

Semiconductors Spark Economic Growth in Uttar Pradesh

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As the world accelerates towards a digital future, the significance of semiconductors often dubbed the “brains” of modern electronics cannot be overstated. They power everything from smartphones and computers to automobiles and advanced industrial systems. Recognizing the strategic importance of this industry, Uttar Pradesh has crafted its Semiconductor Policy 2024. This policy is a visionary step aimed at positioning UP as a global hub for semiconductor manufacturing, research, and innovation. However, with the introduction of the Semiconductor Policy 2024, UP is poised to bridge this gap and play a pivotal role in India’s journey to technological self-reliance, in line with the national vision of “Atmanirbhar Bharat.”

The Semiconductor Industry: A critical Sector for india’s Growth

Semiconductors are at the heart of the digital economy. They form the backbone of all modern technological devices, driving advancements in artificial intelligence (AI), telecommunications, the Internet of Things (IoT), and much more. The global semiconductor market was valued at approximately \$556 billion in 2021 and is expected to grow at an unprecedented rate. For India, this sector presents not only an economic opportunity but also a strategic necessity, ensuring supply chain resilience and safeguarding national security in an increasingly digitalized world.

UP’s semiconductor policy aligns with these broader national and global trends. By attracting investments in this critical sector, the state aims to capitalize on the burgeoning demand for semiconductors and support India’s aspiration to be a global electronics manufacturing hub.

Uttar Pradesh’s Vision: Key Objectives of the 2024 Policy

The Semiconductor Policy 2024 has been designed with a clear set of objectives, which can be categorized into economic, technological, and social goals. The key objectives include:

- **Building World-Class Infrastructure:** UP aims to develop state-of-the-art semiconductor fabrication (fab) units, specialized research and development centres, and testing facilities. The policy envisions the creation of industrial clusters that provide all necessary resources for semiconductor manufacturing, including water, power, and logistical support.
- **Attracting Global Investments:** One of the central goals of the policy is to attract both domestic and international players to set up semiconductor manufacturing plants in the state. By offering a range of fiscal and non-fiscal incentives, the government seeks to make UP an attractive destination for semiconductor giants and startups alike.
- **Promoting Research and Innovation:** Recognizing that semiconductor technology evolves rapidly, the policy emphasizes investment in R&D to foster innovation. This includes partnerships with top-tier universities and global research institutions, enabling UP to stay at the cutting edge of semiconductor advancements.
- **Creating a Skilled Workforce:** The semiconductor industry requires a highly specialized workforce. To address this, the policy outlines a roadmap for skill development and education initiatives. UP aims to collaborate with educational institutions to train engineers, researchers, and technicians, ensuring a steady supply of talent for the industry.
- **Environmental Sustainability:** Semiconductor manufacturing is resource-intensive, particularly in terms of water and energy consumption. The policy integrates sustainable practices, encouraging companies to adopt environmentally friendly technologies and reduce their carbon footprint.

Fiscal and Non-Fiscal Incentives: Driving Growth

To transform its vision into reality, Uttar Pradesh’s Semiconductor Policy 2024 offers an attractive package of incentives for investors. These include:

- **Capital Subsidies:** The state offers capital subsidies to companies investing in semiconductor fabrication plants, which is one of the most capital-intensive components of the electronics manufacturing value chain.
- **Tax Benefits:** Investors will benefit from various tax exemptions, including exemptions from stamp duty and electricity duty for specific durations.
- **Single Window Clearance:** To simplify administrative processes and reduce bureaucratic hurdles, the policy introduces a single-window clearance mechanism. This ensures that companies can swiftly navigate regulatory approvals, reducing the time taken to establish operations.
- **Land Acquisition Support:** The state government will assist in land acquisition for semiconductor plants, offering developed land in strategic locations close to key industrial and logistics hubs.

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Strengthening the Ecosystem: Collaborations and Partnerships

A key factor in the success of any semiconductor initiative is the development of a robust ecosystem that supports not only manufacturing but also the entire value chain. This includes chip design, testing, and packaging, all of which are crucial for creating a self-sustaining semiconductor industry.

Uttar Pradesh’s semiconductor policy emphasizes building partnerships across the semiconductor ecosystem. By collaborating with global semiconductor leaders and Indian tech companies, the state aims to create synergies that drive innovation. In addition, public-private partnerships (PPP) will be encouraged to accelerate the development of infrastructure and R&D facilities. Furthermore, the policy underlines the importance of academic collaborations. By establishing semiconductor research chairs and centres of excellence in collaboration with premier institutions like IITs, the state aims to foster innovation and develop homegrown solutions that address global challenges in semiconductor technology.

Boosting Economic Growth and Job Creation

The semiconductor industry has the potential to significantly boost economic growth and job creation in Uttar Pradesh. According to estimates, the global semiconductor market is set to create millions of highskill jobs, and UP intends to claim a significant share of this workforce. By creating an environment conducive to the growth of semiconductor companies, the policy aims to generate thousands of direct and indirect jobs across various skill levels—from highly specialized engineers to technicians and support staff.

In addition to creating jobs, the policy will have a ripple effect across related industries, including electronics manufacturing, telecommunications, automotive, and consumer electronics. By becoming a semiconductor manufacturing hub, UP will contribute to the growth of these sectors, further boosting the state’s GDP and positioning it as a key player in India’s economic growth story.

The Road Ahead

While the Semiconductor Policy 2024 sets ambitious goals, several challenges must be addressed. Semiconductor manufacturing is capital-intensive, and building a robust supply chain requires significant investment in infrastructure. The policy’s success will depend on how well the state can balance these demands with the need to ensure sustainability, skill development, and global competitiveness. Additionally, geopolitical factors play a crucial role in the semiconductor industry. As global supply chains are reconfigured in the wake of the US-China trade war and other disruptions, UP will need to navigate these complexities to secure critical partnerships and ensure the long-term viability of its semiconductor ambitions.

The Semiconductor Policy 2024 represents a transformative vision for Uttar Pradesh, one that aims to place the state at the forefront of the global semiconductor revolution. By attracting investments, fostering innovation, and creating a skilled workforce, the policy sets the stage for UP to become a key player in India’s journey towards technological leadership.