

R&D in sustainable development Technology & innovation hold the key

To make sustainable development an ongoing activity, it is imperative to continuously analyse and improve practices & processes to reduce their adverse impact, if any, on the health of people and environment. Besides, it is equally important to invest in technology and innovation.



Courtesy: LANXESS

■ Dr Joerg Strassburger

Conducting business in a profitable manner, while keeping in view the interests of the society, and minimising adverse impact on the environment is what sustainable development is all about. In today's age of rapid urbanisation and industrialisation, wherein available natural resources are being consumed at an alarming rate, sustainable development is certainly the need of the hour for the society at large. However, businesses and governments need to play a more active role in achieving this target.

Irrespective of the size of the organisation, nature of business and geography, there is an incumbent need for everyone to take up this challenge of developing ways to meet

the future demands, while maintaining the necessary balance in the environment. Issues like scarcity of clean water and unexpected climatic changes across the globe are connected to the well-being of every individual on this planet, and hence these problems can only be dealt with a collective effort, driven by a mass consciousness.

Now that sustainable development is considered to be an essential part of all businesses and development activities, there are few questions that need to be taken into account such as – how to achieve this balance on an ongoing basis? Who/what will be required for an organisation to carry on their efforts for sustainable development? Which is the optimal methodology that offers minimum risk, yet opens a path for constant innovation that is necessary to take this forward?

On a path to sustainability

- ❑ Irrespective of the size of the organisation, nature of business and geography, it is imperative for every company to maintain necessary balance in the environment
- ❑ Every product manufactured must be analysed for the carbon footprint it releases, both during production and application
- ❑ To achieve sustainable development, it is important to invest in technology and innovation
- ❑ Business establishments and the government need to play a more proactive role in sustainable development issue

Understanding the issue

Every product that is manufactured must be analysed for the carbon footprint it releases, or emission of any other potentially hazardous gases, both during its production and application. Industries that use such chemicals to make their products must also evaluate the environmental impact of the final product, besides considering the extent of consumption of the product in the society. The more widespread the consumption, the higher

the risk, hence the evaluation should be more stringent. At the same time, the cost of the product and the calculation of risk assessment should be borne in mind. If the overall cost is higher than the sales it meets, then the process will not be sustainable. So, businesses will have to evolve a methodology in which this process is made sustainable in the first place.

Organisations that do not have scale are unable to focus on areas like risk assessment and environmental impact of products. Nevertheless, it is important to invest in technology, people and processes in order to facilitate continuous R&D. Without this investment, it is difficult for organisations to identify areas of improvement, both in terms of quality and environmental impact of the product. In the context of the chemical industry, safety is an important parameter as well. Safety standards maintained during the lifecycle of the product, product handling, packaging and transport are also vital.

Adopting international practices

For continuous sustainable development, there has to be uniform standards in environmental management, across the globe, and every organisation should be equipped with tools to measure & assess environmental performance and risks in its areas of operation. This should be audited regularly by organisations themselves and then reviewed by a body of global relevance. These guidelines should be based on international industry practices and standards for environmental management & sustainable resource consumption. The guidelines must ensure that these standards are maintained across the supply chain of the business process. Suppliers, vendors, employees and other stakeholders who impact the business should be informed and trained to abide by the same standards. These standards should meet all legal

requirements in the area of operation and should ensure compliance with statutory and environmental regulatory requirements. Overall, organisations should strive to reduce consumption of renewable resources, develop productive ways of reusing resources and recycling the used/waste resources. Health, safety, quality and environment should form the key pillars of sustainable development. This would gradually raise the bar for standards on protection of environment, utilisation of renewable resources, and most importantly, it would foster innovation among the community to come up with safer and better ways of pursuing their operations.

R&D plays a vital role in assessing the impact on environment and developing new ways of minimising that impact.

Technology & innovation

In order to achieve sustainable development, it is quintessential for companies to invest in technology and innovation. Adoption of new technologies and innovation in processes and practices would provide the necessary tools to achieve higher standards of safety, quality and environmental protection. For the chemical industry, it is even more critical to innovate for making products that are high on quality. Besides these, products need to be developed by sustainable means and meet the future needs of the customer.

In summary, there is R&D involved in developing new products, which assure higher performance and are safer for the environment & people; creating more resource efficient production techniques & processes; and new manufacturing technology. This is not all, R&D also plays a vital role in assessing the impact on



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environment and developing new ways of minimising that impact. Overall, R&D is a specialised function that calls for allocated resources in terms of financial investment; infrastructure like laboratories; and qualified people (technicians, scientists, environment engineers, among others).

Ideally, this should be a centralised function at the core of the organisation where every business unit and employee can participate in a consistent manner. New ideas for resource optimisation can come from anywhere within the organisation. Constant assessment, measurement, analysis of impact and controlling the outcome entails sustainable development. Not just the organisation but the entire supply chain dealing with the organisation must be geared up to meet the enhanced standards of sustainable development, starting from its own employees to suppliers and vendors, customers, end-users, among others. ■



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