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"ABB Global spends over \$1 billion per annum on R&D."

- Kiran Dutt, President, Electrification India, ABB India

The certified green buildings market size has gone up significantly. So in view of its experience in retrofitting buildings to increase their energy efficiency by using only renewable energy, CW's R Srinivasan spoke to Kiran Dutt, President, Electrification India, ABB India...

Existing buildings can be retrofitted to become more energy efficient by using only renewable energy. For instance, the decadesold Bengaluru Neelamangala factory, which was completely redone, now has a Platinum rating from Indian Green Building Council (IGBC) and 80 per cent of its power is from solar.

Nelamangala Factory certainly was a great story to share with its re-purposed building spaces and its emphasis on energy savings and occupant comfort. And it is equally true that existing buildings can become far more energy-efficient and a classic example of that is our Disha Building, the headquarters of ABB India in Bengaluru. It was an existing building repurposed and is completely powered by renewable energy under RE100. The interiors of this three-floor block were redone keeping the shell, with the latest in energy efficient ArTu switchboards, Emax2 and XT circuit-breakers, metering and monitoring at MCB level. Also

the ABB Building Management System @ Cylon, contributed significantly in energy saving through control of lighting and HVAC. The building uses sunlight very well to keep energy consumption low and at the same time multiple monitoring sensors keep air quality and ambience world class to make those working in the building comfortable. It is always challenging to re-tailor or re-purpose a building or application and it involves working within the space, within the available orientation and still ensure the best-in-class working ambience. As India urbanises and grows, green buildings will become the norm and efficiency, the driver.

In 2022, the certified green buildings organised market size across the top six cities in India was about 270 million sq ft, up by about 46 per cent since 2018. Does the company have plans for such projects in the same Disha?

The company (ABB) continues to invest in all of its facilities and has been doing so every year. Just the last two years saw eight new buildings being built or repurposed. Each of these buildings carries the ABB hallmark of energy-efficiency. Our emphasis remains on providing a sustainable and comfortable environ within the building - one that ensures proper brightness and still utilising natural lighting, proper monitoring and maintaining of CO2 and O2 levels, operating HVAC optimally, water positivity and much more.

> Your views on the challenge, especially in coastal and humid areas, of dampness and dust deposits that affect power circuit boards.

Coastal areas lead to corrosion in components due the high prevalence of salts in the air. This environment demands that products be suitably designed. manufactured and tested for such demanding applications. Not only are metal components to be shielded, but also the electronics that are widely used in switchgears. Our complete product portfolio is manufactured as per IEC standards to work in demanding environments, including the relevant IP standards to avoid dust ingress. For the marine segment, we have dedicated products that can operate efficiently and moreover our products/ solutions are already working successfully in such conditions across India and the globe.

The company products and solutions contribute to six credit points under enhanced commissioning, 18 credit points under optimised energy performance and one credit point each under advanced

ABB Peenya Campus

650 MW decentralised parallel architecture footprint, with true front access for (DPA) UPS solutions offer energymaintenance. MegaFlex helps data efficiency up to 97.4 per cent for centres by providing a hot 92% 552 100% Tonnes of CO2 Renewable electricity saved each year Disha **ABB Headquarters** Ý Equal to the CO2 captured by 27.100 TREES

energy metering and enhanced refrigerant management respectively. So how much does the company spend annually on R&D?

The company continues to have high focus on R&D and ABB Global spends over a billion USD per annum ensuring we deliver latest technologies to our customers faster - keeping safety, reliability, flexibility and efficiency as top priorities. A multitude of technology leading products and solutions have been launched in recent times. The Emax2 air circuit breaker with embedded ATS functionality, Megaflex UPS with the smallest footprint but highest efficiency, IVIE modular switches being automation ready, are but a few examples of innovation and our emphasis on research. However, we will continue to explore the boundaries of existing and developing technologies to bring to customers the very best that it can provide in terms of comfort, efficiency and sustainability.

ABB India's MegaFlex

India and are said to have up to 45 per cent smaller footprint than competing products. Kindly give details as to what extent they will assist data centres and high density computing environments?

