

“Our role and responsibility is not just about performance and technology. We need to make a difference.”

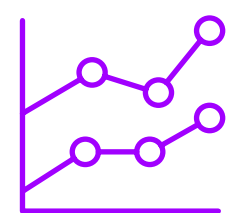
Tarak Mehta

President of ABB Electrification
and Member of the Group's
Executive Committee

March 2022

Electrifying the world while driving energy efficiency

Each month, we speak to a different industry leader about their approach to innovation and emerging trends impacting the sector. For this edition, we have talked with ABB's Tarak Mehta about his take on the state of play in electrification and his predictions for the game changers that lie ahead:



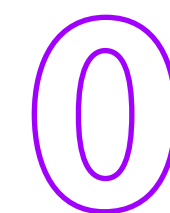
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In conversation with ABB's Tarak Mehta



Tarak Mehta
President of ABB Electrification and Member
of the Group's Executive Committee

The biggest challenges the world faces can only be overcome with a concerted effort from government, industry and society. And ABB has already thrown its hat in the ring—the global industrial technologies and electrification leader is dedicated to innovating and collaborating to push boundaries for a more productive, and sustainable future.

“Our role and responsibility is not just about performance and technology,” says Tarak Mehta, President of ABB’s Electrification business and Member of the Group’s Executive Committee. “We need to make a difference.”

Under Mehta’s guidance, ABB’s Electrification business has boomed at a time when the world is looking to tackle climate change and decarbonize. ABB is responding with a focus on innovation and strong collaboration with customers, partners and society across its entire ecosystem, to develop socially responsible solutions that pave the way for a connected, efficient new energy system for everyone. We talk to Mehta about the future of electrification, how ABB is pivoting to meet consumer expectations, and the need for a new energy framework.

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What one word describes you best?

Risk taker.

From the time I moved to the United States from India, to the opportunities I have had over the course of my career, I've always been challenged and looked for opportunities where there was an element of risk. And so far, it has worked out well. From making acquisitions that nobody believed could provide a good return, to recruiting team members from all over the world, all these things presented a risk and an opportunity. The latest risk is my daughter moving from London to Munich because she saw a great opportunity. Risk taking is something we do as a family, and it's helped me a lot in my career.

Can you tell us about your journey and experience as President of ABB Electrification and as a member of the Executive Committee of ABB?

I joined ABB in 1998 and have held various management positions in the Power Products division in the US, Sweden and Switzerland. In 2010, I was running the Transformers business unit and the board asked me to take the low voltage business and make it the pillar of ABB.

As a result of the investments made and the empowerment given to the team, the Electrification business is now positioned as one of the leading players in its field. It's been a joy, developing this business with support of all my colleagues in Electrification.



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How are you and your team leveraging innovation and megatrends—such as decarbonization, energy efficiency, and electric mobility—to power business growth within the electrification market?

The world is moving towards electricity as its main energy source in order to reduce emissions and decarbonize. An [IEA report](#) that came out a few years ago highlighted electricity use will grow twice as fast as other energy sources. And we can see that transformation today, whether it's heating going from gas and oil to electric, or transport moving from petrol and diesel to electric. The world is shifting to electricity, and that's driving those megatrends. They are also being driven by the fact that we are consuming more data every day, spurred on by the 5G revolution and the digitalization of processes, procurement and services. This will create a huge need for data, and **data centers** will consume more and more of the world's energy.

To prepare, we've just [announced an IPO](#) for our **EV Charging** business. We've invested in that business for a decade and are taking a leadership position. We have also invested in making compelling technical solutions that have led to our number one market position when it comes to direct current (DC) fast charging for electric vehicles. Our new product, [Terra 360](#), enables

four cars to be charged at the same time with one infrastructure, or one car at 360 kilowatts. Not too many cars can take that power at the moment, but we provide that flexibility. We are innovating to make sure the infrastructure is scalable and usable, and that operators and owners can get the most out of that infrastructure.

