

# Boost to Biological R&D Activities

In line with the Central government's 'ease of start-up' and 'ease of doing science and scientific research', the Department of Biotechnology (DBT) has recently launched the Biological Research Regulatory Approval Portal (BioRRAP) which will cater to all those seeking regulatory approval for biological research and development activity in the country. Launched as part of the Central government's 'One Nation, One Portal' initiative, BioRRAP will allow stakeholders to see the approvals accorded against a particular application through a unique BioRRAP ID. The portal will help to strengthen the interdepartmental synergies and will also bring transparency, accountability, and efficacy to the functioning of various agencies that are regulating the various aspects of biological research and also issuing permissions. Through this portal, researchers will be able to check the stages of approval of their respective applications for the purpose of getting regulatory clearance. This portal will be generating BioRRAP ID for all the submitted research applications on this portal. Using this ID, stakeholders can initiate further submission processes to the respective regulatory bodies. This portal is only for research-related activities and cannot be used for the purpose of product development. The launch of BioRRAP will have a key role to play to provide more credibility and recognition to such biological

researches. The portal will serve as a gateway and will help researcher to see stage of approval of their applications for regulatory clearances and to see preliminary information on all the research work being undertaken by the particular researcher or organization. Undoubtedly, the launch of BioRRAP will prove to be a huge relief for biological R&D activities in the country in the



long run.

It is a fact that during the last some years, bio-technology has fast emerged as an academic and livelihood avenue for youngsters in India and there are over 2,700 biotech start-ups and more than 2,500 biotech companies working at present in the country. It is noteworthy to note that the biotech researchers, industry and the regulators have done a laudable work during the Covid-19 pandemic in the last more than two years. During the pandemic, it was observed that there was need to link the applications submitted to various regulatory agencies for approval so as status of application may be seen at one place. Further, it was also felt that as

a country there should have repository of the research works being undertaken by the researchers working in public and private sector. This will not only help the country in understanding its scientific strength and expertise but also in formulation of enabling policies to garner the fruits of scientific research. The launch of BioRRAP, a single national portal to track regulatory approvals for biological research in the country, is a significant step by the central government as India is poised to become a global bio-manufacturing hub and will figure among the top five countries of the world by 2025. Also, by the year 2025, the Indian biotechnology industry is expected to cross US\$ 150 billion. At present, India is among the top 12 destinations for biotechnology globally and 3rd largest biotechnology destination in the Asia Pacific region. By 2025, the contribution of the Indian biotechnology industry in the global biotechnology market is expected to grow to 19% from a mere 3% in 2017. Likewise, the Bio-economy's contribution to the national GDP has also grown steadily in the past years to 2.7% in 2020 from 1.7% in 2017 and will touch new heights after 25 years of Bio-economy journey in the Centenary year of 2047. The new portal will give the much needed momentum to the biological R&D activities in the country.

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## Why dehumidification solutions are critical for diagnostic labs

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OVER the years, healthcare sector has emerged as one of the largest sectors in India. Various factors are driving the growth of the sector. The improvement in healthcare facilities over the years coupled with enhanced services and the coming in of the advanced technological equipment has played a major role in strengthening the healthcare infrastructure. A lot of new-age equipment is being used to expedite the process with no scope for error. Along with this, the increase in the income of people has made healthcare facilities accessible to the general public. If we compare our healthcare facilities to the last decade, there has been significant growth and the pandemic has only propelled it further.

For instance, the stagnant mode of life in the current age is a precursor of various lifestyle diseases which has intensified health awareness in recent years. Due to the increase in overall life span too, people after attaining a particular age prefer to go for interim/timely health check-ups. It would be right to say that

healthcare plays a crucial role in the overall well-being of people. With this changing phenomenon, diagnostic is an intricate part of the industry that helps in the early detection of the ailment to provide timely and suitable medication ahead to avoid any serious repercussions in the future. There was a time when people went for tests only after a recommendation from the doctor. But as stated above, given to emerging lifestyle diseases have made people conscious, where they go for tests at regular intervals of time to keep a proper tab on their health conditions. As a result, there has been an exponential rise of diagnostic labs backed up with highly advanced and competitive equipment that helps in giving highly accurate and fast test results. This has all happened because of the technology becoming advanced; helping the industry to work together and benefiting the society at large.

The importance of the diagnostic centre was more starkly felt during the Covid-19 period. The high rate of transmissibility accounted for the exponential spreading of the disease. Looking at the intensity of the

situation along with the deadly nature of the disease, there was an incessant need to increase the frequency of tests and at the same time take proper care to deliver accurate results to seek medical help immediately. Failure in providing correct results could take a toll on the lives of the people suffering from the coronavirus.

Considering the diagnostics, the centres have advanced machines that are very sensitive to the surrounding environmental conditions and given to the complex nature of tasks undertaken by the machines it is imperative to provide diagnostic labs with controlled stable environment to operate optimally for maintaining the accuracy in results.

The instruments in diagnostic centres majorly constitute of electronic components which are acutely sensitive to even the slightest presence of moisture/humidity beyond the optimum level. Moisture is a source of deterrent with the potential to immensely damage the machinery. In addition to having high corrosivity power, humidity is also responsible for condensation on the lens surface that can impair the vision and result in faulty reading. Thus, by intervening with the smooth functioning of the machines it causes recurrent malfunctioning which substantially reduces their life cycle. Along with this malfunctioning can also be responsible for the elevated maintenance cost of these highly expensive equipment. Most importantly, it can meddle with the research process as it can trigger erratic reading due to frequent recalibration consequently compounding to inaccurate readings.



incorrect results invariably impair the credibility of the lab/centre and also put their reputation at stake as the faulty test results brings to question the health and safety of the patients and hurt their faith in the particular lab. This necessitates protecting the machines against uncontrolled humidity and temperature fluctuations. Hence, in diagnostic centres it is critical to maintain optimal temperature along with humidity levels.

To achieve the stable environment conditions, desiccant dehumidifiers must be installed at the diagnostic centres to control even the slightest fluctuation in the humidity level. By maintaining the optimal humidity level, dehumidifiers invariably add to the life of the equipment by substantially reducing their malfunctioning.

In addition to giving erratic readings, moisture menace can even take a toll on the samples taken for testing. It can immensely contaminate the specimen as the collection (culture/stool) samples are inherently vulnerable to get impacted from the environment and require optimum humidity level for storing and testing. High humidity can increase the overgrowth of

bacteria and lead to sample contamination which can impact the accuracy of the test result. Here, dehumidifiers are critical in achieving and providing sterile and hygienic environment through the elimination of high moisture content from the surroundings.

While talking about the issue of humidity in diagnostic labs, it is equally important to focus on manufacturing of these complex and highly advanced equipment. Any mistake at the time of manufacturing is responsible for faulty machines with the ability to create havoc in the lives of patients by giving test results full of error. Moreover, in the recent times people are enthusiastically opting for self-testing kits giving rapid results that can be used at the convenience of home. Given to the rising preference of these kits, it is mandatory to maintain perfect environment in the manufacturing setup. Manufacturers of laboratory equipment recommend maintaining a temperature between 20°C and 27°C and relative humidity between 40 per cent and 50 per cent.

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