VISIT REPORT by Director General, VoICE

Smart Intelligent Village Satnavari and Samriddh Gram Kendras

Report is prepared covering visits to:

a) Umri Samriddh Kendra, Guna, Madhya Pradesh – 12 May 2026
b) Chaurawala Samriddh Kendra, Muzaffarnagar, Uttar Pradesh – 19 May 2026
c) Satnavari Smart Intelligent Village, Nagpur Rural, Maharashtra – 22 May 2026

Healthcare Diagnostic and Teleconsultation, Satnavari

Satnavari Panchayat Bhavan discussions

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Report's Executive Summary

The Smart Intelligent Village at Satnavari and the Samriddh Gram Phygital Service Centres represent two important and complementary approaches to rural digital transformation in India. While both initiatives aim to bridge the rural digital divide, they differ in implementation philosophy, technological depth, governance structure, and economic orientation.

While Samriddh is a Government funded initiative, Satnavari is driven by a passionate team of domestic design companies working as a consortium who have funded the entire project themselves. Their sole objective, of this philanthropic act, is to enhance quality of life of villagers by use of domestic technologies so that both Indian villages are empowered while domestic industry and design efforts get a boost by adoption of these home grown technologies.

Satnavari concept clearly comes out as a transformative village adopting latest technological advancements in various fields while Samriddhi is extending digital services of the Government.

Satnavari smart village will contribute to build plug and play domestic technologies that will integrate into a common portal for coordination and monitoring at village level of state level or even PMO. This will build a national database of Indian agricultural statistics that can be harnessed to improve agricultural yield and scale up AI driven agro initiatives as the climate changes. This data base will help identify most suitable varieties for soil conditions, moisture and precipitation in a given Indian location.

Satnavari's consortium approach if replicated nationally will help build a "national data repository" that would be our national asset and help carry out agricultural research and to write patents for our advantage. This will reduce our dependence on foreign AI models of the future that would be trained on "may be Indian statistics" but we would pay for use of such AI modelling techniques. Satnavari is focused on Indian villages, Indian Technologies and building Indian database as a national assest

Conceptual Framework

The Satnavari initiative focuses on transforming the entire village into a digitally responsive ecosystem through AI, IoT, smart governance, and intelligent infrastructure. The Samriddh Gram Centres focus on assisted digital access through BharatNet-enabled service hubs.

Global Impact

Satnavari has received Global recognition since this is NOT aimed at big power-play companies who are just after profit nor is it a government funded initiative! International community has recognized it as demonstrating now Telecoms and supported services/apps that can have real positive impact on remote communities. The overarching push for this idea is to share knowledge and experiences which has caught the attention of international media having received dozen foreign visitors. International community is willing to fund such programs although VoICET is cautious to accept fiscal support.

Technology Architecture

Satnavari integrates AI-enabled classrooms, telemedicine, smart irrigation, drone-assisted agriculture, digital Panchayat services, smart banking, and intelligent surveillance systems. The Samriddh Centres emphasize telemedicine, e-Governance, digital banking, skill development, AR/VR education, and ONDC-enabled rural commerce.

Economic Development Orientation

Satnavari emphasizes long-term rural modernization and sustainable digital ecosystems, while Samriddh Centres prioritize immediate socio-economic inclusion through assisted digital services, financial inclusion, telehealth access, and market connectivity.

Bridging the Rural Digital Divide

Both models directly address rural digital inclusion. Satnavari adopts a village-wide embedded digital ecosystem approach, whereas the Samriddh model supports assisted digital adoption through human-enabled service delivery.

Governance and Replicability

The Samriddh Centres are designed as scalable BharatNet-enabled national pilot models. Satnavari represents a more advanced smart rural ecosystem requiring deeper institutional partnerships and technology integration, but with strong long-term transformation potential.

