

Google's \$15 Billion AI Data Centre in Andhra Pradesh: Powering India's Digital Future

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AI Data Centre Latest News

- Google has announced a \$15 billion investment over five years to establish an **AI data centre in Visakhapatnam, Andhra Pradesh** — its largest investment in India so far.
- Partnering with the Adani Group and Airtel, the project will include the development of a new international **subsea gateway to strengthen digital connectivity**.
- The facility will become part of Google's global network of AI data centres across 12 countries, supporting advanced computing and cloud services.
- The investment comes amid strained India-US relations and the government's push for swadeshi (local) technology adoption.
- The initiative also raises policy questions about whether India should incentivise large compute infrastructure to bolster its AI ecosystem and digital sovereignty.

How AI Data Centres Differ from Traditional Ones

- An AI data centre is different from a traditional data centre in terms of it being specifically tailor-made to support AI applications.
- Traditional data centres that rely on **CPU-based servers** for hosting websites, storage, and business applications.
- However, AI data centres are **designed to handle massive data processing and compute-intensive tasks** like image generation, video analysis, and generative AI.
- They are powered by high-performance GPUs, requiring stronger power infrastructure and advanced cooling systems, making them far more energy-intensive than conventional facilities.
- According to an analysis, the new AI hub is expected to add \$15 billion to US GDP (2026–2030) through increased AI and cloud adoption.
- It will create economic and technological opportunities for both India and the US, marking a transformative leap in global AI capability.

Google's AI Hub: Collaboration to Build India's Clean-Energy Data Centre

- Google's AI data hub in Visakhapatnam, Andhra Pradesh is being developed with AdaniConneX and Airtel.
- The facility will use the same infrastructure that powers Google's global services such as Search, Workspace, and YouTube.
- AdaniConneX, a joint venture between Adani Enterprises and EdgeConneX, will lead the construction and operation of the data centre network across India and provide 100% green energy for the AI hub.

Subsea Gateway and Connectivity Expansion

- A major component of Google's investment is the construction of a new international **subsea gateway** on India's eastern coast.
- Multiple international subsea cables will land in Visakhapatnam, connecting to Google's global network of over two million miles of terrestrial and subsea cables.
- **Airtel will assist Google in developing this connectivity backbone** to enhance international data flow and latency performance.

Sustainability and Energy Infrastructure

- The project includes **co-investments in new transmission lines, renewable power generation, and energy storage systems** in Andhra Pradesh.
- Both companies emphasised their commitment to clean energy and grid resilience, stating that the initiative will:
 - Support the AI data centre's clean energy operations,
 - Strengthen India's electricity grid, and
 - Promote energy security and sustainable infrastructure development in the region.

Strategic Impact

- The partnership positions India as a key player in global AI infrastructure, combining Google's technological expertise, Adani's green energy leadership, and Airtel's telecom reach.
- It underscores a shared commitment to sustainability, digital capacity expansion, and innovation-driven growth within India's evolving AI ecosystem.

India's Data Centre Boom: Growth Potential, Energy Challenges, and the Nuclear Option

- India's data centre market is valued at around \$10 billion, generating \$1.2 billion in FY24.
- A report projects an addition of 795 MW of new capacity by 2027, raising total capacity to 1.8 GW.
- The sector is poised for robust growth driven by cloud computing, AI adoption, and digital infrastructure investments.

Policy Concerns Over Incentives and Job Creation

- Despite its promise, policymakers are debating whether to offer incentives for data centres due to their high energy demand and capital intensity with limited employment potential.
- However, experts claimed that Google's AI data centre in Visakhapatnam will create 1.88 lakh direct and indirect jobs, signalling strong regional economic benefits.

Energy Demand and Cost Pressures

- AI data centres are exceptionally energy-intensive.
- The International Energy Agency (IEA) projects that global data centre power usage could double by 2026, posing challenges to achieving net-zero or carbon-negative goals by 2030.
- Power infrastructure dominates operational economics:
 - 40% of total capex goes toward electrical systems.
 - 65% of operating costs stem from electricity consumption.
 - Setting up 1 MW of data centre capacity in India costs between ₹60–70 crore, highlighting the need for cost-efficient and sustainable energy sources.

The Renewable and Nuclear Debate

- While most firms rely on renewable energy, it faces limitations—intermittent generation and inadequate storage capacity.
- This has led policymakers to **explore nuclear energy as a clean**, round-the-clock power source capable of meeting AI-era electricity demands.
- The Indian government is reportedly open to using nuclear power for data centres, mirroring emerging trends in the United States, where AI-led data centre growth is accelerating reliance on nuclear-backed power grids.

Conclusion

- India's data centre expansion represents a balancing act between digital transformation goals, energy security, and environmental commitments.
- The next phase of policy will determine whether India can become a global AI infrastructure hub while ensuring sustainable, reliable, and cost-effective energy to power its growing digital economy.

Source: IE | BBC | ToI

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