

Talent Creation for the Digital Revolution

Education Transformation in the age of AI and exponential technologies

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Digital Revolution : The Fundamental Shifts....

Decentralisation
Localisation & Personalisation
Democratisation of
Technology &
Emergence of “Small”
Collaboration & Abundance
Knowledge, Skill & Innovation
Creator Economy



“Massification” &
Centralisation
Emergence of large Industrial
Cities
Shortages & Competition
Land, Labour & capital
World of Economy Creators

Oil Economy

Data Economy

How do we lead the Transformation to
the new DATA ECONOMY?

But... Key Challenges of this Transformation

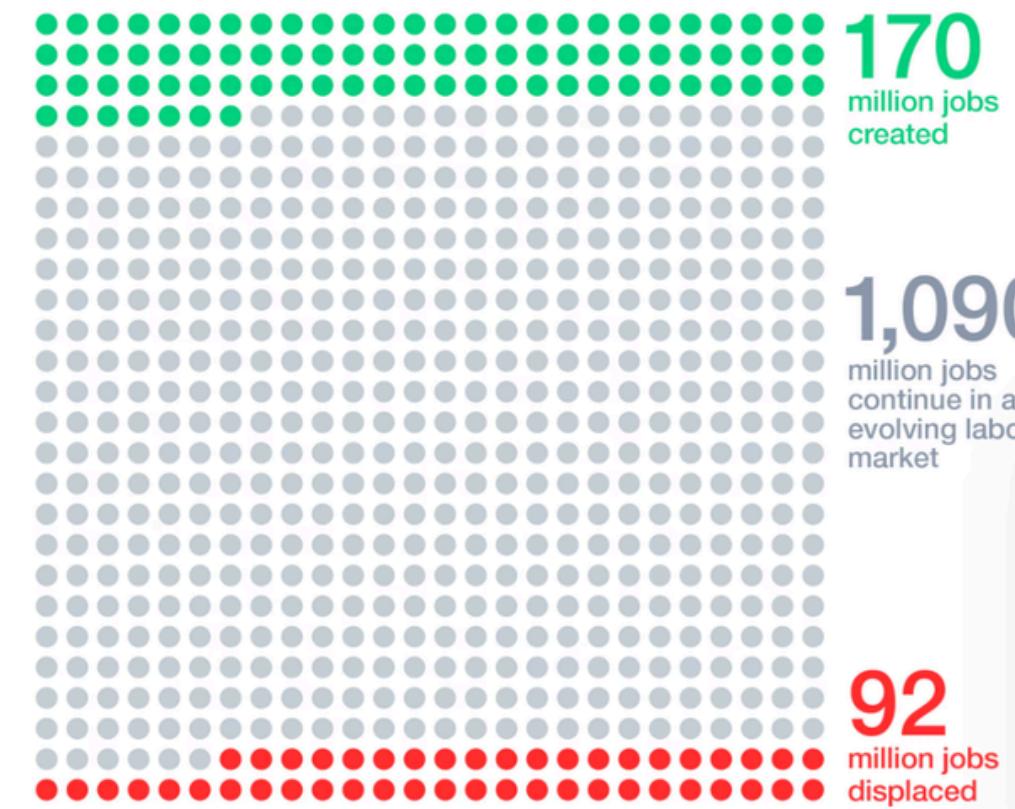
Niti Ayog Report on Job Creation in the AI Economy (Oct 2025)

The Three Vulnerabilities

- Massive Job Displacement (in IT roles)
- Shortcomings in (AI) Education
- Gap Between Demand and Talent

Talent Development Model for AI Era

Need for a Re-think?