Strategic Recommendations

India may adopt a phased national strategy by deploying Samriddh Centres for digital literacy and assisted service access, along with solution architecture of Smart Intelligent Village for gradual deployment of smart farming having community based solution, drone-assisted agriculture, digital Panchayat services, smart banking, smart utilities (Surveillance, lights, Water management, Waste management, PPDR), and smart governance for transforming selected villages into fully integrated Smart Intelligent Villages. This will help rural communities in increasing their earning through quality farm produce and with optimal use of resources. Timely interventions encompassing health and education will fasten economic activities in rural areas and thus contributing GDP of India.

Project implementation in consortium

Project implementation in consortium mode with on-ground presence of System integrator, ably supported by CBO/NGO is best suited for community participation during scale up. In Maharashtra, VoICE has onboarded "Action for Agricultural Renewal in Maharashtra (AFARM)" for community connect and adoption. AFARM is a one of the oldest network of NGOs and it is acting as a platform for NGOs to promote Sustainable and Equitable Development. To that effect, AFARM provides techno-managerial support to these NGOs and therefore, seeks its footprints through these network organizations.

International Relevance

The Satnavari model aligns with global smart village frameworks promoted by the ITU, UNDP, and international digital transformation initiatives. The project demonstrates India’s potential leadership in inclusive rural digital innovation.

Key Outcomes

- Promotion of AI-enabled rural modernization
- Expansion of digital governance and smart infrastructure
- Acceleration of financial and digital inclusion
- Enhanced agricultural productivity through smart technologies
- Support for entrepreneurship and local innovation ecosystems
- Alignment with Sustainable Development Goals (SDGs)

Conclusion

The Smart Intelligent Village at Satnavari, together with the Samriddh Gram Centres, offer a scalable and globally relevant framework for digitally empowered rural transformation in India.

Introduction covering all 3 visits

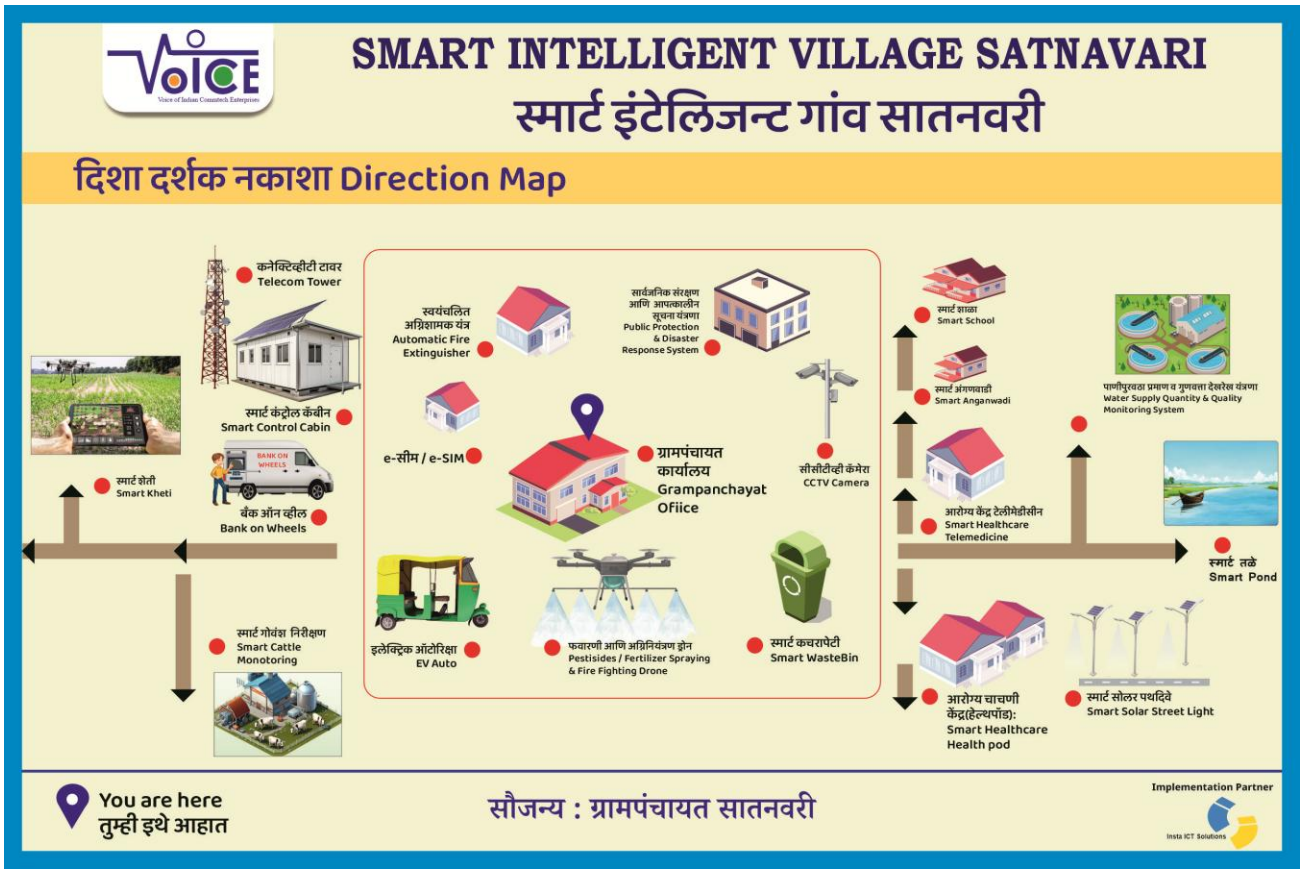
The Smart Intelligent Village at Satnavari and the Samriddh Gram Phygital Service Centres at Umri and Chaurawala represent two important and complementary approaches to rural digital transformation in India.

