AI-POWERED TELANGANA

Strategy Document & Implementation Roadmap

AI GLOBAL SUMMIT
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GOVERNMENT OF TELANGANA

Information Technology, Electronics and Communications Department, Government of Telangana

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Foreword by Sri A Revanth Reddy

**Hon'ble Chief Minister,
Government of Telangana**

Telangana is embarking on a visionary journey to establish itself as a leader in Artificial Intelligence (AI)- a technology with immense promise for inclusive growth and development. Our state has consistently been at the forefront of adopting cutting-edge technologies, and with the launch of our AI strategy, we are taking yet another significant step towards transforming the lives of our citizens.

AI has the capability to revolutionise every aspect of society, from healthcare and education to agriculture and governance. What makes AI truly remarkable is its potential to democratise opportunities, ensuring that growth is not just confined to a select few, but is shared across all sections of society. Through this ambitious initiative, we aim to leverage AI to drive equitable development, focusing on the needs of underserved and vulnerable communities. By integrating generative, cognitive, and interpretive AI into public services, we will enhance efficiency, accessibility, and the overall quality of life for every citizen of Telangana.

Our strategy is comprehensive and inclusive, encompassing all participants in the AI ecosystem. Telangana's AI strategy is not just about adopting technology; it is about empowering our people. We believe that the true strength of AI lies in its ability to augment human capabilities, and we are determined to ensure that our citizens are not only consumers of AI but also active contributors to its development.

Our vision is for Telangana to become an exemplar state where AI is harnessed for the greater good, technological advancements lead to social progress, and every citizen benefits from this digital revolution. We are confident that with the collective efforts of our government, industry, academia, and citizens, Telangana will achieve global acclaim as a leader in AI innovation and implementation.

Foreword by
Sri D. Sridhar Babu

Hon'ble Minister of Information Technology,
Electronics and Communication
Industries & Commerce and Legislative Affairs
Government of Telangana

It is my privilege to present Telangana's AI strategy, an initiative that not only aligns with our vision for technological excellence but also propels our state into a new era of innovation-driven economic growth. Artificial Intelligence is rapidly becoming the backbone of the modern economy, and Telangana is poised to lead this transformation through a strategy that emphasises innovation, talent development, and the creation of robust business ecosystems.

The outlined AI strategy aims to position Telangana as a national leader in harnessing AI to drive growth across key sectors such as healthcare, agriculture, manufacturing, and governance. By fostering an environment where innovation thrives, we are enabling the ecosystem to leverage AI to enhance productivity, create new market opportunities, and build solutions that address local and global challenges.

The future of AI is deeply intertwined with the quality of human capital, and as such, our strategy places a strong emphasis on education and training. By integrating AI into our educational systems and developing targeted skilling programs, we are ensuring that our youth are not only prepared to participate in the AI revolution but also equipped to lead it.

Our strategy is centred on building an AI ecosystem that encourages collaboration between startups, established companies, academic institutions, and government entities, all of whom will come together to fuel economic growth, attract investments, and position Telangana as a hub for AI-driven business activity.

Together, we are building a future where AI is at the heart of our growth story, making Telangana a beacon of technological progress and economic success.

Foreword by
Sri Jayesh Ranjan, IAS

Special Chief Secretary,
Information Technology,
Electronics and Communications Department,
Government of Telangana

As Telangana embarks on its AI journey, the strategic integration of Artificial Intelligence into our economy and public services holds immense potential for driving the next phase of growth and improving citizen welfare. This AI strategy is designed not only to enhance efficiency and reduce costs but also to ensure that the benefits of AI reach every corner of our state.

A key focus of our approach is on fostering indigenous innovation. By prioritising investment in local talent, creating region-specific datasets, and developing applications tailored to our unique needs, we are crafting AI solutions that are relevant and effective. Leveraging Generative AI, we are enhancing our capabilities to create customised content, language models, and tools that resonate with our cultural and societal context. This strategy is designed to ensure that AI serves our people while also enabling them to play an active role in its development.

The coming years will be critical as we work to realise this vision. Telangana, with its strong infrastructure, skilled workforce, and progressive policies, is well-positioned to lead this transformation. We are committed to harnessing these strengths to drive sustainable growth, enhance citizen welfare, and ensure that AI becomes a cornerstone of our state's progress.

1 Executive Summary

Artificial Intelligence (AI) - being a transformative general purpose technology - has the potential to not only incrementally add ~$15 Trillion to the Global GDP by 2030 but also to play an equally crucial role in accelerating progress toward Sustainable Development Goals (SDGs). Advances in Generative AI specifically have further opened up opportunities for greater access & efficiency across sectors.

In line with the above the Government of Telangana has an ambition to establish the state as a global hub for AI-driven innovation and implementation in the service of its mission of transforming the lives of citizens and promoting more equitable and sustainable development.

While Telangana's existing strengths of a world-class IT & innovation ecosystem, progressive policies, skilled workforce, and premiere academic institutions will be critical assets in this multi-year journey, achieving such a goal also requires a coming together of citizens, the government, industry, and academia with a robust plan, clear accountability, adequate resources and relentless execution supported by continuous monitoring of outcomes.

To this end, this document lays out the guiding framework and key initiatives with supporting execution structures that the Government of Telangana is committing to drive over the next 3 years (2024-2027). Six critical pillars have been identified to enable an AI Powered Telangana:
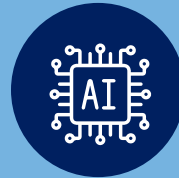
AI Direction Setting

The strategic direction for Telangana's AI ecosystem will be set by the AI Advisory Council, which will bring together leaders from government, industry, and academia and define investment and policy priorities surrounding AI. The AI Research & Collaboration Network, operating through a hub and spoke model, will power socially conscious innovations in AI by converging research and development in academic institutions and corporations.

AI Equipped Government

The Government of Telangana will set an example for the state by integrating AI across its operations to enhance efficiency and service delivery. Generative AI will be leveraged to power interventions aimed at solving the most critical governance challenges across domains including education, healthcare, agriculture, and service delivery. The government will work closely with the private ecosystem to fuel impact-oriented innovations and subsequently invest in solutions that have been proven successful through pilots. Government officials will also be equipped to leverage AI in day-to-day operations to enhance their productivity by over 20%.

AI Ready Local Datasets & Models

The government intends to promote the development of datasets and models that allow AI to account for state-specific nuances including language and culture. Solutions developed using these assets will be more efficient, accurate, and cost-effective, especially when deployed at a population scale. In addition to improved dataset quality across the state, data annotation hubs will be established to cater to the annotation needs of not just the state but the country at large. Lastly, the government will launch the Telangana Data Exchange Platform (TGDex), enabling access to quality data for innovators in the ecosystem and fueling AI-powered innovation through a collaborative approach.
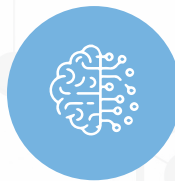
AI Enhanced Ecosystem

To fuel AI innovation sustainably and democratically, Telangana will facilitate access to compute capacity through hyperscalers. Government departments and selected early-stage startups will be provided subsidised access to compute capacity to level the playing field for innovation, specifically for socially conscious solutions. Telangana has already established a robust innovation ecosystem through different agencies and incubators. The services provided by these bodies will be supplemented with AI-specific resources such as development platforms, datasets, etc. and unified on a common interface. This approach will help address information asymmetry in the ecosystem while also fostering collaboration between innovators.

AI for Population

All demographic groups within Telangana will be empowered with AI and Generative AI powered solutions to improve their quality of living. To cater to the growing demand for AI professionals in the job market, the state will train 5 lakh professionals in AI specialisations by 2027 through a mix of formal education and digital initiatives. AI curriculum will be introduced in senior secondary public schools to democratise access to AI skills & careers from an early age. Lastly, a population-scale campaign will be launched to enable AI literacy for diverse citizen cohorts, ensuring that citizens are able to leverage AI to improve productivity and ease processes in everyday life.

AI Future Ready City

Telangana envisions establishing India's most robust AI city hosting multinational corporations, research institutions, and startups. The Centre for the Future, housed in the AI City will expose the general public to cutting-edge AI innovations. AI Nodal Points in district headquarters will connect local talent to AI City resources, ensuring statewide participation in AI-driven growth.

With the above framework and initiatives, we extend an open invitation to industry, academia and citizens alike to help make the vision of an AI Powered Telangana a reality.

Framework for AI Powered Telangana

Goal: Make Telangana the global hub for AI innovation and implementation

AI Direction Setting

Telangana AI Advisory Council

AI Research & Collaboration Network

AI Equipped Government	AI Ready Datasets & Models	AI Skilled Population	AI Enhanced Ecosystem	AI First Future City
AI powered e-Gov	Data & model development	AI for employment	Compute capacity	Core infrastructure
PoC to scale journeys	Annotation hubs	AI in schools	Unified AI services	Experiential centre
AI for efficiency	Data exchange (TGDex)	AI for citizens	Funding AI innovation	District-level AI nodal points

2 Background

In the rapidly evolving landscape of digital technologies, Artificial Intelligence (AI) stands out as a transformative force, reshaping industries, economies, and societies worldwide[1]. AI has the potential to add up to $15.7 Trillion (or >10%) to the world GDP by 2030[2]. The World Economic Forum (WEF) also emphasises that AI can play a crucial role in accelerating progress toward Sustainable Development Goals (SDGs)[3]. Recognising the immense potential of AI in transforming both the lives & livelihoods of citizens, the Government of Telangana has embarked on an ambitious journey to position the state as a global leader in AI innovation and implementation.

The Government will work towards embedding AI into the very fabric of governance, industry, and daily life, thereby creating a future where AI enhances the well-being and prosperity of all citizens. By leveraging AI, the state aims to address critical challenges in governance, healthcare, education, agriculture, climate change and other vital sectors.These interventions will be powered through indigenously developed AI assets that are created by innovators within the state ensuring that the technology implemented is most suited to the state's socio-cultural and economic context. This vision is underpinned by the commitment to harness AI for the public good, ensuring that the benefits of AI are accessible to all, especially the underserved and marginalised communities.

Over the years Telangana has emerged as a clear front-runner in India's technological revolution. Since its formation in 2014, the state has made significant strides in establishing a robust digital infrastructure and fostering a culture of innovation3. Hyderabad, the state's capital, has evolved into a thriving IT hub, often referred to as "Cyberabad," attracting global technology giants. This strong presence of multinational tech companies has catalysed the growth of a dynamic tech ecosystem in Telangana, making it a fertile ground for AI initiatives. 4 enablers highlight Telangana's readiness to lead in AI:

Premier Academic Institutions
Telangana boasts a robust academic ecosystem, positioning the state as a frontrunner in AI innovation and development. The state is home to some of India's highest-ranked institutions such as IIT Hyderabad, IIIT Hyderabad, ISB Hyderabad, NALSAR, ISI Hyderabad, NIT Warangal, excelling not only in engineering but also in law, business, and interdisciplinary studies. 61% of all patent filings originating from Telangana are in the Artificial Intelligence and Machine Learning fields with these institutions being at the forefront of the AI revolution[4]. The presence of specialised institutions also enables groundbreaking interdisciplinary research, integrating AI with law, public policy, and business providing the state with a competitive advantage in a rapidly evolving landscape.