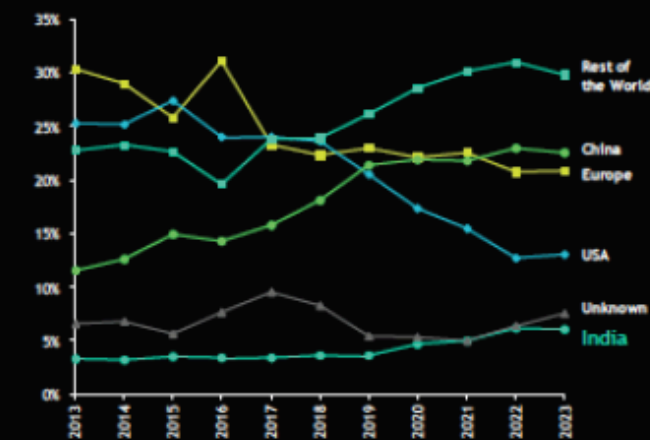
World Economic Forum
Future of Jobs Report
2025

30%

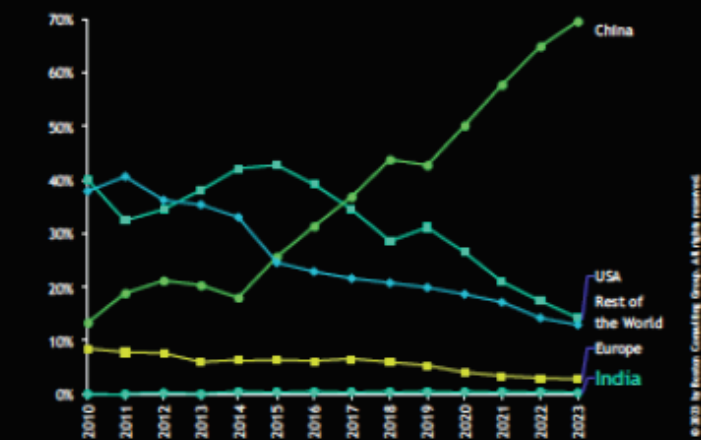
of hours worked
could be automated
by 2031

2 Skill gap and lagging AI education | At research level, India's AI innovation footprint is still nascent with limited citations and minimal patents

AI publication citations in Computer Science (% of total) by countries, 2013-23



Granted AI patents (% of world total) by countries, 2010-23



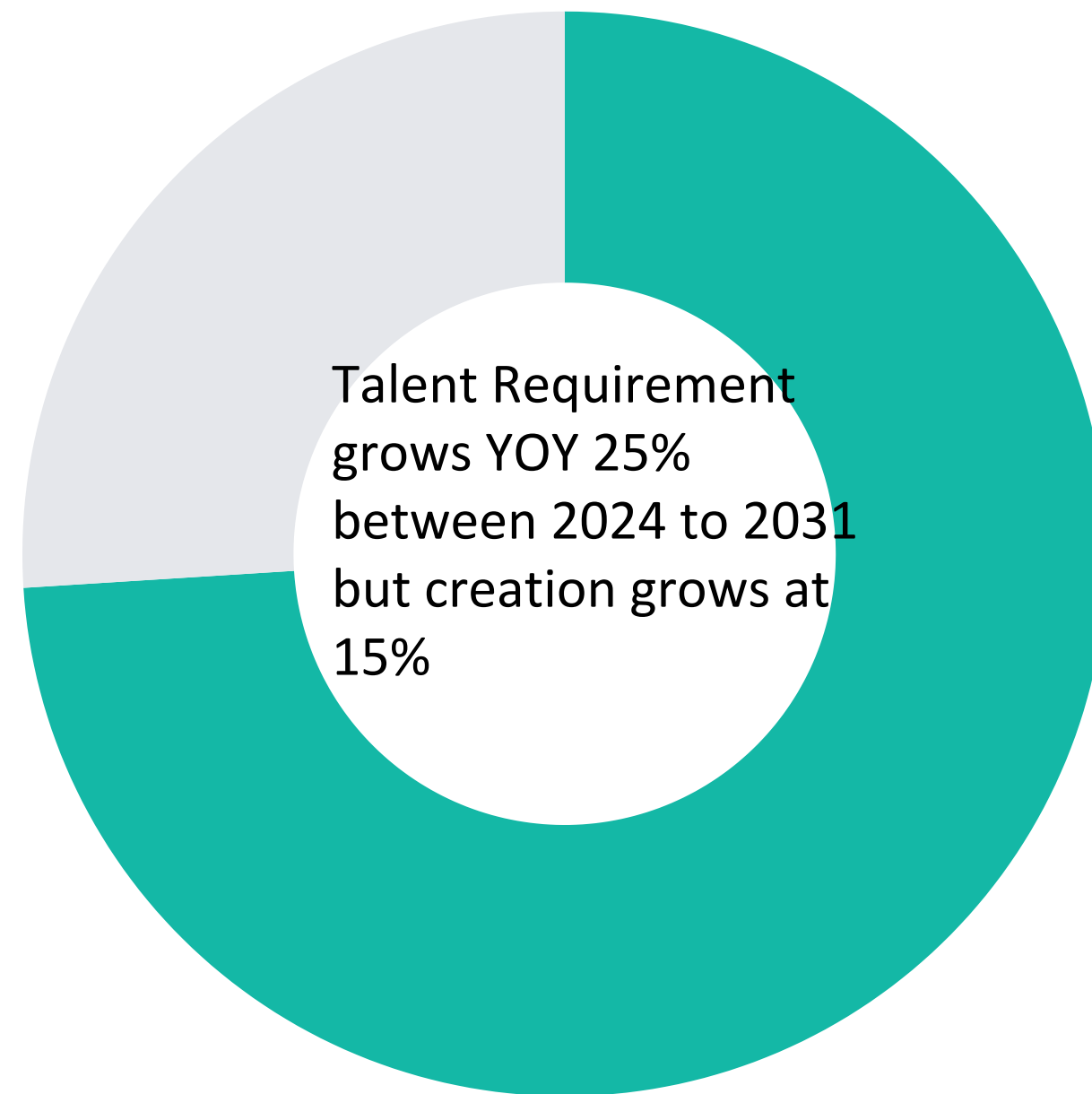
Source: The 2025 AI Index Report | Stanford HAI

