## **Government** Digital Transformation

### Ministry of Panchayati Raj

#### Panchayat Sammelan

#### on

#### **Ease of Living**

#### **Enhancing Service Delivery at Grassroots**

Sudhir Aggarwal, Director Vikas Aggarwal, Director

Wadhwani Center for Government Digital Transformation (WGDT)

Agra 19<sup>th</sup> November 2024



# A little bit about us...

# **Our Initiatives**





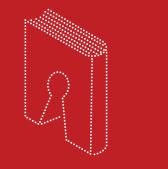
#### The Entrepreneurship Network

Enables entrepreneurs with knowledge and resources to maximize growth in their entrepreneurial journey.



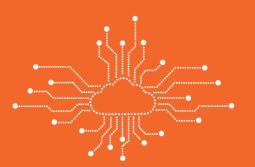
#### The Skilling Network

Enables individuals with new-age employability and vocational skills, to acquire family-wage jobs.



#### Research & Innovation

Accelerates large-scale institutional innovation, partnering with academia from research to commercialization of revolutionary innovations.

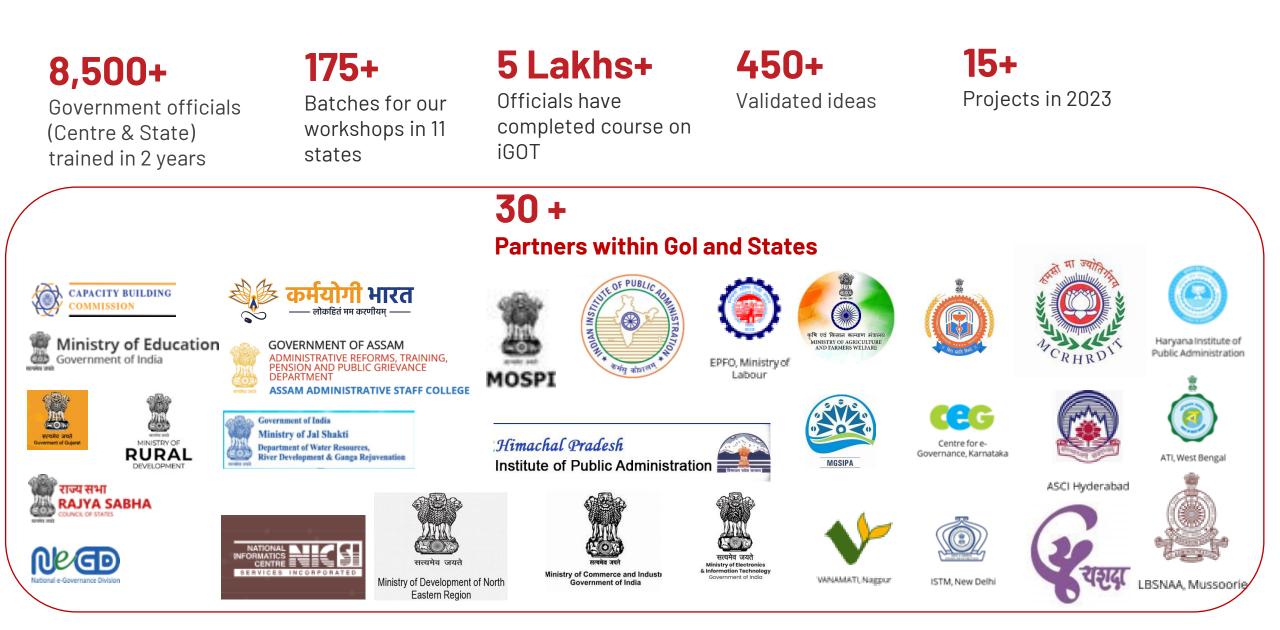


#### Government Digital Transformation

Enables governments with emerging technologies and upskilling, to facilitate the growth of the nation.