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[1] UN SDG: Harnessing Artificial Intelligence for Sustainable Development Goals (SDGs), 2024
[2] PWC: Sizing the prize: What's the real value of AI and how can your business capitalise, 2024
[3] NITI Aayog: Export Preparedness Index, 2021
[4] NASSCOM: State of Artificial Intelligence Ecosystem in Telangana, 2023

Robust Innovation Ecosystem

Telangana is recognised for having one of the most dynamic and robust innovation ecosystems in India, making it a fertile ground for the growth of AI and related technologies. This ecosystem is composed of a diverse array of incubators, skilling organisations, and support systems that collectively nurture innovation and entrepreneurship: supporting over 6,660 startups[5]. At the heart of this ecosystem is the Emerging Technologies Wing of the IT&C Department, which plays a pivotal role in driving technological advancements in the state. The state is home to T-Hub, India's largest startup incubator, which catalyses entrepreneurial growth and innovation. Telangana also hosts domain-specific incubators and support systems such as We Hub, the Cybersecurity Centre of Excellence, and Ag Hub, all of which are crucial in promoting innovation within their respective fields, with AI as an emerging focal point. The Telangana Academy for Skill and Knowledge (TASK) and the upcoming Skill University, enable specialised training programmes aligned with industry needs, ensuring that the workforce remains skilled and relevant in an AI-driven economy.

Progressive Policies

The Government of Telangana has consistently adopted forward-looking policies to foster technology-driven growth. The ICT Policy, (2021-26) outlines a comprehensive strategy for making Telangana a leader in technology innovation. It emphasises the development of emerging technologies, including AI, through infrastructure development, talent nurturing, and industry collaboration. Similarly, the Telangana Open Data Policy (2016) mandates the sharing of government data with the public, facilitating the development of indigenous datasets and models critical to building AI assets. By making data accessible, it allows startups and researchers to develop AI solutions that address real-world challenges. The Telangana Blockchain Policy (2019) has further positioned the state as a pioneer in emerging technologies, encouraging investment and innovation in AI, blockchain, and IoT.

Skilled Workforce

Telangana is home to a highly skilled and diverse workforce, with credible talent in fields that are key drivers of innovation and excellence in AI. This exceptional talent pool is the result of the state's thriving academic institutions and a strong presence of leading technology companies. With access to cutting-edge education and hands-on experience in the corporate sector, Telangana's workforce is well-equipped to meet the dynamic and evolving demands of AI-driven industries. Through continuous skilling initiatives and exposure to industry advancements, the state will continue working towards enabling a workforce that will both contribute to and leverage AI for development.

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[5] Startup Telangana, 2024

3 AI Direction Setting

Setting a clear strategic course with a focus on innovation and impact at scale is paramount to actualising the state's vision of being a leader in AI. The government will set the direction for AI through the Telangana AI Advisory Council, an apex body that will work with the Chief Minister's Office and bring together senior stakeholders from the government, industry, and academia. The council will be supported by an AI Research & Collaboration Network, which will spearhead research and innovation in AI in partnership with corporations and universities through a hub and spoke model.

Telangana AI Advisory Council

'Telangana AI Advisory Council' is being set up to provide strategic guidance on AI to the government and private ecosystem. As the 'NITI Aayog for AI in Telangana,' this Advisory Council will support the Chief Minister's Office on policy and strategy, and guide government departments, private entities, and academic institutions to work towards realising SDGs through a unified vision for AI. Specifically, the Advisory Council will focus on setting the direction for research & development (R&D), public policy, talent development, and ethical & responsible adoption of AI, as well as development of the AI City. The AI Advisory Council will be composed of representatives from various segments of the AI ecosystem, facilitating the integration of diverse perspectives to drive impactful AI initiatives throughout the state.

Fig (1) Organisational structure of Telangana AI Advisory Council
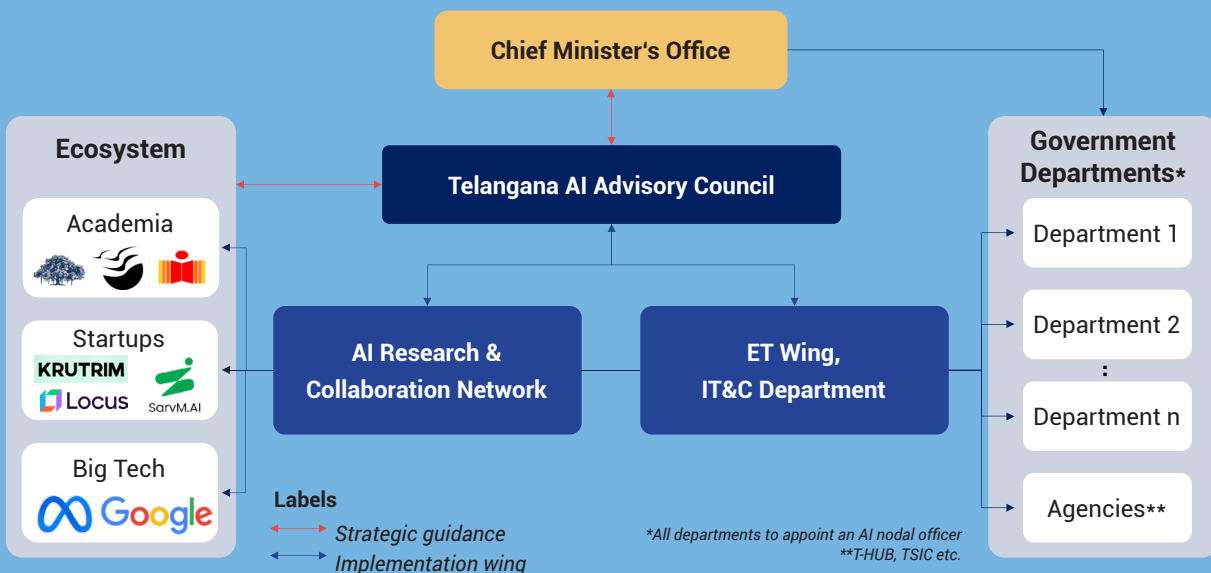
The Telangana AI Advisory Council is positioned to work with the Chief Minister's Office and provide overarching guidance and leadership to the public and private entities in the ecosystem. As depicted in Figure (1), it will work closely with stakeholders from the public and private sectors to catalyse initiatives. It will be supported by two implementation wings:
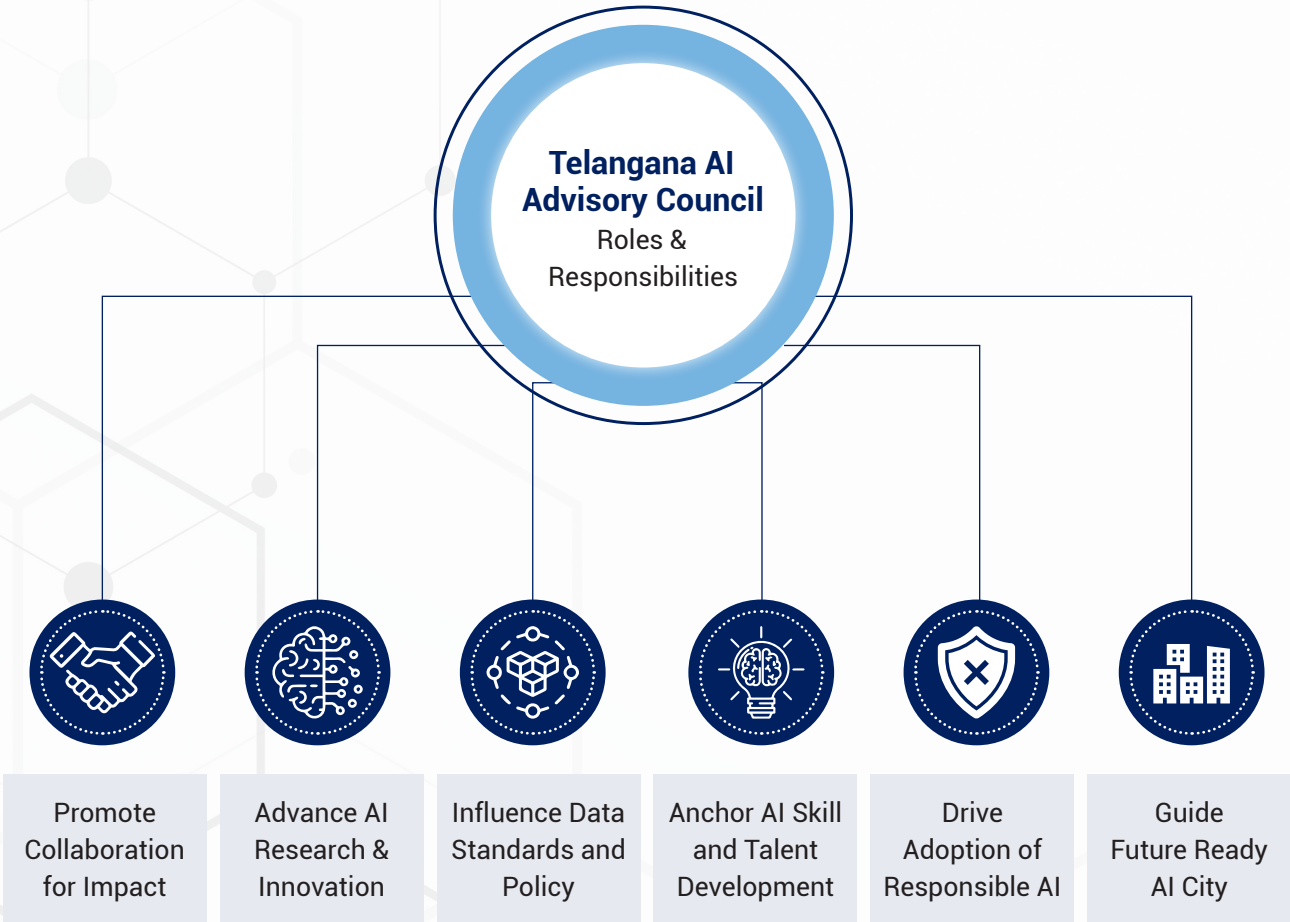
AI Research & Collaboration Network: Positioned within the AI City, this hub will drive advanced AI research and innovation, with its influence extending through spokes in universities and corporate partners across Telangana.