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The Paradox – Demand outpaces Supply

Talent Shortage: Scarcity is strongest in fast-changing digital and AI-adjacent capabilities

Global talent shortage signal



74% of employers report difficulty filling roles

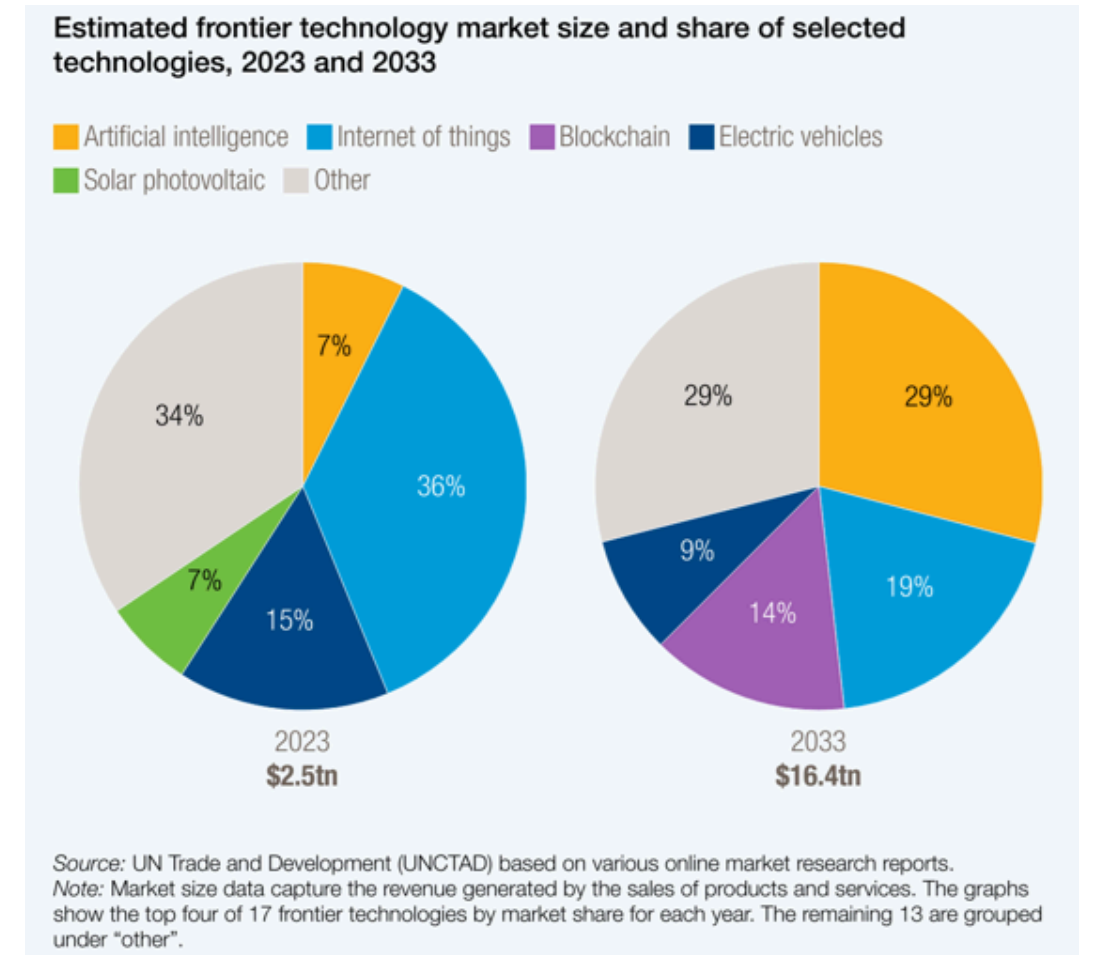
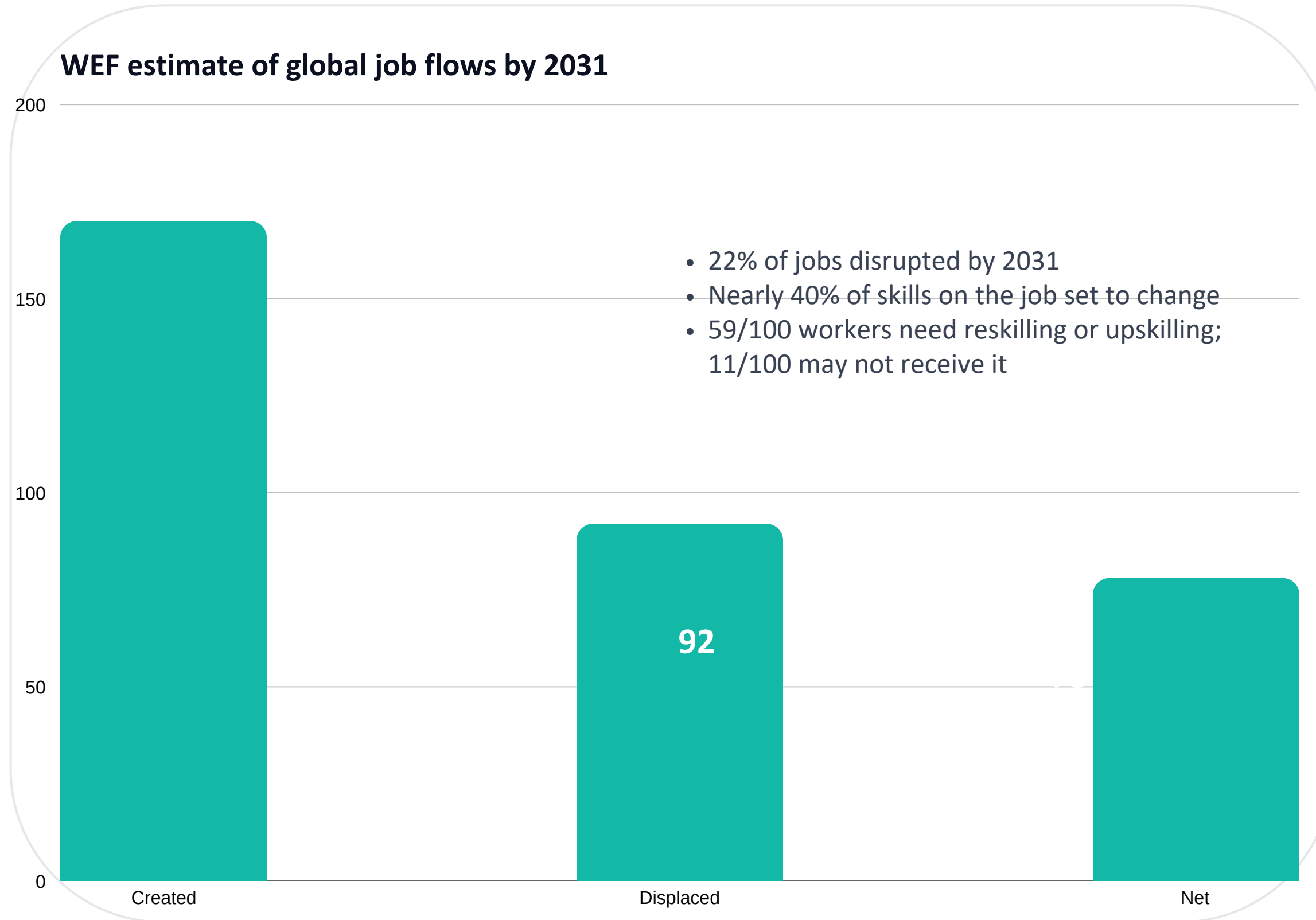
Why shortages persist

