

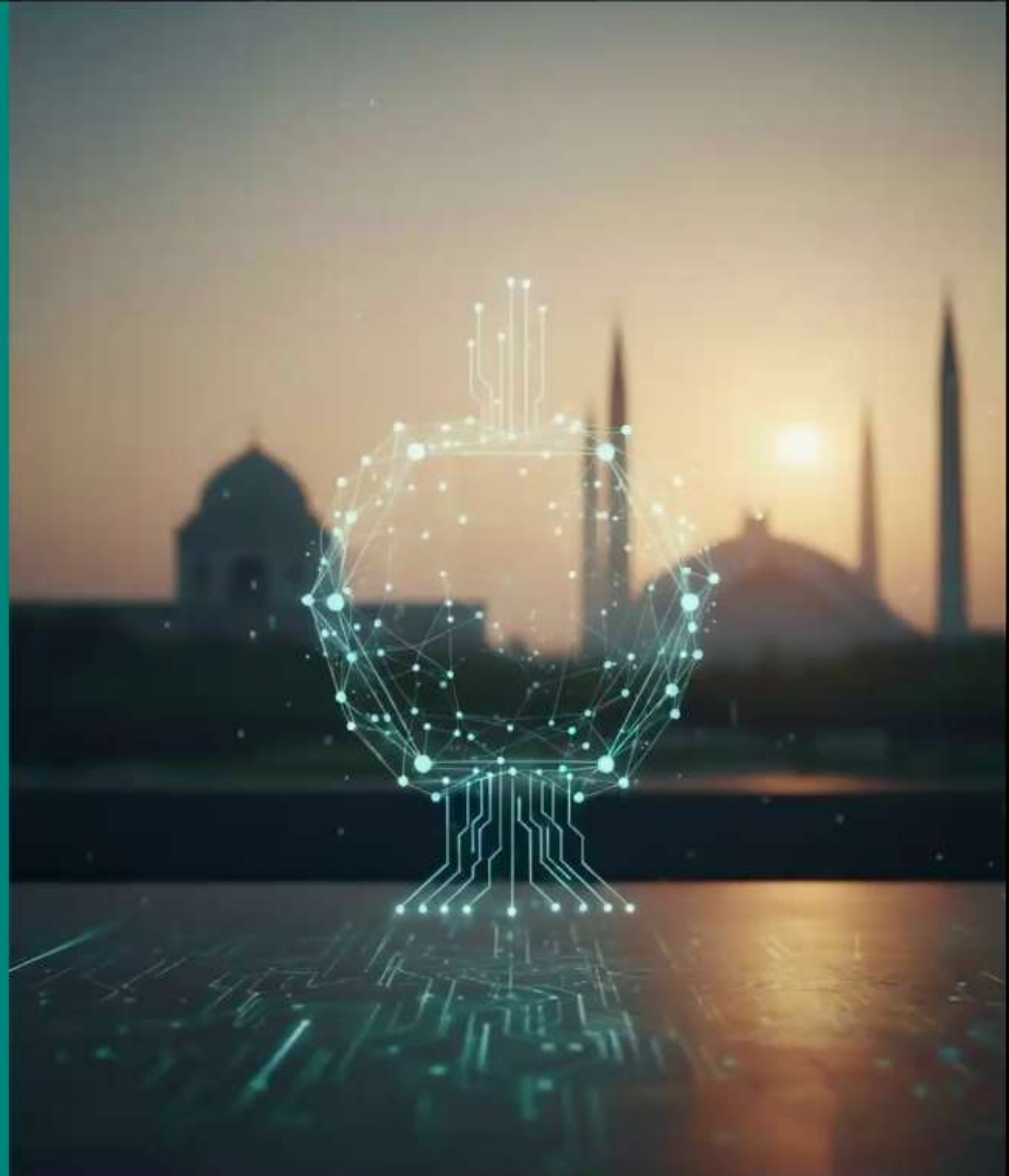


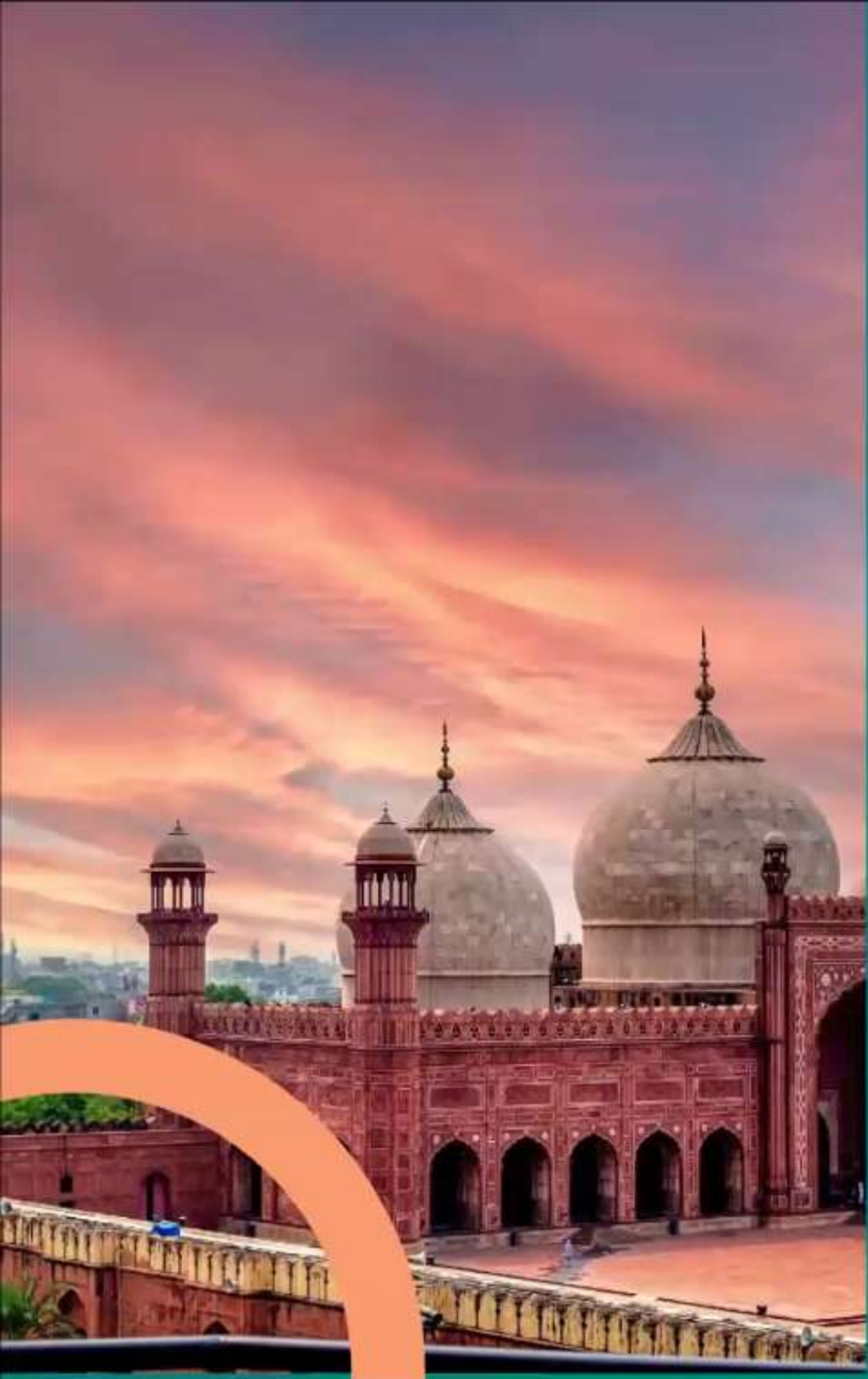
NCAI

ARTIFICIAL INTELLIGENCE

Organizational Arrangements necessary for AI Absorption in Pakistan

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What does AI Absorption mean?

- Adoption of AI technologies across sectors



- Integration into workflows, decision-making, and services
- Effective utilization to drive productivity, efficiency, and innovation

Why Pakistan Needs It?