Emerging Technologies Wing, IT, E&C Department: The Emerging Technologies (ET) Wing of the Government of Telangana was formed to establish the state as a leader in emerging technologies. Under the guidance of the AI Advisory Council, it will drive the strategy and policy implementation across different government departments and agencies.

All government departments will also appoint an AI nodal officer to drive interventions and outcomes outlined by the AI Advisory Council. They will specifically work on improving the AI readiness of datasets and the workforce while leveraging AI assets to deliver enhanced services to citizens. This will ensure that AI initiatives align with state policies and that resources are effectively mobilised to drive envisaged outcomes.

Fig (2) Key Functions of the Advisory Council

Telangana AI Advisory Council
Roles & Responsibilities

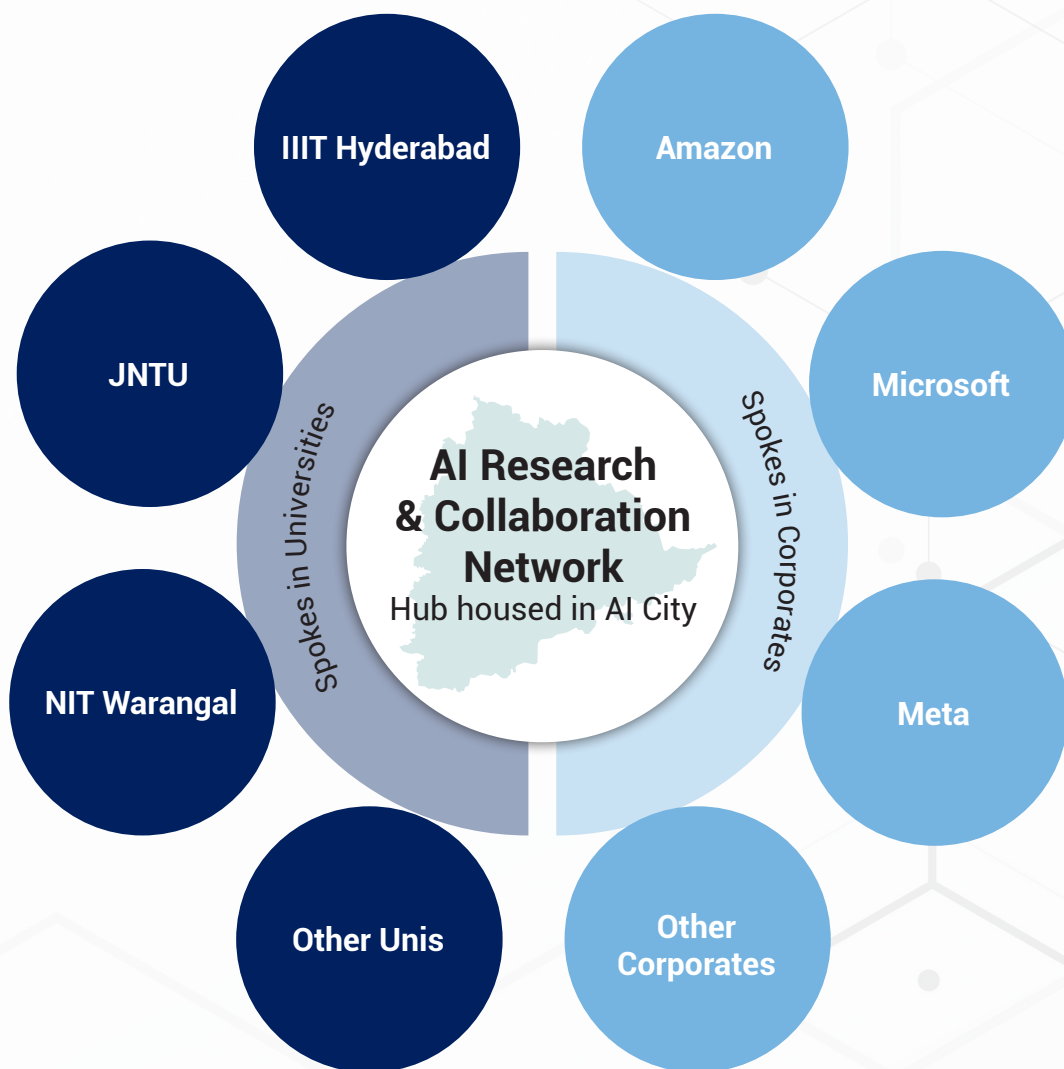| Promote Collaboration for Impact | Advance AI Research & Innovation | Influence Data Standards and Policy | Anchor AI Skill and Talent Development | Drive Adoption of Responsible AI | Guide Future Ready AI City |

AI Research and Collaboration Network

Driving cutting-edge research and development in AI is critical to creating datasets, models, and applications that empower government departments, companies, and innovators to serve citizens better. While private and public academic and research bodies in Telangana have been pioneering AI research in India, facilitating convergence between different entities will compound the speed and quality of AI innovation. The 'AI Research & Collaboration Network' will work as the hub to drive collaborative innovation and anchor the state's strategic priority initiatives in key academic institutions and corporations. Universities and corporations will be incentivised to develop spokes within their respective institutions to anchor initiatives. The network will be housed in the AI City, with spokes co-working in research, solution design, and development ensuring holistic and converged innovation.

Fig (3) Hub and Spoke Model for AI Research & Collaboration Network

IIIT Hyderabad

Amazon

JNTU

Microsoft

Spokes in Universities

AI Research & Collaboration Network
Hub housed in AI City

Spokes in Corporates

NIT Warangal

Meta

Other Unis

Other Corporates

The operating framework for the AI Research and Collaboration Network:

Central Hub in AI City
The hub of the AI Research & Collaboration Network, located in the AI City, will be equipped with the cutting-edge infrastructure required to support advanced & interdisciplinary AI research. It will act as the nerve centre for coordinating initiatives, managing collaborations, and overseeing the direction of AI research.

Spokes in Universities
As in Figure (3), the network will extend its reach through a series of spokes, strategically positioned in leading universities across Telangana. Initial MoUs will be signed with reputed academic institutions. Gradually, spokes will be established in developing institutions across the state, promoting cross-learning and ensuring that research expertise trickles down to academics and innovators from diverse institutions.
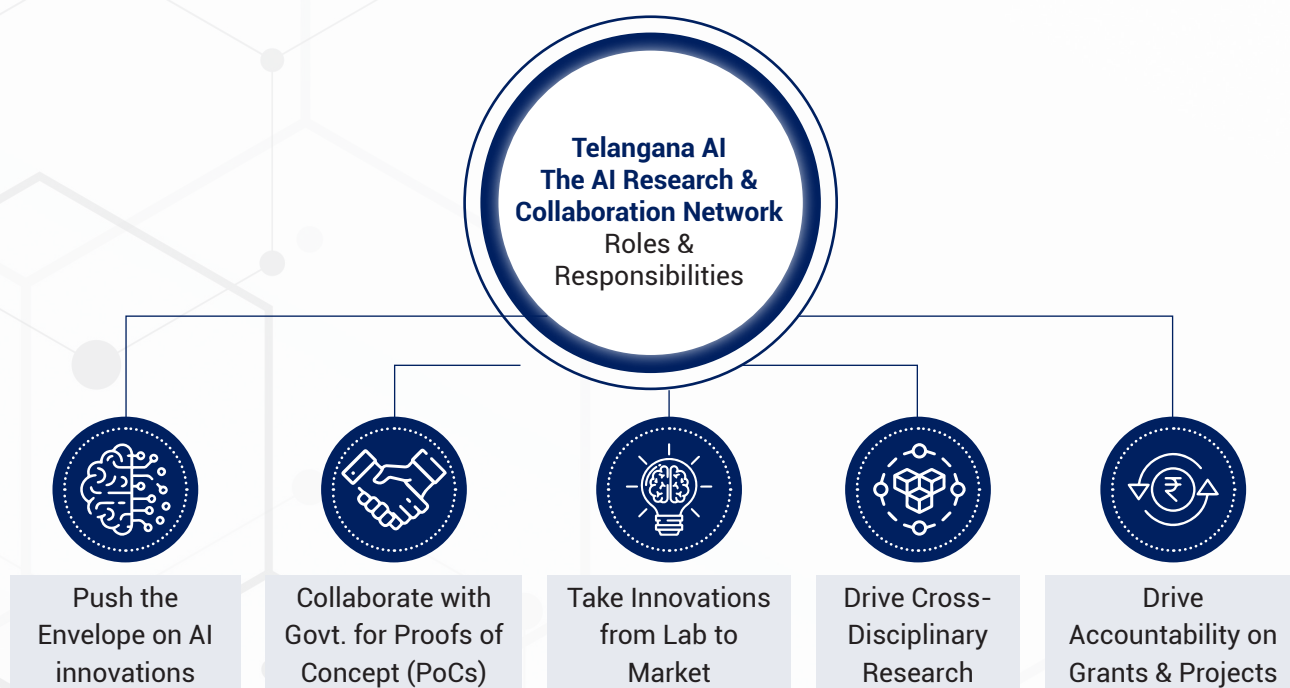
Spokes in Corporates
In parallel, partnerships will be established with industry leaders who will enable business expertise and private grants beyond contributing to research and innovation. Corporate partners, including established startups, will collaborate with the network to develop industry-relevant AI solutions and facilitate the commercialization of AI innovations.

The Connecticut Innovation Ecosystem in the United States provides a similar model where academic institutions like Yale and UConn collaborate with industries to drive innovation and commercialise research[6]

The Apollo Programme for AI Research in Singapore, launched by AI Singapore, emphasises collaboration between the government and research institutions to develop PoCs that can address national challenges[7].

Fig (4) Key Functions of AI Research & Collaboration Network

Telangana AI The AI Research & Collaboration Network Roles & Responsibilities

| Push the Envelope on AI innovations | Collaborate with Govt. for Proofs of Concept (PoCs) | Take Innovations from Lab to Market | Drive Cross-Disciplinary Research | Drive Accountability on Grants & Projects |

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[6] Advanced Connecticut: CTNEXT, 2024

[7] IT News Asia: Singapore to pilot AI software for accurate CT scan interpretations, 2024

4 AI Equipped Government

The Government of Telangana is poised to lead AI adoption across its departments, embedding AI technologies into core government operations to boost service efficiency. The government will enhance its own operations and services through AI, enable AI support in policy-making, and integrate AI solutions in welfare delivery schemes. The Government intends to improve service delivery for 1Cr+ citizens and enhance productivity of government employees by more than 20% over the next 3 years, setting the benchmark for AI-driven governance across India.