## Impact





# **Our Digital Story**





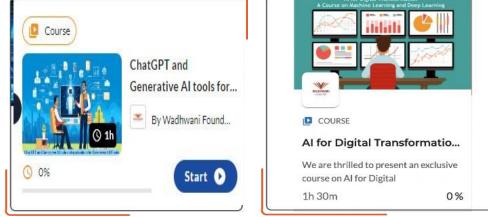
Introduction to Emerging Technolo... The 'Introduction to Emerging Technologi es' course is focused on helping learners ... LEARNING HOURS: 2h 2lm



In the current climate of a pandemic, governments need data more than ever 2h 30m 57 %



Namaskar and welcome to the course on Blockchain for Secure and Trusted 2h 40m 10 %



#### Course 1 – Introduction to Emerging Technologies

Course 2 – Data Driven Decision Making

Course 3 – <u>Blockchain for Secure and Trusted Records</u>

Course 4 – <u>AI led Digital Transformation in Healthcare</u>

Course 5 – <u>AI led Digital Transformation Agriculture</u>

To learn about application-based use cases on emerging technologies visit:

WITP Digital Library

WITP YouTube Channel

#### Course 6 – <u>ChatGPT and Generative AI tools: An Introduction</u>

Course 7 – <u>AI for Digital Transformation: Machine Learning and Deep Learning</u>

Course 8 – AI for Digital Transformation: Computer Vision

Course 9 – ChatGPT and Generative AI tools for Government Officials

## **Context Setting**



## **E-Gram Swaraj**

## **Svamitva**

# Panchayati Raj

# PDI Panchayati Raj Index

## **Gram Manchitra**

## Live Use cases

# **Generative AI (GenAI) Platform**

GENERATIVE AI

- Text Generation
- Question Answering (QA)
- Text Summarization
- Sentiment Analysis
- Text Classification
- Named Entity Recognition (NER)
- Paraphrasing & Rewriting
- Language Translation
- Text-to-Speech (TTS)
- Code Generation & Debugging

- Content Personalization
- Automated Document Processing
- Conversational AI (Chatbots)
- Contextual Recommendations
- Automated Workflow & Decision Support.
- Data Insights and Reporting
- Legal Text Analysis
- Speech Recognition & Analysis
- Knowledge Base Management
- Multimodal Capabilities

# **Generative AI (GenAI) Platform capabilities**

**1. Text Generation -** Generates coherent and contextually relevant text based on prompts, from creative writing to technical documentation. Content creation, marketing copy, report writing, and storytelling.

**2. Question Answering (QA) -** Provides accurate answers to user queries using information from provided documents or databases. Knowledge retrieval, customer support, and educational platforms.

**3. Text Summarization** Summarizes long-form text or documents into concise, key information. Summarizing research papers, news articles, and long emails.

**4. Sentiment Analysis -** Analyses text to determine sentiment (positive, negative, neutral). Brand monitoring, social media analytics, and customer feedback analysis.

**5. Text Classification** Classifies text into predefined categories such as spam detection, topic classification, or urgency levels. Email filtering, content categorization, and automated tagging.

**6. Named Entity Recognition (NER) -** Identifies and classifies entities such as names, locations, organizations, dates, and more within text. Document processing, legal text analysis, and content extraction.

**7. Paraphrasing & Rewriting -** Rewrites sentences or paragraphs in alternative ways while preserving the original meaning. Content modification, SEO, and avoiding plagiarism.

**8. Language Translation** Translates text between multiple languages with high accuracy. Multilingual communication, international business, and localization of content.

**9. Text-to-Speech (TTS)** Converts written text into natural-sounding speech. Accessibility tools, audiobook creation, and voice-enabled applications.

**10. Code Generation & Debugging -** Generates programming code based on natural language descriptions and helps with code debugging. Software development, automation, and technical documentation.

**11. Content Personalization -** Customizes content recommendations based on user preferences and context. Personalized marketing, news delivery, and learning platforms.

**12. Multimodal Capabilities (optional) -** Processes not just text, but images, audio, or video for richer, context-based analysis and output. Video captioning, image description, and interactive content.

**13. Automated Document Processing -** Extracts key information from large documents, contracts, or invoices for quick decision-making. Legal research, business intelligence, and administrative workflows.

**14. Conversational AI (Chatbots) -**Powers intelligent, human-like chatbot interactions for customer service, sales, and FAQs. Customer support, virtual assistants, and e-commerce.

**15. Contextual Recommendations** Analyzes user input and recommends relevant actions, content, or products based on context. E-commerce product suggestions, content recommendations, and personalized learning paths.

**16. Automated Workflow & Decision Support -** Helps automate business workflows, providing intelligent suggestions and insights to support decision-making. Business process automation, financial analysis, and project management.

**17. Data Insights and Reporting-** Analyses large datasets to generate insights and reports, including trend analysis and predictions. Data analytics, performance reporting, and strategic planning.

**18. Legal Text Analysis -**Understands legal terminology, extracts clauses, and assists in contract analysis. Legal research, contract management, and compliance monitoring.