- Skills change **faster than** curriculum cycles
- Hiring signals **degrees** over **demonstrated** skills
- Limited pathways for mid-career transitions
- **Limited capacity for work-based learning**
- Lack of AI/tech adoption expertise in Faculty and Institutions - **Another skill trap?**

Implication:

Education must become a “**sustainable skills** supply chain” with faster refresh and tighter employer alignment.

The challenge is not only job counts—it is skills mismatch and transition speed



Result

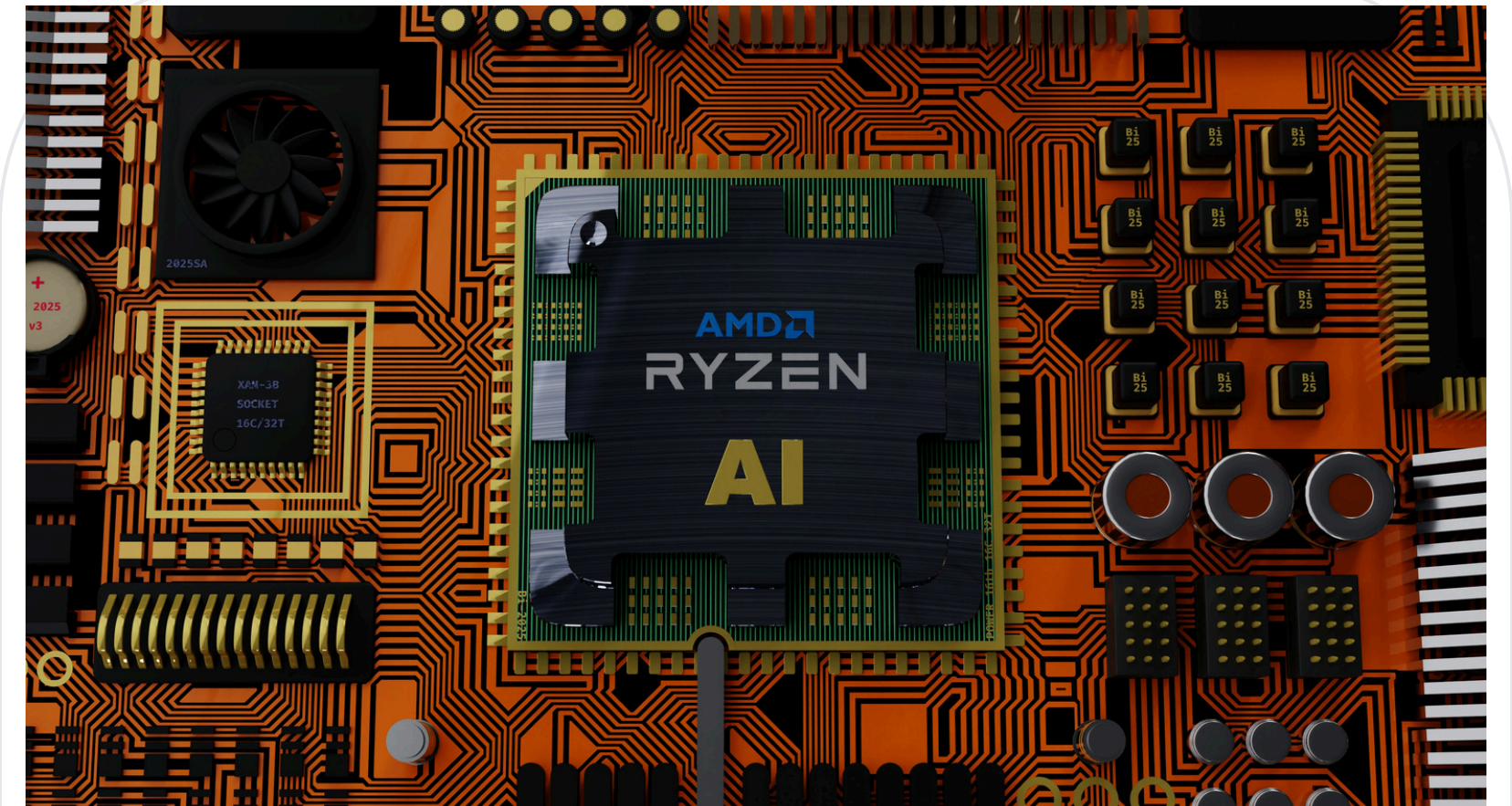
The bottleneck is transition capacity: reskill at scale, fast. : A priority for Kerala?