AI Powered E-gov

Recognising the transformative potential of AI in promoting Sustainable Development Goals (SDGs), Telangana will leverage artificial intelligence to address pressing e-governance and social challenges[8]. With the state's population relying on the government's critical services in healthcare, education, agriculture, urban mobility, and beyond, there is a need to improve the efficiency, accessibility, and responsiveness of these services. AI can help meet existing challenges in service delivery through data-driven decision-making, service automation and personalisation, and optimised service delivery at the last mile- ultimately improving the quality of living for citizens[9]. Telangana aims to improve government service delivery for over **1 crore citizens,** (>25% of Telangana's population) through AI-powered solutions by the end of 2027.

The Emerging Technologies Wing of the IT, E&C Department will work with all government departments and agencies to identify and implement AI use cases that can impact large sections of the population. Generative AI will be integrated to enhance existing platforms, (such as T-App for scheme and service delivery) or create new systems to power services in target sectors like agriculture, education, and public health. Figure (5) details potential use-cases of AI that can solve critical challenges at population scale, with a specific focus on the needs of underserved communities.

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[8] UN SDG: Harnessing Artificial Intelligence for Sustainable Development Goals (SDGs), 2024
[9] NITI Aayog: National Strategy for Artificial Intelligence, 2018

Fig (5) List of AI-powered e-Gov use-cases with the target population

Scheme & Service Delivery	80L
AI enhanced versions of T-App for more proactive & easy delivery of schemes and services and grievance redressal	GenAI

Urban Mobility & Traffic	40L
AI-driven traffic management system via real-time data to optimize flow, predict congestion, and coordinate citywide responses	

Agriculture Extension	30L
Farm plot health detection (soil quality, pest incidence, irrigation requirement) linked to personalised alerts and advisories	GenAI

Disease Screening	70L
AI detection of high-risk individuals by screening data to deliver personalized reminders & treatment guide for timely medical care	

Telemedicine	21L
AI-powered helpline for basic health advice and escalating cases to public hospitals or the health department	GenAI

Outbreak Mitigation	5L
Proactive identification of regions at risk of disease outbreaks with decision support for govt. officials to implement remedial measures	

Assessments	12L
Primary Education: Mobile application for performing on the spot oral assessments of students in various subjects	GenAI

Adaptive Learning	8L
Sr. Secondary Education: Personalized adaptive learning module for competitive exams (e.g.: JEE, NEET) for underserved students	GenAI

Career Counselling	10L
Sr. Secondary Education: Chatbot & helpline for conducting psychometric assessments, offering personalized career advice to students	GenAI

*representative list
GenAI Powered by Generative AI

Singapore's National AI Strategy[10] highlights five transformative projects aimed at advancing personalised healthcare, urban living, and supply chain resilience: i) 'Smart Estates' for sustainability and efficiency in urban environments ii) "Intelligent Freight Planning" to optimise logistics by predicting freight movements iii) "Chronic Disease Prediction and Management" for personalised care for chronic conditions iv) "Seamless and Efficient Municipal Services" to proactively detect and resolve public service issues (waste management, water leakage, streetlight malfunction, and pothole repairs) v) "Smart Nation Sensor Platform" to improve public safety.

[10] National AI Strategy, 2019 released by Smart Nation and Digital Government Office (SNDGO) Singapore
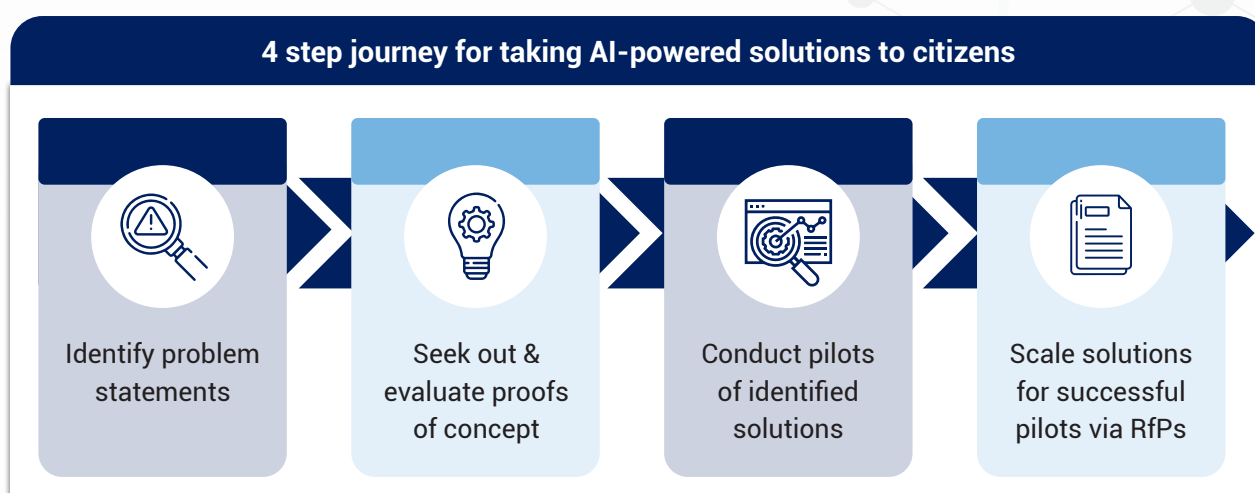
PoC to Scale Journeys

To develop impactful cross-domain AI solutions, the government will collaborate with industry partners, research institutions, and startups. Given the novelty of AI research and the scope of innovation, it becomes important for the government to invest in solutions judiciously, ensuring effective and impactful utilisation of the government budget. A 4 step process has been created for translating critical problem statements in governance into population-scale AI-powered solutions.

This process starts with the identification of critical governance problem statements by government departments. The concerned department will then seek out potential solutions from startups, corporations, and universities- even if they are in the PoC phase. Following initial testing in controlled environments, limited PoCs will be identified for development of a minimum viable solution that can be tested on the ground with users. Pilots with these solutions will be conducted to measure potential effectiveness in real-world scenarios. Solutions that have been found effective through pilots will then be scaled into full-fledged products through RFPs, and the government work on driving adoption and integration into the existing infrastructure. This phased approach to solution development and implementation allows the government to undertake judicious investments in scaling impactful AI solutions whilst supporting innovation centred around governance problem statements.

Figure (6) PoC to Scale Journey

4 step journey for taking AI-powered solutions to citizens

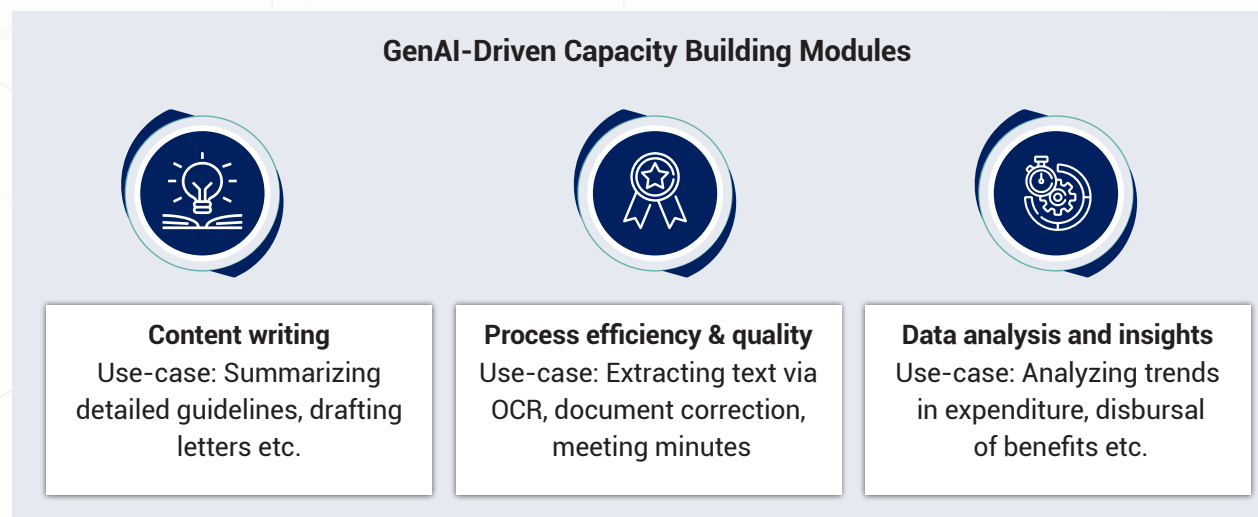| Identify problem statements | Seek out & evaluate proofs of concept | Conduct pilots of identified solutions | Scale solutions for successful pilots via RfPs |

AI for Efficiency

In response to the growing value of AI in improving process efficiency, a capacity-building programme in AI will be implemented to enhance the productivity of government officials. This programme will focus on the usage of AI-powered tools to streamline various tasks, from drafting letters and taking notes to summarising detailed reports, allowing officials to specifically harness GenAI to improve their daily work processes (as detailed in FIgure 7). This initiative aims to ultimately achieve a more than 20% increase in productivity for 2 lakh officials by the end of 2025.

Fig(7) Modules for capacity building of government officials

GenAI-Driven Capacity Building Modules

Content writing
Use-case: Summarizing detailed guidelines, drafting letters etc.

Process efficiency & quality
Use-case: Extracting text via OCR, document correction, meeting minutes

Data analysis and insights
Use-case: Analyzing trends in expenditure, disbursal of benefits etc.

A state-wide capacity-building programme will be designed in collaboration with the ecosystem to identify AI & GenAI tools most effective in government setups. The government will then deliver phygital (physical + digital) training sessions to officials, offering hands-on experience with the AI tools. To ensure continuous learning and adoption, self-paced refresher modules and monitoring of usage will be enabled, supporting officials as they integrate these new capabilities into their daily work. Baseline and end-line productivity assessments will be conducted to measure the program's impact and track the impact of AI on productivity enhancement.

> The UK Government Digital Service (GDS) has conducted AI training workshops for civil servants as part of its effort to promote digital transformation in government. The programme covers various aspects of AI, including ethics, governance, and practical applications, helping officials integrate AI into their day-to-day responsibilities[11].

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[11] United Kingdom Government Digital Services, 2019

5 AI Ready Local Datasets & Models

Understanding the crucial role of contextual and local data in AI development, Telangana will create and curate datasets and models that are contextually relevant to the region and built for local languages. This focus on local language AI assets is driven by the need for efficiency, cost-effectiveness, and the preservation of cultural nuances, ensuring that AI solutions resonate deeply with the local population. Additionally, Generative AI built through local datasets will cater specifically to the state's need and dialects. To achieve this, the state will help improve dataset quality, establish data annotation hubs, and launch citizen-facing programmes dedicated to producing high-quality datasets. The Telangana Data Exchange Platform (TGDex) will be set up to implement a secure and efficient framework for data sharing, encouraging collaboration and innovation among various stakeholders in the AI ecosystem.