**19. Speech Recognition & Analysis -** Converts spoken language into text and analyses the sentiment or content. Transcription services, voice assistants, and meeting summaries.

**20. Knowledge Base Management -** Supports the creation, management, and querying of knowledge bases for automated responses and documentation. Internal documentation systems, FAQs, and knowledge management in enterprises.



# **Our 21st century Employability Skills offering**





#### **Preview of our latest Gen-AI Powered Offerings**

Our Employability Skills are now Gen-AI based, intelligent and personalized to a student's individual needs







	Traffic	<ol> <li>No Seat belt, Using Mobile while driving</li> <li>Wrong Side Driving, No Helmet +++</li> <li>Wrongly Parked Vehicles</li> </ol>
Push Pull + + +	PWD	1. Road Conditions/Damage ( Pothole, Road Surface Damage, Paver Damage )
	Municipality	<ol> <li>Garbage</li> <li>Encroachment by Hawkers or any Other type</li> <li>Water Logging</li> <li>Construction Materials on Road</li> <li>Animals on Road</li> </ol>
	Driver	<ol> <li>Observe Driver Behaviour and Related Activities/Challenges</li> </ol>
	Law and Order	<ol> <li>Any On road Issues</li> <li>Wrongdoing by People</li> </ol>

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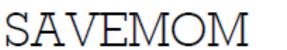
## Government – Nayan – WGDT Pilot

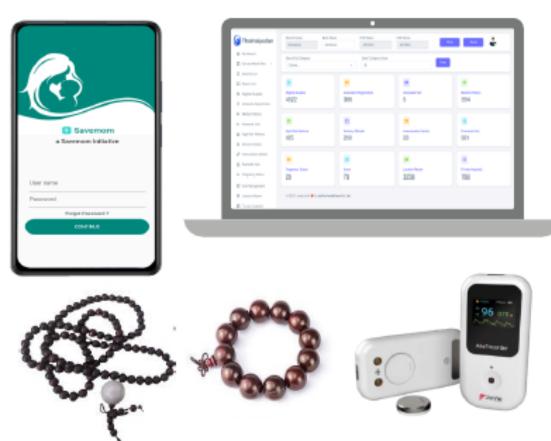


Value Proposition	AI, Webcam, and Mobile Camera based City surveillance to capture multi-dimension violations, non- compliances, and illegal activities for actionable city governance.
Use cases	<ol> <li>Traffic violations 2. Sanitation and Garbage related issues in public places 3. Law &amp; Order specific incident and concerns 4. Wrongly Parked Vehicles 5. Damaged Roads and potholes 6. Various type of encroachments of public places 7. Water Logging and related challenges 8. Animal and other obstructions on the road 9. Damaged/ Damaging Public Infrastructure 10. Public vehicle Driver's driving – behavior – attention related matters. 11. Others department-specific.</li> </ol>
Differentiators	<ol> <li>Data is captured at source (geo-tagged and verifiable) by vehicle on the move, including capture of the blind spots.</li> <li>Public and Private vehicles can be part of solution deployment.</li> <li>Dynamic and continuous city monitoring and reporting.</li> <li>Each department receives their specific insights/ reporting, mapped to their respective hierarchy.</li> <li>Solution is based on PPP model, SLA based, Operation Cost with No/ Low Capital Expenditure, Low/ No Maintenance Cost.</li> </ol>
Benefit State	<ul> <li>Enable State Government to</li> <li>Integrate outcome of the solution with the department or State's core systems, includes respective monitoring process.</li> <li>Plan and allocate resources based on real-life situations and scenarios including basis periodic/ seasonal factors.</li> <li>Improve compliance and achieve better city governance through Change Management and Capacity Building programs.</li> <li>SLA (Service Level Agreement) based deployments and implementation.</li> <li>ONE INVESTMENT – MULTIPLE OUTCOMES across Departments throughout the State within coverage.</li> <li>MUCH WIDER COVERAGE @ significantly LOWER COST, especially in SHARED mode of OUTCOME.</li> <li>SCALE in evolutionary mode as the solution is LOW INVESTMENT and OUTCOME-friendly REVENUE MODEL.</li> </ul>

Savemom aimed to reduce 'maternal and infant mortality and morbidity with timely and appropriate care during the First 1000 days with the help of our integrated Transparent care platform to ensure no woman must die while giving birth.