The grid setup is also evolving. The grid refers to a network of transmission lines, substations, transformers and more that deliver electricity from the power plant to your home and business. The world no longer generates energy in one place, then transmits it through a system to a single consumption point. What's changing is that the infrastructure on which energy transmits itself from generation to consumption is becoming an intersection, rather than a one lane highway. We are helping utility companies manage that new energy flow in more than two directions. In this context, **generation, consumption, and storage** are all important. To give you an example, think of a hotel that will need to provide customers with electrical vehicle charging. If that hotel has solar panels

on its roof, it generates DC power. How does the power flow from one energy source to another? And more importantly, how are we going to take advantage of all that storage that's sitting in the car? If you have millions of cars providing energy, that's energy on wheels—and we need to tap into it. Storage in, for example, electric cars can help solve one of the biggest problems in the world: as we shift to renewables, critics often cite the fact that technologies like wind and solar only produce energy when the wind is blowing or the sun is shining. In order to effectively utilize renewable energy storage is the key solution.

Last but not least, more than 30% of the world's energy is consumed by **buildings**. Most buildings are below five stories and, unless they're big complexes like a hotel, don't have any automation technology. We see a huge opportunity here to optimize energy management, efficiency and consumption.

These are the areas that are driving the technology revolution and presenting high growth opportunities in electrification.

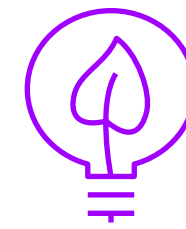
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What decarbonization opportunities do you see that can help industrial companies achieve their ESG goals, while achieving your own? Can you share examples?



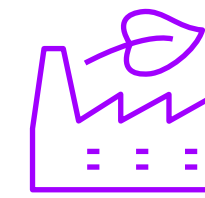
1 Lower-emission innovations

In our distribution solutions business we've been working on SF₆-free electrical switchgear. Electrical switchgear sits below every big complex that you can think of, including stadiums and skyscrapers. And sulphur hexafluoride, or SF₆, is a greenhouse gas that is widely used in the insulation that keeps switchgears safe. It's many, many thousands of times more detrimental to the environment than CO₂, so we have been developing SF₆-free technology. Within our ecoGIS range, our "[AirPlus solution](#)" is being trialed globally with utility customers in Italy, Beijing, and the United States. It's the equivalent of moving from diesel to electric cars—but the impact is thousands of times more powerful because you're eliminating a very high emission source.



2 Low-energy innovations

We are also developing products that consume less energy when they are produced, manufactured, and in use—providing energy savings to our customers throughout the products' lifetime. For many of those products we use an open-source innovation concept based on [ABB Ability](#). We attract developers to our platform and let them build applications using our technologies. The open-source platform enables people to experiment and customers and system integrators to use our solutions to make an environmental impact and increase the efficiency of, for example, buildings or industrial complexes.



3 Zero emission factories

We believe in practicing what we preach and are therefore also developing zero emission manufacturing locations with our Mission to Zero program. They are far more technically complex to develop than ordinary zero emission buildings. We're working on that for our own factories, and we're also working with our suppliers and customers to make industrial complexes emission free by harnessing cloud technology and ABB products and solutions.



4 Using innovation to make a difference

Last but not least, one of our primary goals is to use innovation to make a difference and ensure our electrical assets continue to provide our customers and their installations with the highest standards of safety. Our electrical distribution switchgear solution, [NeoGear](#), is intrinsically safer and has a fully encapsulated bus plate system and saves energy by giving off 20% less heat.

Our Electrification team's innovations have won many design and efficiency awards. We want to use innovation to make a difference and ensure the performance standards that we set actually help move our organization, our partners, and society forward when it comes to emissions.

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There are many obstacles on the way to a net-zero world—from changing mindsets to mitigating cybersecurity risks. What is needed to achieve success?

We need an institutional framework that involves collaboration between governments, industry and society. Energy efficiency is a good example. We've seen many cases in history where support from the government—in the form of subsidies, investments etc.—gets things started. Once a certain scale is achieved, the solution then becomes efficient, and consumers can take advantage of it.

For example, in order to optimize customer facilities, we have to solve tricky issues related to who owns the data. The best optimization requires historical analysis, with data from many sources analyzed in a cloud environment. What legal framework allows us to share data while addressing ownership? We need that framework in order to make the greatest positive impact in society.

Technology itself remains a challenge. While lithium ion is a fantastic energy solution, it doesn't have the density for the mass transportation of heavy goods over long distances. So, as a society, we must find that next energy density storage and consumption technology beyond the batteries in order to achieve zero emissions. Alternatives such as hydrogen are being explored. But I personally believe that to solve the challenges ahead, we need a new framework for the kind of high energy required for the movement of goods and people. Government and industry must commit to investing in those kinds of innovations. Not all investments will be successful. But we need government and industry partnerships to try new technologies and take calculated risks. One institution alone cannot make it work.

