Semiconductor Sector to Create 1 Million Jobs in India by 2026: Skilled Workforce in High Demand

As India endeavors to solidify its position as a semiconductor manufacturing hub, the industry is poised to generate a demand for 1 million jobs spanning across varied sectors by 2026. This demand is expected to be seen in various categories, including an estimated 300,000 jobs in chip semiconductor fabrication, around 200,000 positions in ATMP (Assembly, Testing, Marking, and Packaging), and additional roles in chip design, software development, system circuits, and manufacturing supply chain management. The need for a skilled workforce spans roles like engineers, operators, technicians, and specialists in quality control, procurement, and materials engineering, emphasizing India's strategy to build a robust semiconductor talent pipeline by 2026.

India's semiconductor market size was valued at USD 29.84 billion in FY2023 and it is anticipated to reach USD 79.20 billion by FY2031, with a compound annual growth rate (CAGR) of 13.55% throughout the forecast period from FY2024 to FY2031. To strengthen the India Semiconductor Mission (ISM), the Budget allocated ₹1,500 crore for electronic chip manufacturing plants, ₹100 crore for electronic display production, and ₹900 crore for upgrading the semiconductor laboratory in Mohali.

The government has approved the Semicon India program with a total outlay of ₹76,000 crore to establish a robust semiconductor and display manufacturing ecosystem in the country. The initiative is designed to offer financial assistance to companies investing in semiconductor production, display manufacturing, and design infrastructure. It supports India’s goal of becoming a major force in the global electronics manufacturing sector. These chips are crucial for powering key technologies such as artificial intelligence (AI), quantum computing, and renewable energy.

In addition to the government backing the semiconductor industry, numerous private companies have disclosed intentions to invest in building new semiconductor assembly and testing facilities in India. This action is set to trigger a significant revolution in India’s semiconductor sector, creating a plethora of high-tech and construction job openings in tandem. Some of the key jobs in the semiconductor industry are Process Integration Engineer, Semiconductor Wafer Inspector, Technical Specialist, Preventative Maintenance (PM) Technician, Design Engineer, Process Engineer, Quality Control Specialist, etc.

However, as the industry aims to broaden manufacturing to sustain projected growth, it grapples with a talent deficit. Looking ahead, workforce development programs and skill training will prove pivotal in addressing this challenge. Commenting on this skill gap challenge, Sachin Alug, CEO, NLB Services added *‘India recognizes the significance of cultivating world-class talent to foster a strong semiconductor ecosystem, understanding that high-quality education forms the bedrock of this endeavour. To ensure a sufficient talent pipeline for the semiconductor, industry reskilling and upskilling become crucial. To reach the target of having 1 million skilled employees by 2026 for India to become the semiconductor hub, India will need to upskill 500,000 talent every year. Lastly, offering students real hands-on training through internships is crucial to ensure a steady flow of skilled local talent into India’s nascent semiconductor industry. These internships provide invaluable practical*

experience, enhancing students' skills and ultimately strengthening India's semiconductor talent pool. Overall, in the next 2-3 years, we expect the investment in skilling and re-skilling to go up by 25%.'

Given the persistent increase in the need for semiconductors, India, boasting a population of over 1.44 billion and a strong education system, stands poised to emerge as a major talent hub in the semiconductor industry. The country is committed to reinforcing the semiconductor sector, a move expected to address the shortage of skilled professionals. This commitment aligns with the broader goal of fostering growth in India's burgeoning electronics manufacturing and innovation ecosystem.

Job Profiles	Skill Set Required	Potential Job Creation by 2026
Chip Semiconductor Fabrication	Fabrication process, equipment maintenance, cleanroom protocols	300,000
Chip Design	Semiconductor design, electronics engineering, CAD tools	200,000
ATMP (Assembly, Testing, Marking and Packaging).	Process engineering, quality assurance, operational knowledge	200,000
Software Development	Embedded systems, firmware development, circuit analysis	120,000
System Circuit	Circuit design, integration, testing, troubleshooting	80,000
Manufacturing supply chain management	Problem solving, Data Analytics, Project Management	100,000

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