- Enhance global competitiveness in the digital economy
 - Drive economic growth through innovation-led industries
 - Support national progress in health, agriculture, education, and governance
-

Supporting Innovation with AI

AI as a Catalyst for Innovation

- Healthcare: AI-driven diagnostics & drug discovery
- Agriculture: Smart irrigation, crop monitoring, yield prediction
- Finance: Fraud detection, algorithmic trading, customer chatbots
- Transport: Traffic optimization, smart mobility, autonomous vehicles

Need for Policy Support

- R&D incentives and grants for AI startups
- Government-backed innovation funds
- Establish AI incubation & acceleration centers



National Level (Policy & Governance)



National AI Commission / Authority



- National AI Authority to Oversee policy, funding, regulation, standards
- Alignment with Priorities → Agriculture, health, finance, education, security

AI Policy & Roadmap



- AI Roadmap (10–15 years) aligned with Digital Pakistan Vision
- Clear adoption targets for public & private sectors

Legal & Ethical Frameworks

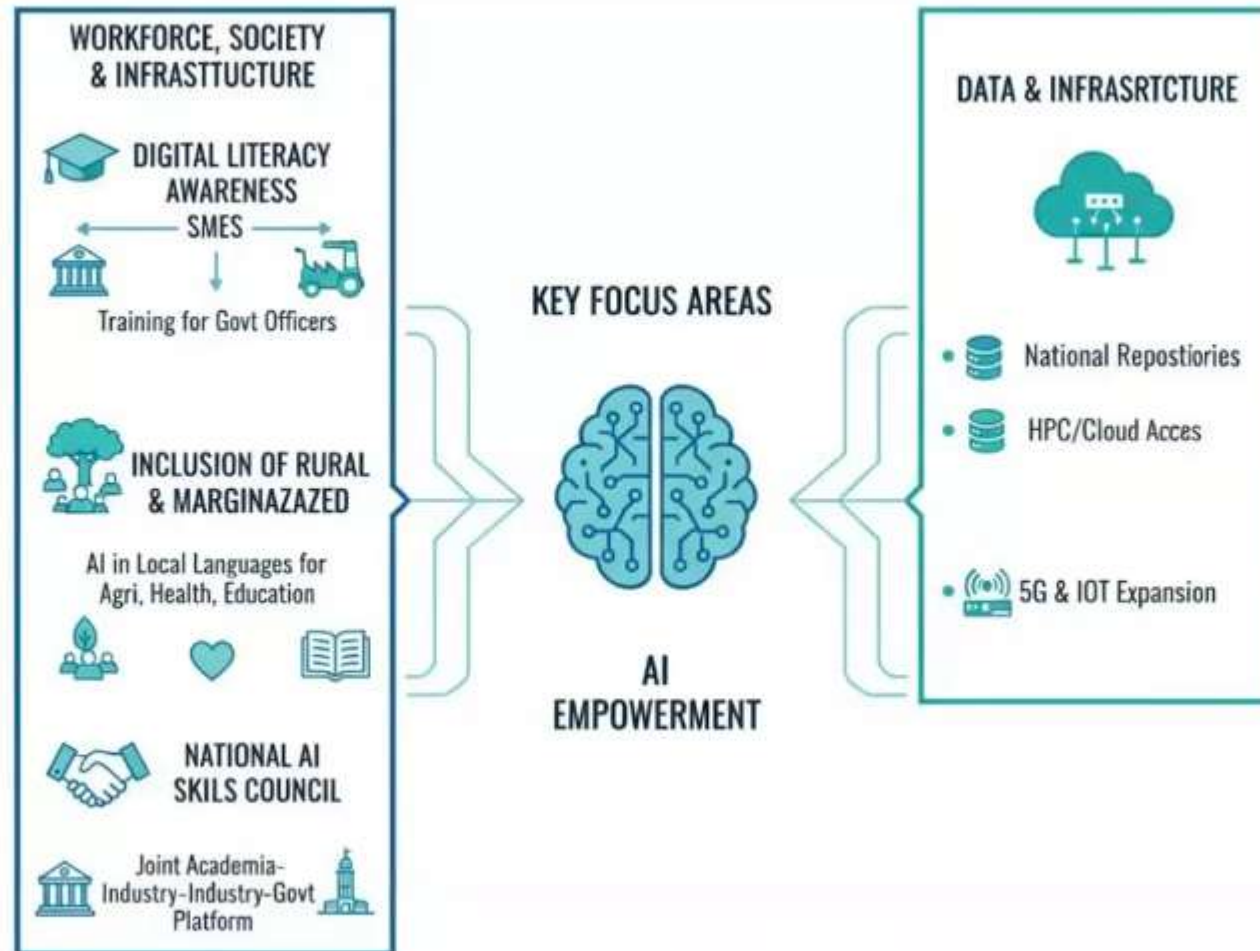


- AI Ethics & Accountability
- Data Privacy Laws
- Tailored policies for each sector



National Progress and Global Competitiveness

Workforce, Society & Infrastructure



BUILDING A FUTURE-READY NATION

National AI Research
Hubs



University–Industry
Linkages



Capacity Building



Expand NCAI
into regional
centers (health,
agri, climate,
transport)

TTOs for tech
transfer, applied
AI projects

AI degrees,
certifications, and
workforce upskilling



Driving Innovation & Skilled Workforce

Academia & Research



Government-Funded Startups in Pakistan

National Incubation Centers (NICs) in Pakistan – Funded by Ignite & MoITT

8 operational NICs
(Islamabad, Lahore,
Peshawar, Karachi,
Hyderabad, Quetta,
Faisalabad, Rawalpindi)
+ new NIC Sialkot in
pipeline.



Government-Funded Startups in Pakistan

AI Startups in Pakistan Supported by Ignite (Agritech, Health & Utilities)

- Mera Maweshi – AI-based cattle disease diagnostics app for farmers; improves livestock health & milk production.
- Bakhabar Kissan (BK) – Precision agriculture with AI, drones & satellite imagery for optimized yield.
- Crop2X – AI + IoT water monitor reducing water use by 50% and increasing crop yield.
