Harnessing AI, ML and Emerging Technologies for Inclusive Growth

1. Introduction

Namaskar! It is a pleasure to be here at the Economic Times Rajasthan Business Summit 2025. Distinguished dignitaries, policymakers, industry leaders, technocrats, and friends – I am honored to speak on the theme: "Harnessing AI, ML and Emerging Technologies for Inclusive Growth."

2. Rajasthan's Tech Transformation – A Warm Welcome

- Today, as we gather in the historic land of Rajasthan, we also celebrate its modern transformation. Once known primarily for its majestic forts and the Thar desert's austere beauty, Rajasthan is now making headlines as a rising hub of digital innovation and entrepreneurship. The state is drafting an ambitious AI Policy 2025 focusing on *ethical and inclusive* use of artificial intelligence (AI), including establishing a Centre of Excellence to support AI startups. Such initiatives align with India's national *AI for All* mission and exemplify how our region is *leapfrogging* into the future.
- Let us reflect briefly: Rajasthan's journey mirrors India's own march of progress – from improving basic necessities to embracing the most advanced technologies.
- The state boasts one of India's largest government-run data centers, ensuring near 100% uptime for digital public services, and has announced Innovation Studios to infuse tech into agriculture and other sectors.
- In a lighter vein, we might say that our state known for its *sand dunes* is now equally famed for its *data dunes*! We've come a long way indeed.

3. Inclusive Growth in the Age of AI and ML:

Our theme poses a key question: What does "inclusive growth" mean in the AI/ML era, especially for India and states like Rajasthan? In simple terms, it means growth that *benefits everyone*, not just a tech-savvy few. It means using artificial intelligence (AI), machine learning, and other emerging technologies to bridge gaps – not widen them – across socio-economic, geographic, and digital divides. Inclusive growth in this context is about ensuring a farmer in a remote village, an aspiring student in a small town, or a micro-entrepreneur on a city fringe all gain from the AI revolution, just as much as our metropolitan startups or global corporations do.

This vision is crucial because, left unchecked, AI could *exacerbate* inequality. We already see concerns that AI's benefits might concentrate among those with data, connectivity, and skills, leaving others behind. The "digital divide in the AI ecosystem" – whether limited internet access, lack of AI skills, or language barriers – is very real. *Inclusive growth* demands that we actively close these gaps. It calls for bringing marginalized groups into the digital fold through affordable access, education, and relevant innovations. India's own AI strategy slogan, "AI for All," captures this ethos: technology's fruits must be shared widely, upholding the principle of *Sabka Saath, Sabka Vikas* (together with all, development for all).

In practical terms, inclusive AI means designing solutions for local needs and languages, and making AI tools accessible and understandable. It means an ecosystem where a small artisan can use an e-commerce AI platform as easily as a large exporter, or where an underprivileged student in Barmer can learn from the same adaptive learning app that a student in Bangalore has.

As one global expert noted, *"Digital public infrastructure, augmented by AI, can be a powerful accelerator for development outcomes, especially in governance"*. By deploying AI within our digital public goods – from finance to education – we can reduce inequalities and enhance inclusion. In short, the age of AI must also be the age of democratized opportunity. If we fail at that, we fail to harness AI's real promise.

4. **Sectoral Innovations: Optimism and Realism in Key Areas**

Power & Electricity:

- **Optimism:** Rajasthan, India's solar leader, can deploy AI as the grid's "brain" to forecast demand, optimize renewable dispatch, and predict faults—reducing outages from cities to hamlets.
- **Realism:** AI itself draws power; we have a *double responsibility*—use AI to manage energy better and run it on clean energy. Invest in storage, grid upgrades, and skills so an AI-optimised bulb shines in every home, not just smart homes.

Healthcare:

- **Optimism:** Telemedicine (e.g., e-Sanjeevani) bridges rural–urban gaps; AI supports diagnostics and outbreak prediction; pharma leverages AI to speed drug discovery for TB, diabetes, and more—cutting costs and widening access.
- **Realism:** Tech alone doesn't fix systems. Strengthen digital literacy for patients and health workers; protect health data; ensure fairness and human oversight. AI should assist clinicians, not replace them.

MSME Finance

- **Optimism:** Fintech + AI use alternative data (GST invoices, UPI trails) to assess creditworthiness; OCEN and Account Aggregators unlock inclusion—tailored loans for diligent entrepreneurs in Kota, Bikaner, and beyond.
- **Realism:** Many MSMEs are informal, with fragmented records and low digital comfort. Build trust with transparent algorithms, multilingual/voice interfaces, and strong cybersecurity so owners feel safe sharing data.

Access to Information & Public Services:

- **Optimism:** Vernacular chatbots and voice assistants deliver scheme info, weather, and advisories; AI translation localises education; DPI rails (Aadhaar, UPI, IndiaStack) power personalised, faster services (e.g., land records, pension processing, triaging telemedicine).

- **Realism:** Keep assisted access (e-Mitra/CSCs) for offline users; guard privacy; counter misinformation with verified, AI-aided public communication. The test is simple: does each service make the *aam aadmi's* life easier and more dignified?

Cross-Cutting Takeaway:

- AI and other emerging tech offer transformative inclusion across power, health, finance, and public services—but demands pragmatic execution: invest in connectivity and skills, embed ethics and privacy, keep humans in the loop, and balance optimism with clear-eyed realism.