MegaFlex is a first-of-its-kind sustainable UPS which is part of our ABB EcoSolutions[™] portfolio which complies with the ABB circularity framework. It has been designed specifically for segments like data centres and critical infrastructure with high density computing environments with highest efficiency and lowest footprint.

MegaFlex DPA provides up to 38 per cent better energy savings versus legacy UPS on marketassociated products due to its superior efficiency (up to 97.4 per cent), reduced direct energy loss, compact dimensions and reduced cooling cost. MegaFlex DPA is the perfect solution for modular data centres with smarter sustainability performance as up to 2.0 MW UPS system unique frame sits in a 4.8 sq m footprint. This gives MegaFlex a superior space-saving ratio with up to 45 per cent less

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pluggable solution based on modularity design concept of 'Pay-as-you-Grow', optimising total cost of ownership (TCO) through sustainable technology. It offers best-in-class efficiency and the ability to scale up to 6 MW with extended frames in parallel, complemented by optimal footprint to fit space-saving needs.

Being a product with circularity compliance, it supports the sustainability goals of all our data centre customers. Importantly, ABB is proud to have designed and delivered MegaFlex DPA for total peace of mind with the assurance that their power is guaranteed by the very best industry-leading, power protection technology in the market.

In view of hospitals and emergency facilities that require continuous power, hazards such as erratic voltage and surges can damage sensors and equipment. Kindly give details if your company (ABB) has worked on backup systems to prevent such occurrences?

We at ABB believe strongly in safety first. It is a license to operate and all our products and solutions are designed with this in mind. When dealing with power, safety is paramount and when it is in context of hospitals and emergency facilities or disaster management centres, it becomes truly critical. For such areas and applications, we have a multitude of offerings. Just the UPS that we recently launched in India, Megaflex DPA, can provide hospitals and other critical infrastructure with a reliable, trouble-free and highly efficient power backup. It can handle power loads in MW and provide critical backup that can be lifesaving. Power conditioning equipment that we manufacture

provides state-of-the-art protection against power surges and dips, and is widely used in fine manufacturing like semiconductor assemblies, etc. A multitude of solutions and surge protections through our SPD portfolio protect critical and vital equipment. Our arc flash detection devices are fast-acting and protect against short circuits that have already occurred and disconnect supply to prevent major fires and electrical mishaps. If there is an electrical problem, ABB will have a solution.

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Kindly share how the company's efforts achieved a reduction of how many lakh kgs of CO2 emissions, resulting in cost savings and the equivalent of planting how many trees.

For over three decades, ABB India's Peenya campus has been a crucial part of the company's success, with numerous achievements under its belt. The campus boasts various innovation centres, global factories, and smart shop-floors for precision product manufacturing. It also hosts remote monitoring centers for connected devices used in Indian industries.

To share your views, write into feedback@ConstructionWorld.in

ABB India's corporate head quarters building, known as Disha, is situated within the same campus and meets the LEED Gold criteria. It was built to maintain the location's heritage and preserve the existing green cover. Disha significantly reduces its environmental impact by eliminating Green House Gas (GHG) emissions from its operations.

The building now receives approximately 92 per cent of its electricity from renewable sources provided by a third party, with the remaining 8 per cent from international Renewable Energy Certificates. This translates to a reduction of around 552 tonne of GHG emissions annually equivalent to the amount of CO2 absorbed by 27,100 trees. Moreover, the 15-acre ABB Pennya campus reduces potable water usage by 55 per cent through the use of intelligent fixtures while 98 per cent of its waste is recycled, bringing it close to its zero-waste-to-landfill taraet. The campus also boasts a green cover of approximately 30 per cent.

Disha uses ABB's Aspect Integrated Building Management Solutions (IBMS) technology, which is a unified platform that monitors and controls critical parameters from any location or city. IBMS uses multiple points, which are equipped with hundreds of sensors - from lighting to HVAC solutions, room controls, safety and security systems, with special CO2 monitors for ambient air auality control in the rooms. This is complemented by a cloud-based SaaS solution known as the ABB Ability[™] Building Ecosystem with active energy and asset manager. Electricals used in Disha are from ABB's portfolio, and with almost 500 connected products embedded with intelligence, the building saves up to 20 per cent on energy costs.