We must also make long term commitments. We cannot rely on a quarter-on-quarter or year-on-year outlook. We—manufacturers, technology companies, society—need to adopt the kind of 10-year horizon thinking process that led to electrical vehicle technology. Especially when it comes to environmentally significant innovations that reduce emissions and improve quality of life.

Our role and responsibility is not just about performance and technology. We need to make a difference, and a difference that is sustainable for the long term, not just the foreseeable future. And that is a horizon that is less typical in business these days due to the need to focus on the shorter and medium term to respond and adapt to the ever changing global challenges and emerging trends around us.

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Consumers want a fully digital commerce experience and COVID accelerated that. What are you doing to meet those expectations?

The world has changed. Even before COVID, we saw customer needs shifting. Search is almost exclusively done online, and the role of the salesperson has changed as customers have now already researched more before making contact. It means we must ensure our products and solutions are visible on the web through distributors portals or search engines—or really anywhere customers are looking for answers. Thanks to COVID, we have learned that you don't always need a personal interaction to make a multimillion-dollar decision. As a result, we're developing products and solutions that are easy to configure and deploy, using web tools and cloud connectivity to reduce installation efforts and streamline the user experience. Gone are the days where you need to be an electrical engineer to select one of our products. The entire human-machine interface itself has to change in a similar way, for the full digital experience to be successful.

We are ensuring we are always present, whether customers want to buy directly from us or through distributors. Clearly, it's easier if we just operate through one or two channels. But we strongly believe that we should be wherever our customers want us to be.

The final part of buying behavior relates to capital goods companies that buy our solutions as-a-service. For example, protection-as-a-service, efficiency-as-a-service, energy-savings-as-a-service—where we are [investing in AI start-ups like BrainBox](#), whose technology sits on top of building automation systems. We can use their technology to extract data and combine it with what we see in the market, to optimize building automation solutions.

These are a few examples of how we are gearing up for a world where personal interaction is no longer going to be the main driver. Instead, the customer's needs and our ability to articulate the value of our solutions is paramount, from a buying behavior point of view. The biggest transformation ahead for us will involve moving from a capital goods-oriented business model to an as-a-service model.

These are the areas where we are willing to be bold and take risks, as I mentioned at the start. The ability to assess risk, make mistakes and learn from them—and not make too many of them—will represent the difference between success and being average in our business.

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What inspires you?

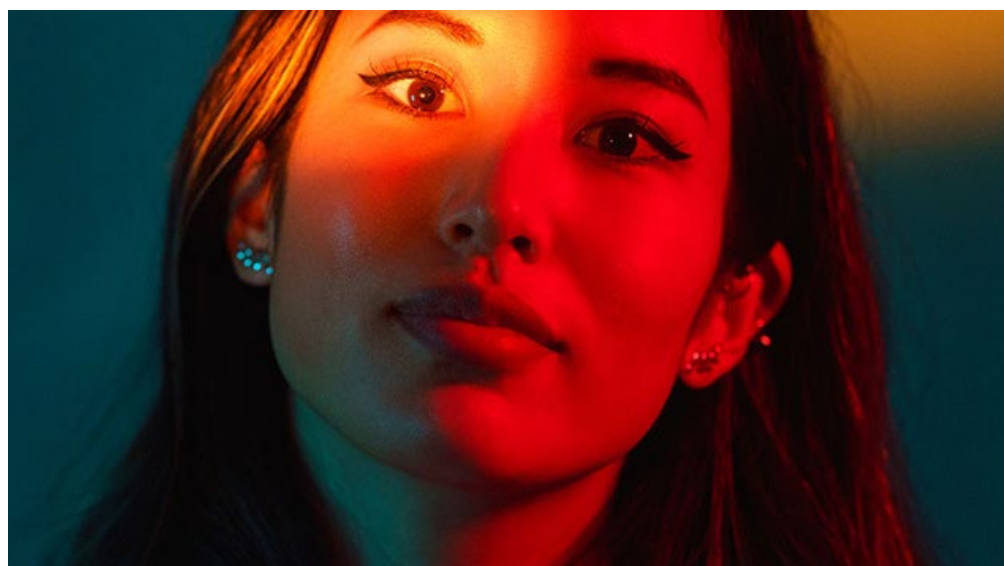
It's great to have billions behind you and make an impact. But I'm inspired by the people who have practically nothing, yet come up with a unique stroke of brilliance, of innovation, of risk-taking, to build something that later looks easy but clearly wasn't. People that invest years of effort, sweat and tears. Those kinds of people, organizations and institutions are, to me, more inspiring. Especially when you think about how much of the world today doesn't have what the rest of the world takes for granted—whether that's access to electricity, water or vaccines. People who make a difference in those areas of necessity are a source of inspiration for me.