- Electrocure – AI + IoT solution to combat electricity theft, reducing losses by up to 90%.
- WonderTree – AI-powered AR/VR therapy & special education for children (2,500+ active users).
- Dot – Wearable devices using data-driven AI analytics for mental health diagnostics.
- Naseem – AI-based digital tutor for primary school students.



Government-Funded Startups in Pakistan

Impact of Ignite's National Incubation Centers (NICs) FY 2023–24 Impact:



222 startups incubated, 207 graduated.

PKR 500M+ investment raised.

PKR 2B+ revenue generated.



Since inception (till FY 2023–24):

- 882 graduates → PKR 23.7B investments & PKR 17.64B revenue.



Startups with Significant Investments

- Bykea (NIC Karachi): Pakistan's leading ride-hailing & logistics startup → raised \$22M+ in funding (Prosus Ventures, MEVP, Sarmayacar).
- Swag Kicks (NIC Karachi): \$1.2M seed (E-commerce).
- OkayKer (NIC Karachi): \$700K seed (AutoTech SaaS).
- Electrocure: \$46M investment offer + £200K GSMA grant (Smart grid, AI & IoT).
- EasyFresh (NIC Islamabad): \$250K (Agritech).
- Mauqa Online (NIC Islamabad): VC-backed, employing 100,000+ workers.
- WonderTree: AR/VR for special education, deployed in hospitals & schools.

AI and Entrepreneurship Today

AI-Powered Tools for Entrepreneurs

Content & Communication



Gemini



perplexity

Claude

ChatGPT / Claude / Gemini

- Business planning, market research, financial projections
- Automated customer support (chatbots, FAQs)
- Marketing content: blogs, ads, and social media posts



Jasper

Notion AI / Jasper AI

- Workflow automation and knowledge management
- Drafting proposals, reports, and presentations
- AI-driven copywriting for campaigns and websites

AI and Entrepreneurship Today

AI-Powered Tools for Entrepreneurs

Coding & App Development

 **GitHub Copilot**

 **replit**

GitHub Copilot / Replit Ghostwriter

- Accelerated coding & debugging
- App and website prototyping
- Reduces development time and cost



Lovable

bolt

Lovable.dev / Bolt.new

- Builds full-stack web apps instantly with AI (front-end, back-end, database) — ideal for startups & MVPs
- Bolt.new → Next-gen AI coding environment that generates, edits, and explains code in real time — speeds up prototype building and deployment