How to prepare for the Transformation

Exponential technologies (especially AI) change tasks, workflows, and institutions

What changes (and why there is a need for a rethink):

- Work becomes **task- and workflow-centric** (humans + AI systems)
- Productivity gains depend on **redesigning processes**, not just tools
- **New risks**: bias, security, privacy, and safety in automated decisions
- Competitive advantage shifts to “**learning speed**” at individual and institutional levels
- Education shifts from Knowledge/ Skill to **Knowledge + skills**
- **Digital Moves from Periphery to the Core**



Combinatorial tech stack applicable to Functional domains

- AI + data + cloud Finance
- IoT/edge + cyber Retail
- Robotics + autonomy Manufacturing
- Biotech + materials + energy Healthcare, Education

How talent requirements are changing

From static roles to dynamic, AI-augmented capabilities

1) From jobs → tasks → workflows

- Roles decompose into tasks; automation targets tasks first
- Work is redesigned around human judgement + AI execution
- Demand rises for “workflow designers” and “AI supervisors”

2) Hybrid skill profiles

- Domain expertise + data reasoning + AI tool fluency
- Systems thinking: quality, safety, security, governance
- Product mindset: iterate, measure, improve

3) Human skills premium

- Analytical & critical thinking
- Creativity, collaboration, leadership
- Ethics, empathy, resilience

AI-augmented work loop

Sense & frame
problem



Co-design
with AI



Execute
& automate



Evaluate
& improve



Govern
& assure

Programs are shifting: knowledge/ Skills → Knowledge + skills

Competency, practice, and portfolios replace “coverage” as the organizing principle

70%

of the skills used in most jobs are expected to change by 2030
 (“AI is a catalyst”)

Traditional (knowledge-first)

- Syllabus coverage and lectures dominate
- Exams test recall and procedural knowledge
- Limited exposure to real tools and messy data
- Credentials signal time spent, not capability
- Result : **Alternative Models of Skill Education compromising KNOWLEDGE**

Next-gen (Knowledge +skills)

- Competencies mapped to real job tasks
- Project-based learning with authentic datasets
- Portfolios + practical assessments (rubrics)
- Stackable micro-credentials + continuous upskilling
- Industry co-design + apprenticeships / internships

Design principles for AI-era talent creation

Build breadth (AI literacy) and depth (specialization) with strong ethics and practice

AI literacy for all

- Prompting & workflow use
- Limits, risks, verification habits

Data foundations and Advanced Functional Analytics

- Data reasoning
- Quality, bias, privacy
- Model Development
- Functional Transition