5. Insights and Lessons from India's Journey

- **Tech isn't a silver bullet—context and people matter:** Design for local language, culture, and on-ground infrastructure. Keep human oversight—AI should *augment*, not replace, especially in health, justice, and other sensitive domains.
- **Invest in infrastructure and people, not just algorithms:** Without connectivity, power, and devices, AI can't deliver. Pair hard rails (broadband, cloud, data centers) with human capacity (digital literacy, vocational tech training). A twin push on "bytes and brains."
- **Responsible AI is non-negotiable:** Build fairness, transparency, accountability, and privacy from the start: bias audits, explainability, robust data protection. Public trust—and protection of the vulnerable—depends on it.
- **Partnerships multiply impact:** Government provides scale, industry innovates, academia builds skills, civil society grounds solutions. Break silos; adopt an ecosystem approach—much like UPI's success—so tech meets real needs.

Together, these lessons urge optimistic pragmatism: *experiment boldly, learn continuously, and keep inclusion and ethics at the core.*

6. Towards Responsible and Ethical AI

No discussion on AI is complete without addressing the governance of this powerful technology. How do we advocate for responsible AI governance, ethical deployment, and skills development in practical terms?

- **Adaptive, risk-based regulation:** Create a forward-looking, flexible regime (e.g., an independent AI authority) that classifies use-cases by risk and tightens oversight for high-risk applications—an "AI traffic regulator" that evolves with the technology.
- **Co-regulation and ethics by design:** Laws aren't enough; industry must embed principles—fairness, accountability, transparency, privacy, human-centric design—into product lifecycles, with civil society as an active watchdog.
- **Skills as the backbone:** Upskill *builders* (data scientists, ML engineers) and *users* (officials, MSME owners, teachers, students). Make algorithmic literacy a public good so people can interpret, use, and question AI safely.
- **Diversity in who builds and governs:** Expand participation of women and under-represented groups in AI teams; include consumers, marginalised communities, and ethicists in regulatory and advisory bodies to reduce bias and blind spots.

- **Transparency and redress:** Notify people when algorithms affect decisions; provide plain-English explanations where feasible and establish clear grievance mechanisms to correct errors and restore trust.
- **Security and resilience:** Treat cybersecurity as foundational: protect critical AI systems (power, health, finance), counter deepfakes and misinformation, and update safeguards as threats evolve.
- **The social contract for AI:** Tie it all together—adaptive governance, ethical culture, skills, diversity, transparency, and security—so innovation advances *only* alongside rights, dignity, and public trust.

7. Policy & Ecosystem Actions — Ultra-Short, Merged

- **Access + Rails:** Close the digital divide; expand last-mile broadband/5G, public Wi-Fi, and devices; deliver services via local-language, voice-first interfaces; strengthen digital public infrastructure (open APIs, data exchanges).
- **People + Skills:** Embed coding/AI basics in schools; create vocational and mid-career upskilling; run statewide AI literacy with NGOs/SHGs to build safe, critical use.
- **Trustworthy AI (Gov + Co-reg):** Mandate impact assessments and bias audits for high-stakes AI; enforce data protection (personal and community data); use regulatory sandboxes; run diverse, multi-stakeholder councils (incl. "AI for Rajasthan").
- **Innovation to Impact:** Fund AI-for-good via challenge grants; operationalise CoEs/Innovation Studios with public-interest mandates; build real-world testbeds (smart villages); scale what works across states and export playbooks globally.

8. Conclusion: Rallying for an Inclusive, Ethical Innovation Future

Friends, as I conclude, let me paint a closing picture. We stand at a juncture in history where technology's progress is dazzling – AI can compose music, drive cars, and perhaps soon predict illnesses before symptoms appear. It's easy to be awestruck. But the true measure of our progress will not be how sophisticated our machines become; it will be how much these machines enhance human dignity, opportunity, and equity. Inclusive growth is the lodestar guiding us through this exciting, yet at times disorienting, technological revolution.

Rajasthan, with its legacy of valour and wisdom, and India, with its diversity and ingenuity, are uniquely poised to lead by example. We have the spirit of *jugad* – frugal innovation – in our DNA, and a cultural ethos that values community. If we infuse these qualities into the digital realm, we can craft an AI revolution that is not about a few unicorn companies, but about millions of empowered citizens. Let us pledge that no child will be left behind because they couldn't access digital education, no patient will remain untreated due to distance, no entrepreneur's idea will fail solely for lack of credit, and no citizen will feel alienated by the digital state. Technology will not be an alienating force but a unifying one.

I'm reminded of the African proverb (popularized in development circles): *"If you want to go fast, go alone. If you want to go far, go together."* Inclusive innovation insists that we go together – tech creators with users, government with people, urban with rural, young with old. In this journey, India and Rajasthan can light the way. Our state's new policies and India's mission-oriented

approach to AI show we are serious about both the *potential and responsibility* of these technologies.

So, here is my call to action: Let each of us – whether a policy maker, a business leader, an engineer, or an aware citizen – champion the cause of inclusive, ethical innovation. Demand it in your field, support it in your investments, teach it in your classrooms, and implement it in your community projects. Let's build AI that *augments* human capability and uplifts society's most vulnerable. Let's prove that emerging technologies can be harnessed not just for profit or prowess, but for prosperity with equity.

India has always given the world the ideals of *unity in diversity* and *vasudhaiva kutumbakam* – the world is one family. It is time we also set an example in tech-guided growth that leaves no one behind. From the dunes of the Thar to the data centers of Jaipur, from our startups to our villages, a new story is waiting to be told – one where India and Rajasthan emerge as champions of inclusive, ethical innovation.