AI and Entrepreneurship Today

AI-Powered Tools for Entrepreneurs

Design & Creativity



MidJourney / DALL-E / Stable
Diffusion

- Logo design, product mockups, ad creatives
- Branding and marketing visuals at low cost
- Product visualization before manufacturing



RunwayML / Synthesia

- AI-generated videos for marketing & training
- Create professional content without expensive studios
- Virtual avatars for presentations or customer interaction



Adobe Firefly

Canva AI / Adobe Firefly

- AI-enhanced graphic and video design
- Social media templates, pitch decks, and ads
- Easy for non-designers to create professional visuals

AI and the Gig Economy

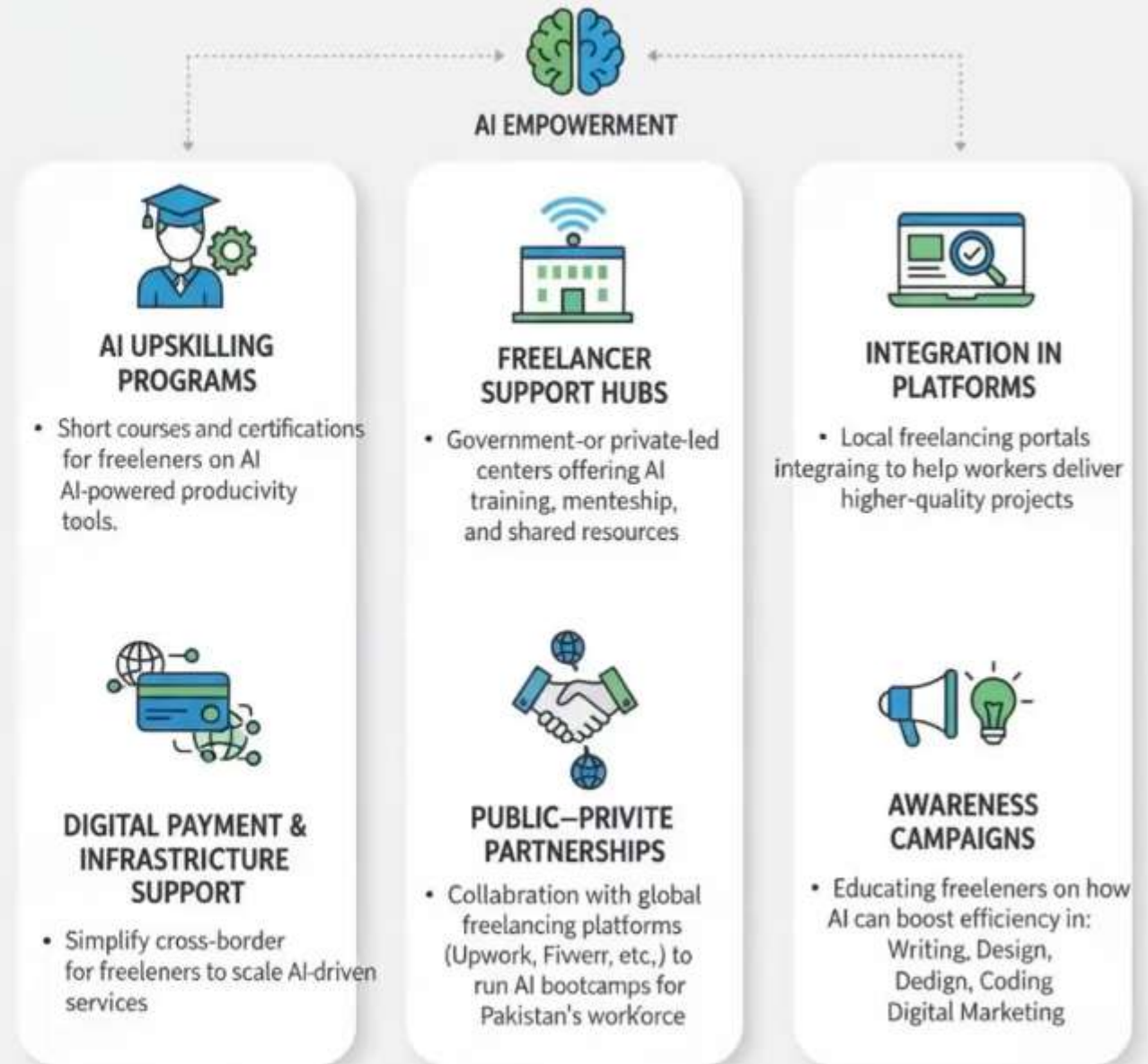
What is the Gig Economy?