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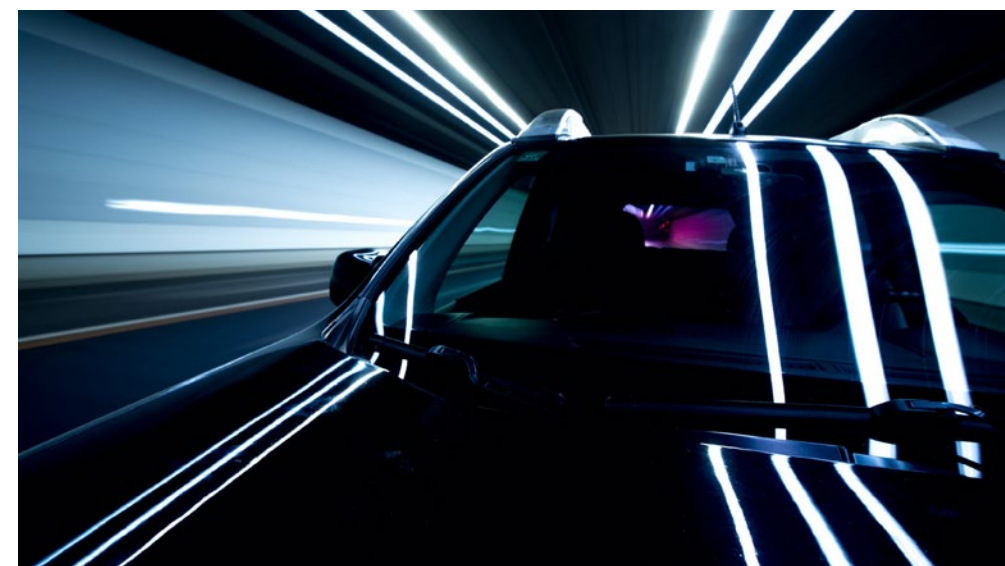
Insights

Perspectives from Accenture experts on topics related to this month's featured interview.



Zeroing in on the new energy consumer

Five pillars that energy providers need to focus on to thrive in the future.



EV charging at scale

Why the platform is key when it comes to business models and unleashing growth in electric mobility.



Shaking up the tier hierarchy

Accenture's Jean-Nicolas Brun on how industrial suppliers can position themselves for a new ecosystem power structure in the automotive industry.

In closing

Consumers, customers, employees, businesses and governments are all demanding companies take sustainability seriously. This trend started several years ago, but the pressure to act was not omnipresent. Now, however, industrial customers and investors expect industrial companies to be purposeful about sustainability, hold strong ethical standards, and operate responsibly in everything they do.

Ready to re-charge your industrial operations?

Opportunities for industrials to lead the way to a lower-carbon future range from introducing electric equipment, business model innovation aimed at satisfying demand for lower-carbon technologies and more sustainable products as well as reorientating supply chains to more circular practices, to boosting the efficiency of their own operations through digitalization, advanced analytics and artificial intelligence.

This quick overview should serve as a thought starter, and source of inspiration, for leaders in the industrial sector seeking to create economic and environmental value for both business and society.

The insights provided by ABB's Tarak Mehta in this edition of The Industrialist emphasize that transformational change which will support a more

prosperous and sustainable future is both urgently needed and possible through innovation in technology, digital solutions and operational excellence. ABB themselves have begun implementing their new 2030 sustainability strategy and taken important steps forward in their ESG priorities—putting them in a strong position to capture future growth opportunities.

Contact me to talk more about the road ahead.

Best regards,



[Thomas Rinn](#)

Senior Managing Director,
Global Industrial Lead, Accenture



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The Industrialist is our monthly digital magazine that puts game-changing perspectives in the spotlight. It combines thought-provoking content and insights, to keep you on top of what's new in the industrial industry.

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