Human skills + leadership

- Critical thinking
- Collaboration & communication

Practice-first learning

- Projects, labs, simulation
- Portfolios as evidence
- Work Integrated Learning

Stackable credentials

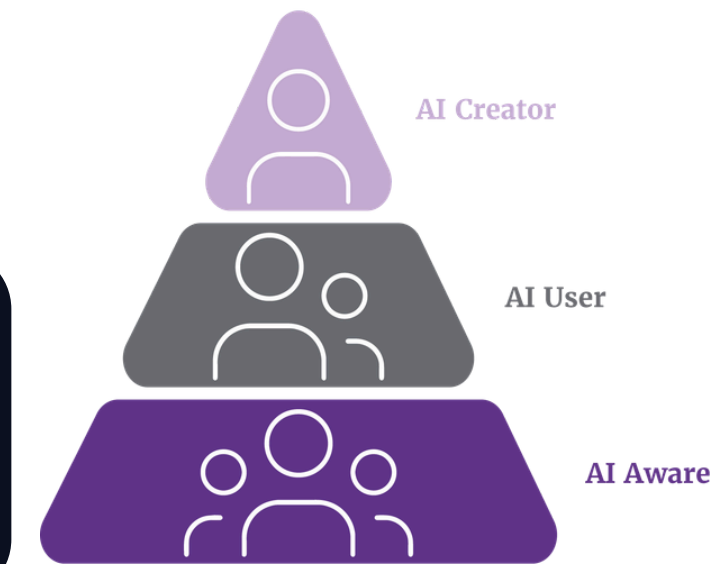
- Micro-credentials
- Lifelong learning pathways

Governance & responsibility

- Safety, security, ethics
- Compliance & auditability

New program design -stackable pathways

A portfolio of offerings serves students, professionals, and organizations



Foundation: AI literacy + data thinking + digital ethics

Track A: AI for Everyone

- Core concepts, use-cases, and verification
- AI tools for productivity in any role
- Responsible use + policy literacy
- Mode of Education : Practical & hands on training
- Assessment: scenario tasks + portfolio
- Little KITEs and Parental Training

Track B: AI + Domain (Applied)

- Domain labs (health, finance, manufacturing, education...)
- Data pipelines + analytics + automation
- Human-in-the-loop design
- Mode of Education : **Immersive Learning**
- Assessment: Capstone with industry partner
- Work Integrated Learning@DUK

Track C: AI Specialists

- ML/GenAI engineering, MLOps
- Model evaluation & safety
- Security + compliance
- Mode of Education : Fundamental and Immersive
- Assessment: build, deploy, monitor
- Research and IP Generation
- Kerala AI Initiative