Dataset & Model Development

To understand the importance of localised datasets in AI performance, consider how Western GenAI models handle language. These models typically translate prompts from any language into English, process them, and then translate the response back into the original language. This multi-step process often leads to a loss of context, slower response times, and higher computational costs due to the need for additional translation layers. In contrast, AI models trained specifically on local language datasets, such as those for Telugu, can directly process queries in the native language. This approach not only speeds up response times but also ensures that the answers are more accurate and culturally relevant, reducing the need for extensive computing resources. Localised models and datasets are crucial for delivering effective AI solutions in multilingual and diverse cultural settings like India. The approach for equipping the ecosystem to build local datasets and models would include:

AI Ready Datasets in Government Departments

Government departments will be mobilised through regular reviews and supported through open source technologies to improve the quality of datasets across defined benchmarks (L1-L3) as per figure (7). The first level (L1) focuses on identifying and cataloguing datasets that exist in non-standardised, non-digitized formats, and are currently inaccessible for AI applications. The second level (L2) involves digitising these datasets and transitioning them into standardised formats. The third and final level (L3) pushes the envelope by ensuring that data is granular (eg: at the citizen level) aligning with the Data Protection and Privacy (DPDP) Act.

Fig(8) Framework for benchmarking government datasets

Benchmark	Definition
L1	Data in non-standardized non-digitized format
L2	Data in standard **digitized** format at aggregated level
L3	Data in standard **digitized** format at individual **citizen level** in compliance with **DPDP Act**

Standardised Domain-Specific Dataset Schema

In parallel, the state will also drive the standardisation of domain-specific dataset schemas. Industry leaders will be engaged to draft standardised schemas for different domains, which will be formalised following stakeholder consultations and feedback. Once the standardised schemas are finalised and published, the government will ensure adherence to standards through incentives and nudges. This process will enhance interoperability and reduce redundancy. Moreover, the participatory approach ensures that the schemas are not only technically sound but also practically viable for widespread adoption.

Indigenous AI Model and Architecture Development

The development of indigenous AI models and architectures will enable solutions to address the local needs of Telangana. The government will facilitate investments in creating models that are linguistically and culturally aligned with the state, such as Telugu Language Models (LLMs), domain-specific Statistical Language Models (SLMs), and Automatic Speech Recognition (ASR) systems.

Efforts are being made to develop large-scale Telugu LLMs that can understand and generate text in Telugu with high accuracy, similar to the work done with other Indian languages like Hindi, Telugu, Tamil, etc, by organisations such as AI4Bharat's Indic NLP Library[12].

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[12] AI4Bharat, 2024

These models will be foundational in improving the accuracy and relevance of AI applications across various sectors. To create these models, the government will collaborate with local universities and innovators, ensuring that the development process benefits from the insights and expertise of those who are deeply familiar with the linguistic nuances. Developing language-specific architectures is also critical to effectively handle the unique challenges presented by regional languages, including issues related to tokenisation, encoding, and classification.

An example of innovation in this space is the development of IndicBERT, a multilingual transformer model pre-trained in 12 Indian languages, including Telugu. Such models have been crucial in advancing natural language processing (NLP) capabilities across the Indian subcontinent[13].

Swecha has pioneered an indigenous AI model through its 'Chandamama Kathalu' program, engaging university students in data collection and annotation.[14]

For Telugu, architecture will be refined to address specific challenges, such as handling the complex script and accommodating diverse dialects. Additionally, the adaptation of models like BERT and GPT-3 for Telugu and other Indian languages will play a significant role in making AI more accessible and effective for the local population. Finally, to maintain and enhance the quality of these AI solutions, local benchmarks that evaluate performance will be published. These benchmarks will account for nuances such as dialect variations, phonetic differences, and cultural context in ASR systems, and will allow solution developers to test accuracy in an unbiased manner. This approach will ensure that the AI models are not only technically sound but also deeply rooted in the local context, ultimately paving the way for scalable, cost-effective AI solutions.

Annotation Hub

Data annotation is a critical component in the development and optimisation of AI models. Recognising its importance, the government will implement structured programs to engage citizens in data collection and annotation. This initiative will create a robust ecosystem for AI development, generate employment, and engage citizens in preserving cultural heritage. The government will build sustainable models that integrate AI development with employment generation, citizen engagement, and cultural preservation by:

- Establishing 50 data annotation centres, creating 10,000 jobs within the state.
- Engaging 5 lakh students in the "Earn While You Learn" program, providing them
- with an opportunity to earn ₹5,000 per month.
- Involving 10 lakh citizens in data collection and annotation activities under the
- Telangana Vaibhavam AI program, generating 10 billion tokens.

Data Annotation Centres

The state will incentivise tech companies and not-for-profits to set up over 50 annotation centres to connect freelancers and job seekers with data annotation tasks. These centres will cater to the data annotation requirements for all Indian languages- setting up Telangana as the pre-eminent hub for data annotation in India.

Earn While You Learn Program

The 'Earn While You Learn' programme for university students will build expertise in specialised AI fields and promote contributions to data annotations. This paid internship programme will be funded via public-private partnerships and will be accessible to students during summer and winter breaks. It will involve

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[13] AI4Bharat, 2024

[14] The Hindu: AI Chandamama Kathalu released, 2024

coursework in specialised AI fields such as deep learning, natural language processing, and computer vision, followed by structured data collection and annotation tasks. Gamification will be leveraged to drive this in a campaign mode and promote contributions by students.

Telangana Vaibhavam AI

This initiative aims to develop AI-ready datasets focused on the cultural nuances of Telangana through public engagement. Collaborating with cultural and AI experts, the state will identify and map nuances of culture that AI solutions should be cognizant of and identify data requirements for solution enhancement. A state-wide campaign will be launched to promote citizen participation in annotating cultural datasets through a digital platform, and supplemented by a mass campaign led by the Honourable Chief Minister inviting direct citizens contributions to AI innovations.

TGDex: Telangana Data Exchange

Building on the ADex platform's contributions in harnessing agriculture-related open data for the public good, the state will implement a multi-domain TGDex to facilitate seamless data exchange between various stakeholders, including government agencies, researchers, and private entities. The TGDex platform will operate under a well-defined policy framework that ensures the standardisation of data exchange processes, featuring a centralised data-sharing system. This system will allow automated data sharing and be equipped with data trusts to manage and safeguard data digital vaults to maintain privacy and security during exchanges. The state will track the utilisation of these datasets in AI model development, with public dashboards providing transparency on their impact and contribution to societal development. By exposing datasets through this centralised platform and enabling easy access to high-quality, anonymised datasets, the government will spur innovation across domains, with a focus on agriculture, healthcare, urban mobility, and service delivery

6 AI Skilled Population

To build a future-ready AI workforce, the state will focus on three core initiatives targeting demographic groups. First, specialised multi-modal AI capacity-building programs, tailored to meet evolving industry needs, will be enabled for professionals. Second, AI education will be embedded into senior secondary school curriculum to improve pedagogy and ensure access to foundational AI skills necessary for the AI-centric job market of the future. Lastly, AI literacy will be enabled for the population at large, ensuring broad and democratised access to AI tools.

AI for Employment

India's AI market, especially in software and services, is expected to experience robust growth with a projected compound annual growth rate (CAGR) of 25-35% through 2027[15]. This growth points to the need for a workforce competent in AI specialisations. The 'AI for Employment' initiative will focus on professionals aged 18-45, helping them easily discover high-quality courses - from a variety of providers - to acquire industry-relevant skills complete with standardised and recognised certifications.

The government will create a centralised, integrated learning platform that serves as a one-stop solution for course discovery and certification. This platform will adhere to ONEST compliance standards to ensure the curriculum is standardised and easily discoverable[16]. The curriculum will be accessible in local languages to ensure linguistic inclusivity. To support students from underserved sections, the government will channelise scholarships and make available courses for free courses. Additionally, the platform will undergo regular revisions, monitored by the Telangana AI Advisory Council, to ensure it stays aligned with current and emerging market needs, effectively fostering the state's AI talent pool. The courses on the platform will be curated from contributions from existing premier institutions as well as corporations and comply with high quality standards.

The Government of Telangana is set to upskill 5 lakh young professionals in specialised AI competencies by 2027, addressing the growing demand for skilled professionals in AI and deep tech fields. A 6 step process is being adopted for the same:

Knowledge Curation

Existing courses from high-quality platforms like edX, NPTEL, and Coursera will be organised into structured pathways. These pathways will guide professionals through essential topics required to gain expertise in specific AI and tech sub-domains. For each specialisation, such as becoming a Machine Learning Expert, a clear learning path will be defined and linked with

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[15] NASSCOM: Advancing India's AI Skills: Interventions and Programmes Needed, 2024

[16] ONEST: Imagining an open network for education & skilling to bridge the skill-employment gap in India, 2023

courses in the ecosystem. For example, to become an expert in Machine Learning, the pathway might include the following topics:

Table 1 - Representative Pathway Pathway of Courses for Machine Learning

SN	Pathway to Machine Learning	Available on
1	Linear Algebra and Calculus	NPTEL by IIT Madras
2	Probability & Statistics	Khan Academy tutorials on YouTube
3	Python Programming	Free course on edX
4	Introduction to Machine Learning	Andrew Ng's ML course on Coursera
5	Neural Networks & Deep Learning	Geoffrey Hinton Lectures on YouTube
6	Model Evaluation & Optimization	Free course on Coursera

These pathways ensure that learners can systematically build their knowledge, progressing from foundational topics to more advanced concepts, and the modular approach allows participants to pick specialisations aligned with their career goals.

ONEST Compliance and Standardization:
Open Network for Education Skilling Transaction (ONEST) is an open decentralised network that fosters a fair and accessible network for facilitating access to learning and livelihood opportunities. The curated courses and modules will be standardised under the ONEST framework, ensuring that there is mapping of learning outcomes, credentialing and accessibility to all learners. Recognising and tracking course completion under the ONEST framework will allow learners to accumulate standardised credentials, which would be valuable for career progression. Moreover, integrating these pathways into the ONEST network will ensure that learners can easily discover and access curated pathways from diverse original hosting platforms.

Platform Development and Learner Support
The Government of Telangana will develop a centralised online platform where students can discover AI specialisations tailored to their career paths, access learning resources, and track learning progress with AI-powered recommendations to personalise learning paths. This platform will offer a combination of synchronous and asynchronous learning options, ensuring that professionals can learn at their convenience. It will integrate gamification features, allowing learners to earn badges, skill points, and certifications which can be showcased on professional networks like LinkedIn, thereby improving their employability. Lastly, the government will foster a strong learner community and promote cross-learning by integrating peer-to-peer support, mentoring, and networking opportunities.