Flexible, project-based, short-term work enabled through digital platforms.

Freelancer in Pakistan

- Using AI tools Freelancers can improved productivity and output
- Increased output from 2-3 → 7-8 projects weekly.
- Earnings doubled within 6 months.
- Attracted more international clients with faster delivery.

INITIATIVES FOR AI IN FREELANCING & GIG ECONOMY



FUELING THE FUTURE OF WORK

Pakistan's Ignite Initiatives for Freelancers & Digital Workforce

DigiSkills.pk

- Pakistan's largest online training platform (launched 2018).
- 4.55M+ trainings delivered (1.18M in FY 2023-24 alone).
- 15 market-relevant courses (SEO, E-commerce, Graphic Design, Data Analytics, etc.).
- Contributed \$827M to IT exports (till Dec 2022).

Southern Balochistan Program

- 12,800+ enrollments (65% male, 35% female).
- 3 fully equipped labs (Gwadar, Turbat, Khuzdar).
- Focus on freelancing & IT skills for underserved regions.

CodiSkills Program

- Hackathons & hands-on workshops in major cities.
- 3,500+ participants (2023-24) including students, ICT professionals, govt officers.
- International certification support (e.g., OSCP).

Major technologies enabling AI in different industries

This slide represents major technologies enabling artificial intelligence in different industries. It covers machine learning, natural language processing, computer vision, robotics and edge computing.



Machine learning

- Enables computers to learn from data without being explicitly programmed
- It is used in industries like healthcare, finance, and retail for applications like fraud detection, customer segmentation, and personalized recommendations

Natural language processing (NLP)

- Enables computers to understand, interpret, and generate human language
- It is used in industries like customer service, education, and media for applications like chatbots, language translation, and sentiment analysis

Computer vision

- Enables computers to interpret and analyze images and videos
- It is used in industries like automotive, manufacturing, and healthcare for applications like quality control, object detection, and medical imaging

Robotics

- Enables the design, development, and operation of robots
- It is used in industries like manufacturing, logistics, and healthcare for applications like assembly line automation, warehouse management, and surgical robotics

Edge computing

- Enables the processing of data closer to the source rather than in a centralized cloud
- It is used in industries like retail, transportation, and smart cities for applications like real-time analytics, autonomous vehicles, and smart traffic management

India's AI Strategy (NITI Aayog)

The full form of NITI Aayog is the National Institution for Transforming India Aayog. NITI Aayog is the apex public policy think tank of the Government of India, serving as the nodal agency for catalyzing economic development and fostering cooperative federalism through a bottom-up approach involving state governments. It was established on January 1, 2015, replacing the Planning Commission.



1.

AI for All” (2020)
→ National AI policy to make AI inclusive and accessible for all citizens.

2.

Priority Sectors →
Focus on healthcare, agriculture, education, smart mobility, and fintech as key drivers of AI adoption.

3.

Responsible AI for Youth → Nation wide initiative that trained 11,000+ school students in basic AI skills and awareness.

4.

Long-term Vision → Harness AI not just for economic growth and innovation, but also for social empowerment and inclusive development.

Centers of Excellence (CoEs)

Established in IITs and top research institutes to drive applied AI research.

Industry Partnerships

Active collaborations with Microsoft, Google, Intel, and others for AI-powered solutions.