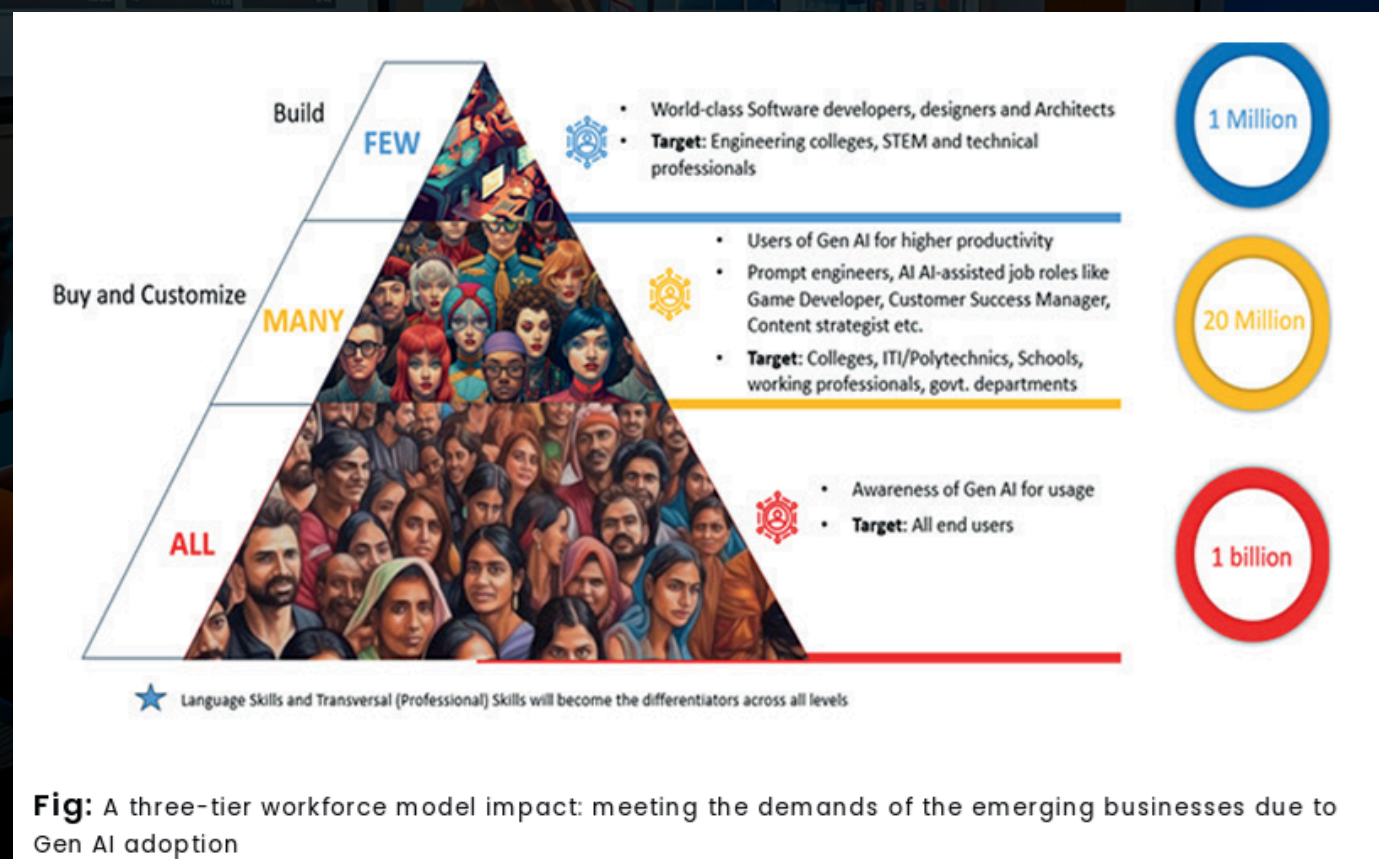
Stackable credentials: micro-credentials → certificates → degrees → continuous professional learning

AI-enabled education at scale : Knowing- Doing-Being

Use AI to personalize learning—while strengthening integrity and trust

From “one-size-fits-all” → adaptive practice

Reinvent Precision Learning



Application of AI for accelerated AI talent creation

- **Tutors:** instant feedback, spaced practice, and remediation
- **Simulations:** role-play, labs, cyber ranges, clinical cases
- **Instructor copilots:** content drafts, rubric creation, analytics
- **Assessment:** project checkpoints + code/data review

Guardrails - inclusive, responsive and value based

- Academic integrity + provenance
- Privacy, data protection, and secure tooling
- Bias testing and inclusive design
- Teach verification, not blind reliance

Talent Creation - A 5-year roadmap for Kerala (2026–2031)

Build → pilot → scale → institutionalize, with measurable outcomes

Year 1



Design: Knowledge+ skills framework Identify partners

Year 2



Pilot: 3 tracks + assessment rubrics + AI learning tools; Functional education

Year 3



Scale: stackable credentials + employer pathways Work integrated Learning

Year 4



Institutionalize: faculty development + governance

Year 5



Continuous: refresh cycles, labor-market sensing, QA

KPIs for Success

- Skill mastery and knowledge for life long learning
- Day 1 Competencies and employer satisfaction
- Intellectual Contribution and IP Development
- Time-to-credential + completion rates
- Inclusion: participation and outcomes by subgroup
- Curriculum refresh cycle time (months, not years)

Conclusion

In an AI-accelerated world, “talent creation” is not a one-time event. It is a continuous capability— for learners, educators, and institutions.

Need reformative changes in Education Process and Assessments.....



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“The electric light bulb did not come from the continuous improvement of candles.” (Oren Harari)

Thank You
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