Inclusivity and Adoption
A statewide media campaign will be launched across multiple platforms to raise awareness about the program. Communications will specifically target underrepresented groups, such as women, rural professionals, and economically disadvantaged individuals. The government will make resources freely available and provide financial aid through existing schemes, encouraging widespread participation. Additionally, the programme will focus on offering flexible learning schedules and remote access, particularly for professionals in rural areas. Learning support will also be made available in Telugu, furthering accessibility for the state's diverse population.

Monitoring and Continuous Improvement

Data-driven insights through AI-driven analytics will be utilised to continuously monitor the progress of learners and assess the performance of courses. By analysing learner engagement, completion rates, and post-certification employability, the programme will be able to optimise and iterate course content effectively. To keep pace with the rapid evolution of AI technologies, the curriculum will be regularly updated by the government to incorporate the latest industry needs and emerging technologies such as quantum computing and AI ethics. Additionally, the government will establish continuous feedback loops with participants and industry partners to ensure that courses remain relevant, accessible, and engaging.

AI in Schools

This initiative targets students aged 15-18 and focuses on building foundational AI knowledge, preparedness for future careers in AI, and an understanding of safe AI. The AI curriculum will be rolled out in schools starting in the academic year 2025-26 and will entail providing schools with comprehensive AI Learning Kits, enhancing curriculum, and training teachers. By 2027, this curriculum will cover all AI in senior secondary schools in the state and impact around 5,000 government educational institutions, 20,000 educators, and 5 lakh students[17]. Equal access to quality AI education in both Telugu & English will be prioritised, making it available in public schools across the state for students from diverse socio-economic backgrounds. The curriculum of existing subjects will be tweaked to include AI-related competencies. This combined with career counselling for future AI jobs, will set students up for success in the job market. AI will also be leveraged to promote experiential learning across different subjects and students will be introduced to AI tools that further knowledge and learning beyond school. Lastly, students will be educated on safe and responsible usage of AI.

The Government of Telangana aims to equip 100% of senior secondary schools with an Artificial Intelligence (AI) curriculum by the year 2027.

Globally there are examples of MIT's Media Lab or Stanford AI Lab for advanced AI insights through which successful AI Education programmes have been implemented[18,19].

INAI (Applied AI Research Centre) which leads AI research and innovation at IIIT Hyderabad, has experience in AI curriculum development[20].

The curriculum can be divided into four main components:

Introduction to AI & AI Tools

The government will equip students with the awareness and skills needed to effectively use AI tools and software, ensuring they are proficient in the foundational. The curriculum will introduce students to AI, its history and societal impact, and then focus on fundamentals of data literacy, including data collection, cleaning, and visualisation. AI Labs will be leveraged to introduce students to use generative, interpretive, and cognitive AI with links to real-life applications. Hands-on training will be provided with leading AI tools and platforms, such as Google's TensorFlow, Microsoft Azure ML, IBM Watson, and open-source

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[17] Board of Secondary Education, Telangana, Government of Telangana

[18] MIT Media Labs: Life with AI- Designing the future of smart systems to improve the human experience, 2023

[19] Stanford University: Artificial Intelligence Lab, 2019

[20] INAI: Applied AI @ IIIT Hyderabad, 2024

tools like Python libraries (e.g., scikit-learn, Keras). Additionally, students will apply their knowledge through project work, developing simple AI projects such as basic chatbots, GenAI-based text generators, image recognition systems, or data analysis tasks, to reinforce their learning and build practical skills.

Experiential Learning via AI

Experiential learning can be fostered by engaging students in practical AI projects and real-world problem-solving, providing them necessary tools and resources to gain hands-on experience with AI technologies. Students will work on group projects that address real-world problems using AI, such as environmental monitoring, health diagnostics, or smart city solutions. AI labs in schools, equipped with components depicted in Figure (8), will enable students to experiment with AI hardware and software.

> Intel's AI for Youth programme was designed to give practical experience to students for building AI solutions for solving real world problems[21].

Fig (9) Components of learning kits in AI Labs in schools

IoT Devices

Cloud Access

AI Tools & Licenses

Teacher Training

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[21] Intel: AI for Youth, Empower youth with AI tech and social skills in an inclusive way, 2024

2.3. Core Curriculum Enhancements

Ensuring regular updation of curriculum basis economic and industry trends is critical, especially at the senior secondary level. The curriculum of relevant subjects will be tweaked to ensure the inclusion of AI-specific core competencies. For example, in mathematics, AI-relevant topics such as probability, statistics, and linear algebra will be emphasised. Concepts like matrix operations, which are foundational in neural networks, will also be integrated into higher-grade curricula.

Careers in AI

The government will also provide students with comprehensive guidance on AI career paths ensuring they are well-prepared for the future job market. Students will be equipped to align their interests with potential AI careers, and provided information on relevant AI-related courses and degrees at the undergraduate level, to guide them towards higher education pathways in this field

Responsible & Safe AI Usage

Students will be introduced to ethical considerations and safe practices associated with AI, ensuring they develop a responsible approach to AI usage. The curriculum will cover essential topics such as ethical AI, understanding biases in AI, and the importance of transparency and fairness in AI algorithms. Safe AI practices will be a key focus, educating students on online safety and making them aware of AI manipulation techniques like deepfakes. To reinforce these concepts, the programme will include the analysis of real-world case studies, illustrating both the positive and negative impacts of AI on society.

AI for All

The Government of Telangana will launch an "AI for All" campaign to educate and empower citizens aged 15-60, helping them integrate AI tools into their everyday lives and make AI more accessible to the general population. The campaign will leverage user-friendly tutorials on platforms like WhatsApp, YouTube, etc. developed in collaboration with industry leaders to link citizens with learning modules. This will be supported by a comprehensive multi-channel Information, Education, and Communication (IEC) campaign to ensure widespread awareness and adoption. The Government of Telangana aims to equip 100% of senior secondary schools with an Artificial Intelligence (AI) curriculum by the year 2027.

Malaysia's AI for All programme ambitious initiative aimed at raising mass awareness and providing training on artificial intelligence across the country. The programme leverages a dedicated platform to deliver AI education, targeting diverse demographics, including students, professionals, and the general public, with the goal of fostering widespread understanding and adoption of AI technologies[22].

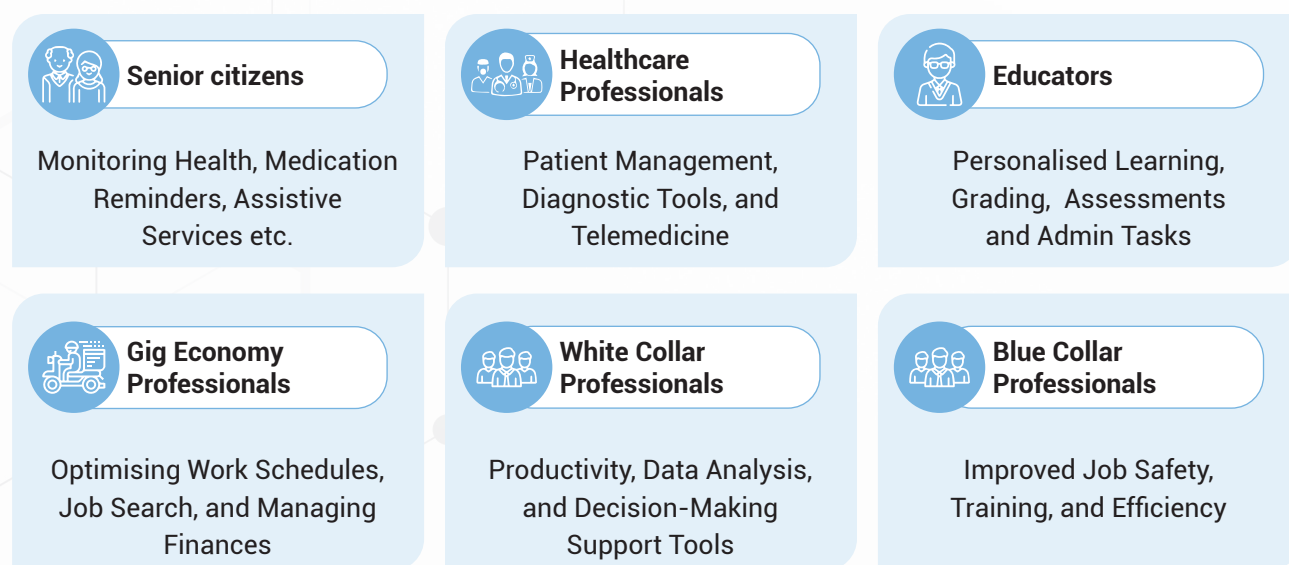[22] My Digital Corporation, Government of Malaysia: AI untuk Rakyat, 2024

The primary objectives of the "AI for All" campaign is to educate and empower the citizens of Telangana by increasing AI literacy, enabling them to understand and effectively use AI tools (such as Generative AI in content creation, language translation) in their daily routines. The campaign will equip the state's population with relevant AI tools by 2027 through cohort-specific interactive learning modules delivered to citizens digitally. A robust multi-channel IEC campaign will be implemented to maximise reach and engagement, ensuring that the message of AI empowerment is spread to citizens from diverse backgrounds.

Cohort-Specific Modules

In collaboration with industry leaders the government will develop simple, easy-to-understand tutorials for AI modules tailored to specific cohorts. Each module would focus on how AI can enhance daily tasks relevant to the cohort's needs as per Figure (10).

Figure (10) Cohort-wise AI Learning Modules

Senior citizens
Monitoring Health, Medication Reminders, Assistive Services etc.

Healthcare Professionals
Patient Management, Diagnostic Tools, and Telemedicine

Educators
Personalised Learning, Grading, Assessments and Admin Tasks

Gig Economy Professionals
Optimising Work Schedules, Job Search, and Managing Finances

White Collar Professionals
Productivity, Data Analysis, and Decision-Making Support Tools

Blue Collar Professionals
Improved Job Safety, Training, and Efficiency

The tutorials can be delivered through channels like WhatsApp, allowing users to engage with the content interactively. The platform would support multimedia content, including videos, quizzes, and AI simulations, ensuring a hands-on learning experience. The tutorials will also be complemented by easily searchable content on the web, enabling users to find additional resources and answers to their questions.