- Digital Health screening
- Offline Data capture
- Al Based High risk Identification
- Virtual care support system
- Biometric Accountability
- Digital Case Sheet
- Real time Dashboard
- Transparent care platform
- Mother geo-location mapping





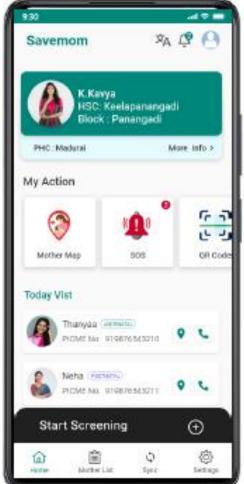


## SAVEMOM



# JioVio Screening and Monitoring Pregnant Woman at Home

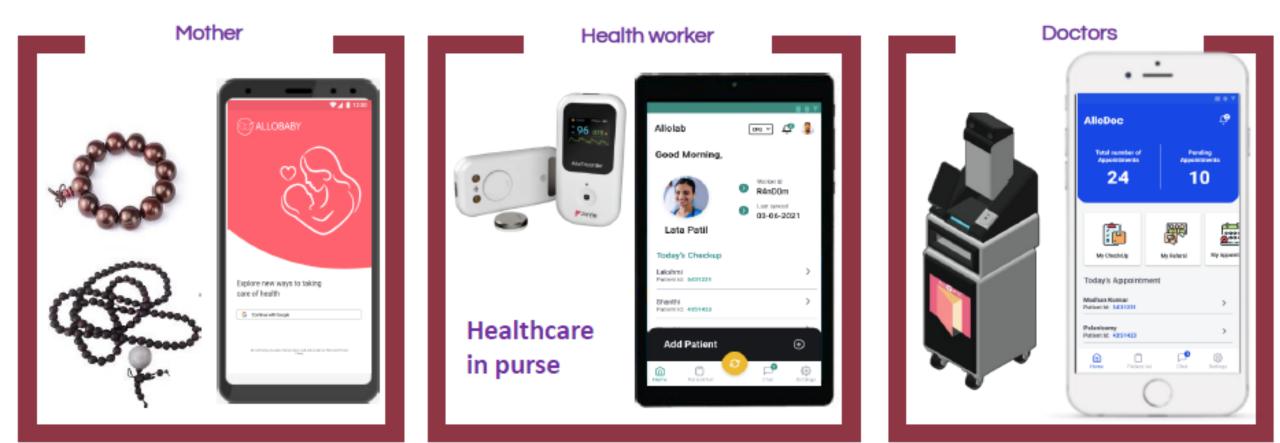
#### ASHA Mobile App







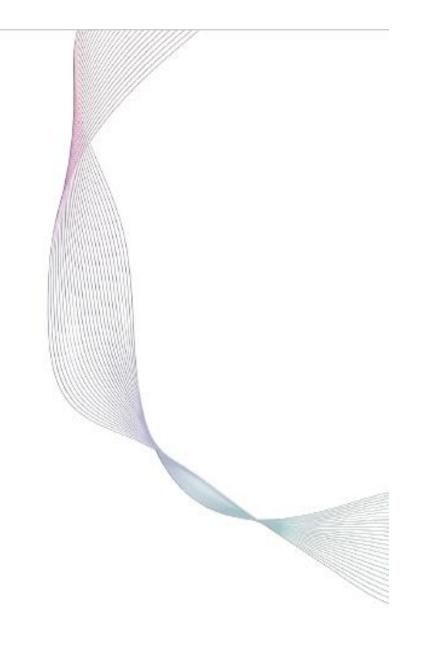
## Our Health Technologies



# **Media Disease Surveillance**













## Deploying Cough Against Tuberculosis (CAT)-An Artificial Intelligence (AI) Powered Solution for Screening of Pulmonary TB

## **Use Cases - Drones**

- Mapping and Planning
- Monitor the implementation and progress
- Damage assessment, esp post disaster/ event
- Surveys
- Dissemination and Distribution
- Spraying
- Surveillance and Security





## **Few Guiding Principles for Drones Adoption**



- Challenges related to Drones deployment
  - DGCA Guidelines and Regulations for operating Drones
  - Registrations, Permissions, Permits, Pilot License
    - as required
  - Restricted zones
  - Operator Training and Certification
  - Privacy and Security
  - Local Laws and Permissions
- Focus on Drones outcome
  - NOT on Drones specifications and technology
- Technology and its ecosystem continues to evolve



