastructure or utilities. **He persevered as child to secure his education. He toiled once again to secure the future of other Indians.**

He walked many-a-mile to his school. He laboured to create his units. He has meagre resources then. He did not have the basic infrastructure when he started out on the venture. Yet, he toiled to create factories, start operations and leave a legacy that would hopefully ease the lives of thousands after him. **All of this at 50!**

Man for society

DR. Galla firmly believed entrepreneurs had an underlying responsibility towards empowering underprivileged people and promoting social goals. Accordingly, the first manufacturing facility and office was established in remote Karakambadi village, 12 km from the town of Tirupati. Moreover, he invested in people from the neighbourhood. He handpicked them. Trained them. Introduced them to global technologies. Believed in them. He partnered with local communities. He grew them. They in turn grew the Group. An ₹ 22 crore investment, in less than four decades has become an ₹ 10,000+ crore Group.

He started the food business to support farmers in the area. His electronics venture became a means of empowering women in the area. And through Amara Raja Batteries he trained his people to walk shoulder-to-shoulder with global battery makers. The idea he seeded has, over three decades, transformed the lives of thousands.

The hardships of his childhood kindled the flame within to create communities that are economically and socially vibrant enough to stimulate growth and become self-reliant. To ensure that his dreams saw the light of day, Dr. Galla established the charitable trust Rajanna Trust under the aegis of the Amara Raja Group.

Being very close to his heart, Dr. Galla, worked painstakingly, through the Trust for uplifting neighbouring villages by providing basic amenities such as water for irrigation, road connectivity, other basic infrastructure, educational institutions and healthcare facilities. There is not a single area bereft of his touch. For the neighbouring districts, **Dr. Galla has been, and will always be the provider!**

Dr. Galla, through his life believed and articulated his mind through a single statement **"To be an Entrepreneur is to be a social worker first…"**

He lived all these years by this ethos.

Now, he has decided to dedicate his life to society. Through his single-minded focus to Rajanna Trust. He will continue to energise people and rekindling their hope for a better life.

Even as he pull out of active business involvement, his ethos will continue to be the beacon for the Group for generations to come. For his belief is enshrined in our Core Purpose.

"To transform our increasing spheres of influence and to improve the quality of life by building institutions that provide better access to better opportunities, goods and services to more people…all the time".

A defining moment

When the old order changeth, yielding place to New.