Startup Ecosystem

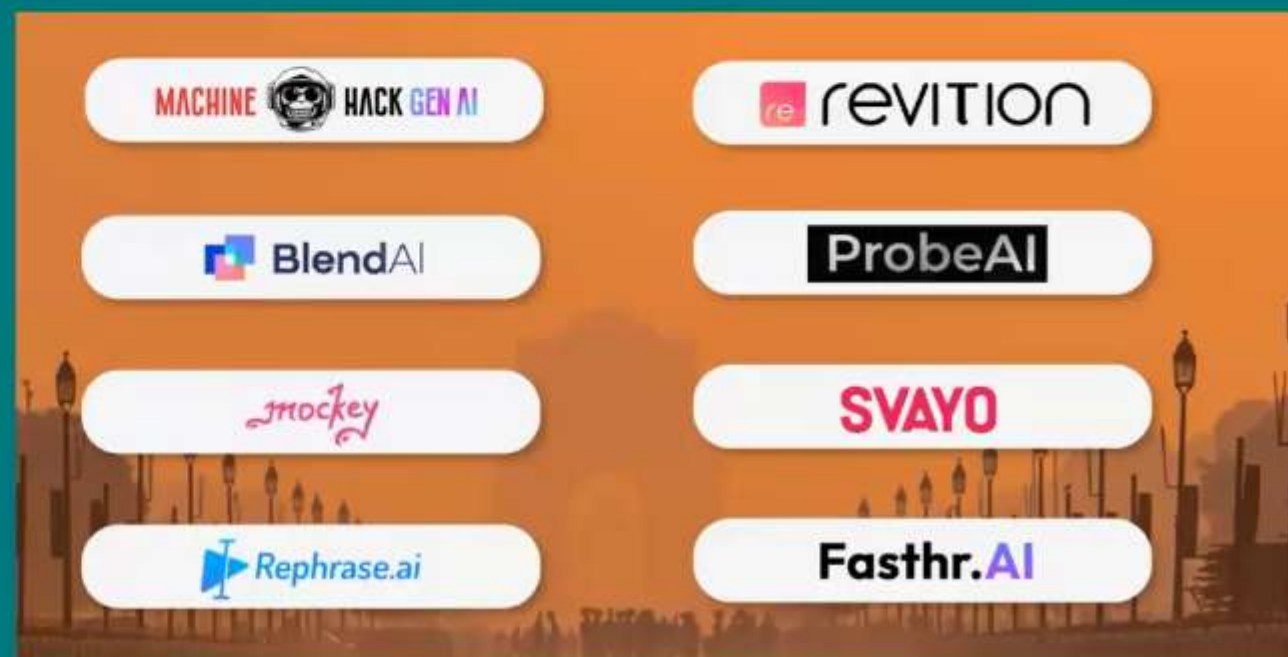
India ranks among the top 5 global AI startup hubs, supported by strong funding and policy backing.

Outcome

Rapid AI adoption in fintech, healthtech, agritech, and mobility startups, boosting innovation and global competitiveness.

India's Institutional & Industry Push

Top Generative AI startups in India



Supporting Innovation with AI



UNITED ARAB EMIRATES
MINISTER OF STATE FOR ARTIFICIAL INTELLIGENCE,
DIGITAL ECONOMY & REMOTE WORK APPLICATIONS OFFICE

Mini Case Study – UAE's AI Strategy

- 2017: First country to create a Ministry of AI.
- Prioritized AI education, smart cities, and public services.
- Partnerships with global tech firms to accelerate adoption.
- Result: AI is now central to UAE's

Mini Case Study – China's AI Plan (2017–2030)

- Declared AI a national priority with a target to lead the world by 2030.
- Heavy investment in AI R&D, robotics, and smart manufacturing.
- Strong government–industry–military collaboration for innovation.
- Result: China leads in AI patents, facial

AI and Education

Early Childhood Learning

Adaptive content adjusts difficulty based on performance, ensuring better engagement.

AI Tutors & Gamified Education

1. Virtual AI tutors provide 24/7 support for students.
2. Gamification makes learning interactive and fun, improving retention and creativity.



Conclusion

AI Absorption = More than Technology

It requires organizational readiness, policies, and cultural change.

What We Must Build

- Strong Policy & Governance frameworks.
- Reliable Infrastructure & Data Ecosystem.
- Continuous Skills Development & Education Reform.
- Culture of Innovation & Entrepreneurship.

The Goal

A future-ready workforce that drives a sustainable AI-powered economy.



Thank You!

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