

“To achieve our ‘Skilled India’ vision, we’ll train a large number of individuals quickly and to high standards”

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Jayant Singh Chaudhary, Union Minister of State (Independent Charge), Skill Development and Entrepreneurship, Government of India, in an interaction with BioSpectrum in Hyderabad, shares his insights on the various initiatives taken up by the Centre for skill development programmes, boosting self-employment. He exudes confidence that the new BioE3 Policy will give a new direction to the Indian industry, further grounding its roots and boosting its manufacturing prowess to meet the domestic needs and global demands in key areas of pharma, biotechnology and other sectors.



What according to you are the key objectives of the BioE3 policy and how is it going to boost the industrial sector in the country?

The BioE3 (Biotechnology for Economy, Environment, and Employment) Policy aims to position India as a leader in bio-manufacturing and address critical challenges like climate change and resource sustainability. Its main objectives include increasing Research and Innovation, Strengthening Domestic Bio-manufacturing, Promoting AI and Digital Tools, Establishing Facilities and most importantly developing a skilled workforce.

I am quite confident that by increasing research and innovation, the industry can focus on solutions to tackle climate change and reduce carbon emissions. Enhancing collaborations among science, technology, engineering and manufacturing sectors will strengthen domestic Bio-manufacturing. I believe this new BioE3 policy is going to put more stress on encouraging the use of advanced technologies alongside biotechnology innovations and this will promote India in Artificial Intelligence and Digital Tools. This policy will also enable the creation of Bio-manufacturing Hubs and Biofoundries to support scalable production.

Above all nurturing a skilled workforce is very important. This policy stresses developing a talented workforce which is needed to drive innovation and boost the next level of the Industrial Revolution in the country.

What specific initiatives is the government implementing to foster a skill development ecosystem for startups involved in Active Pharmaceutical Ingredients (APIs), Key Starting Materials (KSMs), and bio-pharma sectors, especially in terms of adhering to sustainable environmental norms?

The government is committed to fostering a robust skill development ecosystem for startups in APIs, KSMs, and bio-pharma sectors. To achieve this goal, we are implementing several specific initiatives.

We are launching targeted skill development programmes that focus on the technical skills required for the production of APIs and KSMs. These programmes will incorporate best practices in sustainability and environmental management. In addition, we are partnering with industry leaders to design curricula that meet current market demands, ensuring that startups are equipped with the necessary skills to thrive in a competitive environment.

To encourage environmentally friendly practices, the government is providing financial incentives for startups that adopt sustainable methods. This includes grants and subsidies for technologies that reduce waste and enhance energy efficiency. Furthermore, we are establishing mentorship programmes and incubators specifically for bio-pharma startups, offering guidance on regulatory compliance, sustainable production methods, and innovation in product development.

We are also allocating funds for research and development in sustainable technologies within the bio-pharma sector, encouraging startups to innovate while adhering to environmental norms. Through these initiatives, we aim to create a dynamic and skilled workforce that not only meets industry needs but also prioritises sustainable development in the pharmaceutical and bio-pharma sectors.

How does the BioE3 policy initiative help existing pharmaceutical and biotechnology companies in India boost domestic production and reduce reliance on imports, particularly from countries like China?

The BioE3 policy initiative significantly supports pharmaceutical and biotechnology companies in India by enhancing domestic production and decreasing reliance on imports. As I said earlier, it encourages the establishment of Bulk drug and Bio-manufacturing Hubs and Biofoundries, providing essential infrastructure for scaling up local production.

Additionally, the policy increases funding for research and development, motivating companies to innovate and develop homegrown solutions, particularly for APIs and KSMs.

By promoting the integration of advanced technologies, such as artificial intelligence, the initiative helps improve production efficiency and reduce costs, making domestic manufacturing more competitive. Furthermore, the policy focuses on developing a skilled workforce tailored to the industry's needs, ensuring access to high-quality talent.

Most importantly, the policy emphasising sustainable practices also aligns Indian companies with global standards, enhancing their reputation and attractiveness in international markets, and ultimately enabling them to compete effectively and minimise import dependency.

How does the BioE3 policy specifically encourage new startups in the pharmaceutical and biotechnology sectors?

The BioE3 policy encourages new startups by empowering concerned institutions, universities, and industries to collaborate on transformative innovations. By increasing research funding, establishing bio-manufacturing facilities, and promoting the use of advanced technologies, the policy creates an environment that supports the growth of startups in the pharmaceutical and biotechnology sectors. This approach helps foster innovation and enables startups to efficiently address market needs while contributing to sustainable practices.

How is the government addressing the shortcomings in skill development across various industries, particularly in pharma, biotechnology, and life sciences?

The government recognises the critical need to enhance workforce skill development across all sectors, especially in key areas like pharma, biotechnology, and life sciences. India has already made its mark in the global generic market, but we require deep research skills to succeed in innovation and new drug development. Creating an environment that fosters this kind of expertise is essential, and we are actively working in that direction.

Our approach to enhancing skill development focuses on comprehensive coordination of efforts nationwide. The Ministry is committed to bridging the gap between the demand and supply of skilled manpower by establishing a strong vocational and technical training framework and facilitating skill up-gradation. This includes fostering innovative thinking for both current and future job roles.

To achieve our vision of a 'Skilled India', we aim to train a large number of individuals quickly and to high standards. Our efforts are supported by several functional arms, including the Directorate General of Training (DGT), the National Council for Vocational Education and Training (NCVT), and the National Skill Development Corporation (NSDC). We also operate 33 National Skill Training Institutes (NSTIs) and around 15,000 Industrial Training Institutes (ITIs), alongside 187 registered training partners.

Collaboration is essential, and we work with skill development centres, universities, Central Ministries, State governments, international organisations, and NGOs for impactful implementation of our initiatives.

Could you highlight a specific initiative from your ministry which makes a difference to an individual?

I'm pleased to share that the Indian School of Business (ISB), Hyderabad, has introduced innovative entrepreneur development courses. Interestingly, candidates are not required to have specific higher education qualifications; instead, we prioritise commitment and determination, especially for those with strong business concepts, like Aryan, who has a 12th-grade pass certificate and yet enrolled in the high-profile ISB to seek a career as an entrepreneur.

Every individual has innovative ideas, and it's crucial to provide an environment that nurtures these thoughts and helps scale them up. The government is also focusing on sectors like Green Hydrogen, semiconductors, and the Make in India initiative to create more job opportunities.

What about support to aspiring entrepreneurs and MSMEs?

We have established two divisions to cater to the needs of aspiring entrepreneurs and MSMEs: the National Centre for Small Businesses in Haryana and the Indian Institute of Entrepreneurship (IIE) in Gujarat. Under the PM Vishwakarma Yojana, we have trained 900,000 people, helping them gain self-employment through skill development. Over the next three years, our target is to train an additional 1.3 million youth across various sectors.

What initiatives are being taken to inspire innovation among students?

To foster skill development and encourage innovative thinking, we are training over 250 million students in 10,000 schools across India. This includes establishing Atal Tinkering Labs in all major CBSE schools and Kendriya Vidyalayas and running artificial intelligence courses to familiarise students with current advancements. By investing in our youth today, we are preparing them to tackle tomorrow's challenges.

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