Multi-Channel IEC Campaign

Outreach to the public is critical in realising the impact of "AI for All". Engaging television spots will be developed to showcase the benefits of AI in everyday life, featuring testimonials from citizens who have successfully integrated AI into their routines. The campaign will also partner with local social media influencers and public figures to promote AI literacy on different platforms to reach a broad audience and mobilise the public. Print media, including newspapers and magazines, will be utilised to publish articles and advertisements about the campaign, highlighting real-life success stories and practical AI use-cases, ensuring comprehensive coverage and engagement across various channels.

7 AI Enhanced Ecosystem

Telangana is dedicated to cultivating a robust AI ecosystem that fosters both innovation and entrepreneurial ventures. The state will launch a centralised AI services hub, which will offer AI startups and enterprises subsidised access to advanced computing resources, significantly lowering entry barriers for innovation. Additionally, financial incentives and funding will be provided to emerging AI startups to accelerate their growth. A specialised AI unit within the Emerging Technologies (ET) Wing will oversee these initiatives, ensuring seamless integration and support across the ecosystem.

Compute Capacity

The Government of Telangana is working towards democratising access to compute capacity for innovators, startups, academic institutions, and government departments. By partnering with compute capacity (such as GPUs, TPUs) providers and enabling subsidies, deserving ecosystem entities will be equipped with resources critical for building PoCs. The ET Wing will implement a framework to provide access to compute capacity for a diverse group of consumers, including innovators, R&D centres, startups, and government for free access during the proof of concept (PoC) stage and subsidies for entities in impact-driven sectors.
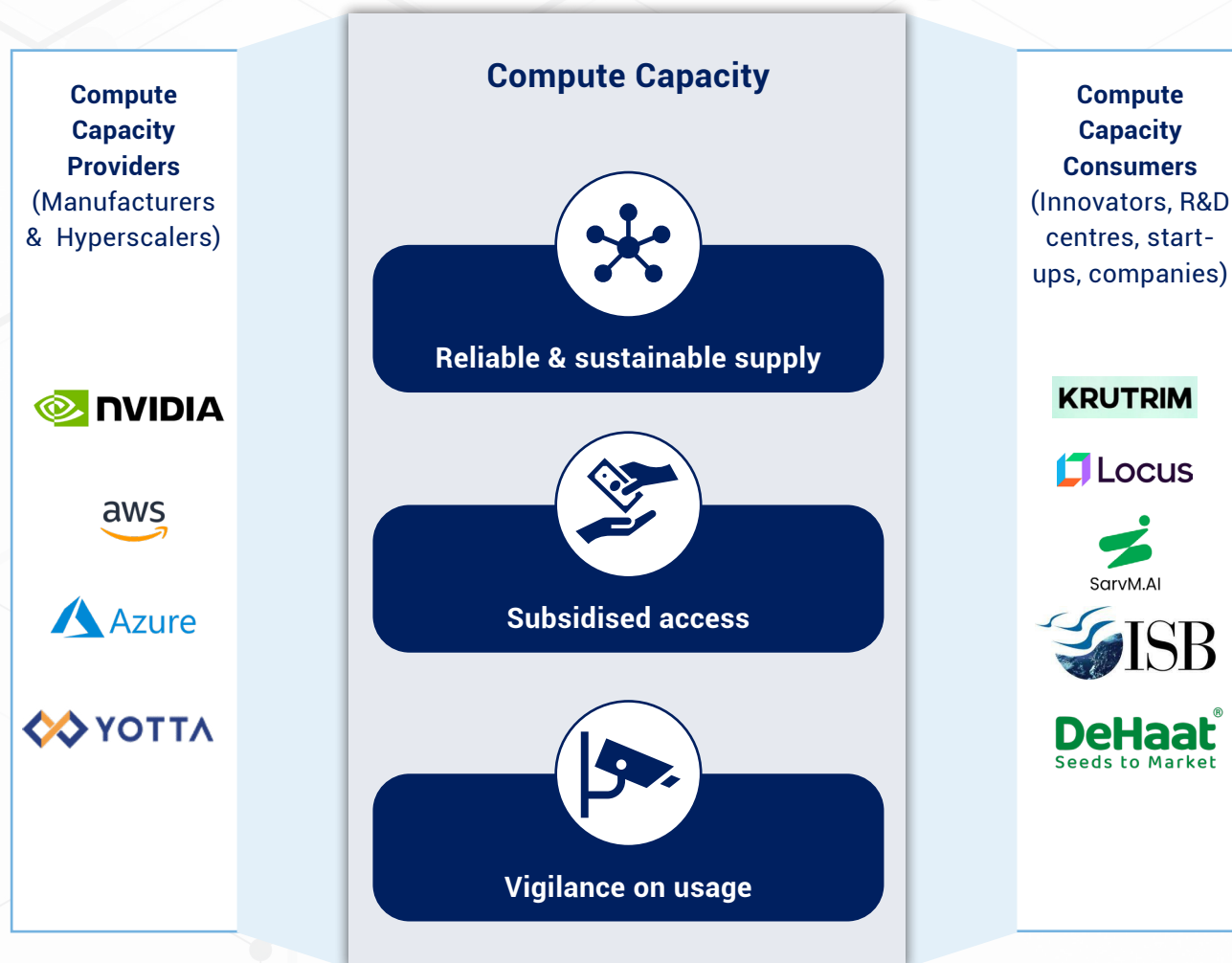
Compute Capacity Providers

Partnerships with manufacturers and hyperscalers will be established to ensure a consistent supply of compute power, which is vital for advancing AI innovations. The government will facilitate access from leading compute capacity providers like Yotta, Nvidia, AWS, and Azure, securing reliable and scalable resources at subsidised rates.

Compute Capacity Consumers

Through the Emerging Technologies Wing, the government will offer subsidies to democratise access to compute capacity and spur innovation. Innovators in universities, the private sector and government departments will be facilitated access to shared compute capacity for free till they develop Proofs of Concept (PoCs) to reach a minimum threshold of users. Subsidies will also be offered to organisations working to achieve objectives aligned with SDGs. Furthermore, tailored solutions will be enabled through flexible pricing models, subsidies, and support mechanisms to cater to contextual requirements of early-stage startups, R&D centres, and government departments ensuring inclusivity. Lastly, a vigilance system will be implemented to track and audit compute capacity usage and optimise compute capacity allocation.

Fig (11) Compute Capacity Access

Compute Capacity Providers
(Manufacturers & Hyperscalers)

NVIDIA

aws

Azure

YOTTA

Compute Capacity

Reliable & sustainable supply

Subsidised access

Vigilance on usage

Compute Capacity Consumers
(Innovators, R&D centres, start-ups, companies)

KRUTRIM

Locus

SarvM.AI

ISB

DeHaat
Seeds to Market

Unified AI Services

Currently, the AI startup ecosystem in Telangana is supported by multiple organisations, including T-Hub, We Hub, T-Works, y-Hub, TASK, and others, each offering different forms of support ranging from incubation and coworking spaces to training and networking opportunities. While these organisations continue to make immense contributions to the startup and innovation ecosystem of the state, there is potential to compound the existing impact by centralising and streamlining the support available to AI startups. The Unified AI Services initiative will focus on four key components:

Unified Web Interface

A centralised platform that converges the various forms of support provided by the state's innovation ecosystem will be created. This platform will consist of a detailed web portal that categorises services by domain (eg: healthcare, agriculture, financial services), innovator identity (eg: university students, women etc), and maturity phase (eg: early-stage, growth-stage), and an AI-powered chatbot for real-time assistance. By consolidating and organising updated data from all agencies, the chatbot will resolve queries and connect startups with relevant agency Points of Contact (PoCs).

Public Directory of Startups

The Public Directory of Startups will be a comprehensive repository that will bring together detailed profiles of all AI startups in the state. Accessible through the Unified Platform, it will allow startups to quickly find and connect with others based on specific criteria such as sector, technology stack, or development stage: promoting collaboration and driving innovation within the ecosystem. The directory will also support community engagement through forums, virtual meetups, and networking events, creating opportunities for startups to share knowledge and resources.

Shared Services Hub

The Shared Services Hub will support AI startups by providing subsidised access to AI-specific shared services such as access to software licences, datasets, development platforms, and cloud compute capacity, alongside operational support like HR, legal, and finance. The services will be customisable, allowing startups to choose packages tailored to their needs and maturity stage.

Unique ID for Startups

A Unique ID system for innovators and startups will be implemented to streamline tracking and management of cross-agency services leading to reduction of redundancies and proactive support by agencies. Linking all services to a common ID will also improve the quality and ease of agency reviews.

Fig (12) Innovation Ecosystem in Telangana

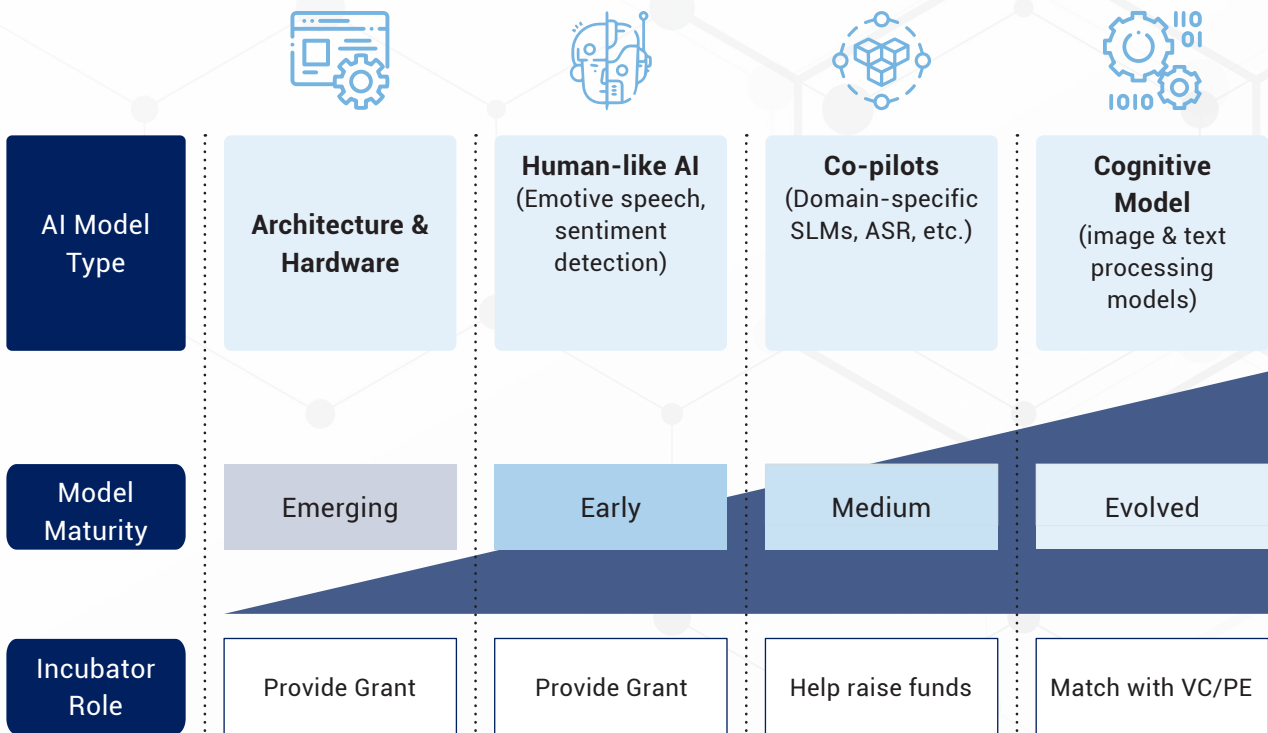**Telangana Innovation Ecosystem**

Funding AI Innovations

The government will facilitate equitable and democratised funding through private equity, venture capital, and grants for AI innovation. Funding channels will be created for entities based on their AI model/innovation type (as per figure 13). Initiatives and infrastructure will be aligned to mobilise investors in India and beyond to invest in entities based in Telangana. The government will enable financial support to AI startups, particularly those involved in fundamental innovation in AI models. Startups will be able to access capital basis their development stage ranging from early-stage research to market-ready applications.

