

Is India really in the top league of AI?

Based on the 5-layers arrangement and ROI

3 min read · Just now



Yogesh Haribhau Kulkarni (PhD)



Listen



Share

... More



Ashwini Vaishnaw ✓

@AshwiniVaishnaw



India is working on all 5 layers of the AI architecture: application, model, chip, infra and energy. We are building the foundation for global AI services.



World Economic Forum, Davos



([Source](#))

For years, the global AI conversation has been dominated by scale. Bigger models. Bigger data centers. Bigger investments. At Davos, Ashwini Vaishnaw offered a different lens. One grounded in economics, access, and outcomes.

India's AI strategy, as articulated at the World Economic Forum, is built around a five layer AI stack. Applications, models, chips, infrastructure, and energy. The key insight is simple. AI leadership is not defined by excellence in one layer, but by coordination across all five.

The application layer is where value becomes visible. This is the layer closest to citizens, businesses, and public services. India's approach prioritizes AI diffusion across agriculture, healthcare, education, manufacturing, and governance. Productivity gains here directly translate into economic growth and improved quality of life.

The model layer often attracts the most attention. Frontier models have showcased what AI can do, but they come with massive compute and capital costs. Vaishnav argues that most real world problems do not require trillion parameter models. Models in the 20 to 50 billion range can handle the majority of enterprise and governance use cases.

India's focus on a bouquet of such models allows localization for Indian languages, regulatory needs, and cultural contexts. Sovereign models also reduce dependency risks and strengthen data security.

Compute is a structural constraint worldwide. GPUs are expensive and often controlled by large technology firms. India addressed this by creating a public private partnership that provides access to more than 38,000 GPUs as a shared national resource. By subsidizing access, the government has lowered entry barriers for students, startups, and researchers.

Infrastructure, particularly data centers, forms the backbone of AI deployment. India has already seen over 70 billion dollars in investments from global hyperscalers. These facilities not only support AI workloads but also generate high value employment and strengthen digital sovereignty.

Energy is the least discussed but most critical layer. AI workloads require continuous, reliable power. Renewables are essential but intermittent. India's SHANTI Act envisions nuclear energy, including small modular reactors, as a clean and stable baseload for AI infrastructure.

Governance is where India's approach stands out. Rather than relying solely on legislation, the focus is on a techno legal framework. Tools to detect deepfakes with

judicial accuracy, mitigate bias, and ensure proper unlearning before deployment are being developed alongside policy.

The most debated claim from Davos was about geopolitics. Does owning the largest AI model translate into geopolitical power? Vaishnav is skeptical. He suggests that unsustainable investments in massive models without clear ROI may create economic vulnerabilities rather than strategic advantages.

India's bet is pragmatic. AI should be affordable, accessible, and useful at scale. Leadership may not come from dominance, but from diffusion.

Looking ahead, the next steps are clear. Continued investment in skill development, with millions trained in AI capabilities. Stronger collaboration between public institutions and startups. Expansion of indigenous semiconductor capabilities. And global partnerships that respect strategic autonomy.

The fifth industrial revolution will not be won by spectacle. It will be won by systems that work quietly, efficiently, and everywhere.

Artificial Intelligence

Davos

India

Large Language Models

Ashwinivaishnav