This initiative is structured to provide tailored financial support based on the maturity of the AI model and the specific needs of the startups or institutions involved. As depicted in the accompanying image, the framework categorises AI model types into four key areas: Architecture & Hardware, Human-like AI, Co-pilots, and Cognitive Models.

Figure (13) Funding pattern for different types of AI Models

AI Model Type	Architecture & Hardware	Human-like AI (Emotive speech, sentiment detection)	Co-pilots (Domain-specific SLMs, ASR, etc.)	Cognitive Model (image & text processing models)
Model Maturity	Emerging	Early	Medium	Evolved
Incubator Role	Provide Grant	Provide Grant	Help raise funds	Match with VC/PE

8 Future Ready AI City

Hyderabad is set to host the AI City, a state-of-the-art 200 acre facility, designed to be one of the largest and most advanced of its kind in the country. This ambitious project will serve as a vibrant hub for the AI ecosystem, hosting offices for global corporations, innovative startups, leading investors, and cutting-edge research centres. The AI City will provide the ideal environment for collaboration, driving the development of next-generation AI technologies and solutions. A key feature of this AI City will be its commitment to public engagement, offering citizens direct access to the world of artificial intelligence. Through immersive experiences, educational programs, and interactive demonstrations, the AI City will demystify AI, fostering a deeper understanding and appreciation of its potential across all sectors of society. Additionally, the AI City will host state-of-the-art data centres, high-performance computing facilities, empowering organisations to innovate at scale.

There are global examples like Station F in Paris, which offers startups access to resources and an environment fostering innovation, and Toronto's MaRS Discovery District, which connects local talent with cutting-edge technology companies[23][24].

The AI City will focus on the following key areas:

Securing a Strong Ecosystem Presence

The government will create infrastructure and set up enablers for securing an active presence of leading ecosystem players in the AI City. Companies will be incentivised to establish offices in the AI City through tax breaks and robust infrastructure support. In addition to corporations, the presence of academic institutions including research centres and the upcoming skill university, will also be established. The city will feature state-of-the-art coworking spaces, convention centres, and collaborative zones. The government will also work towards facilitating connectivity with easy access to hotels, airports, and public transit, ensuring seamless mobility for residents, visitors, and business travellers alike.

[21] Jorge Vallego: The H4rmony Project - Station F Paris, 2023
[24] MARS: The Rise Of The Hub, A MaRS White Paper, 2017

Developing the AI "Centre for the Future"

The government will establish a "Centre for the Future" to enable citizens to actively engage with the latest AI technologies through interactive exhibits, workshops, and demonstrations focused on real-world applications. The centre will host programmes for the public, including AI boot camps, and community projects tailored to diverse audiences ranging from students and educators to professionals and senior citizens. Furthermore, the centre will feature a Cultural and Creative AI Zone, "AI Kala Kshetra," dedicated to the intersection of AI with arts & culture and blend technology with artistic creativity to offer unique cultural experiences through AI. Outreach programmes will be implemented in partnership with academic institutions and government departments to promote citizen engagement.

Virtual Connectivity through District-Level AI Nodes

AI nodes will be established in each district to create a virtual network of hubs that connect citizens to the AI City. These nodes will serve as local centres for AI education, training, and public engagement, enabling residents to participate in activities and events without travelling to the AI City. To foster continuous engagement, annual virtual events such as AI summits, webinars, and training sessions will be organised, linking citizens across Telangana with the AI City and showcasing AI advancements while providing valuable learning opportunities. The government will invest in high-speed internet and digital infrastructure in districts ensuring seamless virtual connectivity with the AI City.

9 Generative Area - A Focal Point

With all its recent technological advances, Generative AI holds immense potential to enhance government services, empower citizens, and drive innovation across sectors. For governments, Generative AI can help streamline policy drafting, personalise citizen engagement, enable automated responses to queries, and improve the timeliness, efficiency and quality of service delivery - all at the same time. However, for Generative AI to be truly effective in Telangana, it needs to work with high quality in the state's native languages. This is necessary to ensure that the solutions are not only more efficient and accurate but also scalable and cost-effective. However the state also recognises that this is currently a gap and hence making Generative AI work for Telangana in its unique local context is a priority and a special area of focus for the overall AI strategy - requiring directed effort across all of the pillars:

Building Datasets for Generative AI

Localised, high quality, diverse datasets lay the foundation of any Generative AI model. Telangana will provide specialised focus on building robust datasets through initiatives like Telangana Vaibhavam AI, which focuses on cultural data collection, and Earn While You Learn, which will incentivise students to build datasets whilst gaining improving competencies on deep-tech and AI specialisations. Additionally, the government will invest efforts to improve dataset quality within the government and facilitate data exchange through platforms like TGDex. These initiatives will ensure that generative AI models are trained on rich, localised datasets that reflect the linguistic and cultural nuances of Telangana, and enable more accurate and relevant AI-generated content for the state.

Building Models on Top of the Datasets

So that the generative AI models are tailored to Telangana's unique context - language, images, culture - special emphasis will be placed through centralised efforts such as the Telangana AI Advisory Council and the Research and Collaboration Network, to channelise focus on building models and breakthrough model architecture level innovations. By building models that understand local dialects and cultural references the state will ensure that they provide more relatable and useful information, reduce biases that may arise from using non-local datasets, and lower costs by focusing on indigenous development.
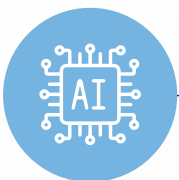
Service & Value Delivery through Generative AI

To unlock the real value of Generative AI for the citizens of the state The Telangana AI Advisory Council as well as the Research & Collaboration Network will play a critical role in enabling and bringing numerous citizen centric use cases to life and the government will work closely with the private ecosystem to take them from PoCs to at scale deployments. Examples of such use cases include AI-driven personalised career counselling for students, personalised agronomic advice tailored to local conditions, enabling farmers to optimise crop yields and manage resources, as well as accurate & real time AI-powered assistance in Telugu for citizens seeking information on government schemes or wanting to apply for them.

Skilling & Talent Development in Generative AI

The government will prioritise upskilling for both usage and development of Generative AI technology in the state. To improve operations & speed of decision-making Training in generative AI applications shall be provided to all government officials. For school and university students, courses and specialisations in generative AI, combined with practical exposure to AI tools will be provided to enable them to thrive in an AI-driven future. The general public will also be empowered through AI literacy programs, enabling them to use generative AI tools to enhance their daily lives—whether for personal development, entrepreneurship, or accessing government services.

Ecosystem Guidance & Enablement

Getting Generative AI solutions right also requires strong quality checks testing and adherence to principles of responsible and ethical use of AI. Through initiatives such as supporting Generative AI startups with compute capacity, unified AI services, access to funding etc. as well as clear guidelines and frameworks for evaluating AI fairness and responsible AI implementation,

Telangana government will play a catalytic role for the ecosystem in accelerating this journey.

By harnessing the potential of generative AI, Telangana will not only improve the ability of its ecosystem to create value for diverse stakeholders but also set a global standard for making AI work for communities and delivering value to the ecosystem.

10 Conclusion

'AI Powered Telangana' is an ambitious and forward-looking programme designed to position the state as a leader in not just the Indian but global AI industry. By setting up a comprehensive framework that impacts various sectors and stakeholders, the strategy lays the foundation for Telangana to become a hub for AI innovation and development. This initiative is not just about technology but is anchored in transforming the state into a model of how AI can drive economic growth, improve public services, and enhance the quality of life for all citizens.

Telangana government is committed to implementing targeted interventions that cater to every participant in the AI ecosystem. From global tech giants to budding startups and individual innovators, the strategy ensures that there are opportunities and support mechanisms available for all. This inclusiveness extends to professionals across industries, as well as students in universities and schools who will be given opportunities to contribute to and benefit from AI innovation. By integrating AI into education, workforce development, and business ecosystems, the strategy aims to create a robust pipeline of AI expertise that will sustain the state's leadership in this field.
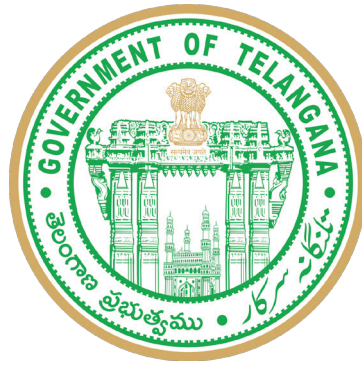
AI's wide-ranging nature means it touches every domain, from agriculture and healthcare to governance and education. Generative AI, in particular, offers transformative potential for content creation, personalised citizen services, and automated problem-solving, making it a vital part of the state's AI vision. As a result, this strategy is poised to have a significant impact on citizens from all walks of life. By focusing on diverse sectors, the strategy ensures that the benefits of AI are not confined to a specific industry or demographic but are distributed across society. Telangana's approach to becoming a global hub for AI innovation and implementation is anchored in the core belief that AI has the potential to transform daily life, making services more efficient, accessible, and responsive to the needs of the people. As Telangana moves forward with this initiative, there is a strong sense of optimism that the state will not only achieve its goals but also set a benchmark for others to follow in leveraging AI for the betterment of society.

11 Annexure

Stakeholders' Contacts for Feedback & Partnerships			
SN	Name	Designation	email id
1	Jayesh Ranjan	Special Chief Secretary, ITE&C Department	secy_itc@telangana.gov.in
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