While both initiatives seek to bridge the rural digital divide through digital infrastructure and technology-enabled services, they differ significantly in their implementation philosophy, technological depth, governance structure, and long-term economic orientation.

The Satnavari initiative represents an advanced “smart ecosystem” approach integrating AI, IoT, smart governance, digital agriculture, intelligent utilities, and community-wide digital infrastructure. In contrast, the Samriddh Gram Centres operate as BharatNet-enabled “phygital” service hubs focused on improving last-mile access to digital public services through assisted digital delivery models.

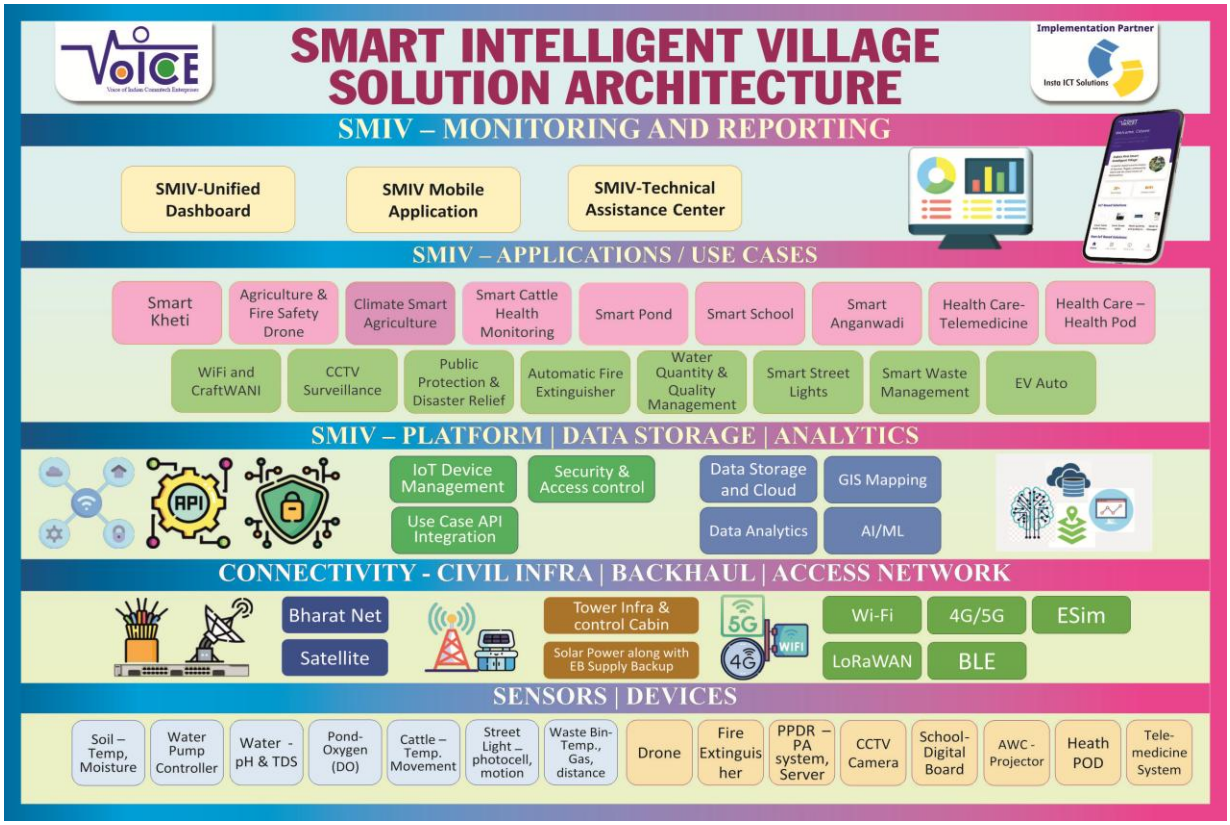
Together, these initiatives offer a scalable roadmap for inclusive, digitally empowered rural development aligned with the objectives of Digital India, BharatNet, AI-driven governance, and sustainable rural modernization.

Some pictorial representation on Satnavari Smart Intelligent Village:



Satnavari Panchayat Entrance Use Case Layout

Satnavari Panchayat Entrance showing MobileApp use casesas available on Android Mobiles



At Satnavari Panchayat Entrance: Sensors/ Devices, Connectivity (Backhaul & Access Network), Platform & Data Storage, Application Use Cases and Monitoring & Reporting

At Umri, Guna District on 12 May 2026

Agriculture Solution at Chaurawala Centre

Water Pond Solution Satnavari

Panchayat Office Satnavari

CSC at Satnavari

1. Conceptual Framework

Aspect	Satnavari Smart Intelligent Village	Samriddh Gram Centres (Umri & Chauruwala)
Core Vision	Integrated smart rural ecosystem based on domestic technology for development of Rural India while strengthening Urban industry	Phygital rural service delivery hubs to extend Government services.
Funding	Consortium self funded	Government funded
Focus	Village-wide intelligent infrastructure and governance	Single-window assisted digital services
Long term	Philanthropic empowerment of India as whole	Immediate availability of Government services to villagers.
Model	Community-wide transformation Strengthening domestic design and building national database for future AI models	Immediate benefits by setting up Service-centric digital empowerment to make life of villagers easier.
Scale	Entire Indian ecosystem. Envisaged as run and driven by Domestic industry in consortium mode	Government funded. Cluster-based outreach model to extend Government services
Lead Stakeholders	Maharashtra Government, VoICE, technology ecosystem partners	Department of Telecommunications, BharatNet ecosystem partners
Orientation	Infrastructure-driven modernization	Service accessibility and inclusion

The Satnavari initiative focuses on transforming the village itself into a digitally responsive ecosystem, whereas the Samriddh Centres prioritize rapid access to essential digital services through centralized assisted-service platforms.

2. Technology Architecture

Satnavari Smart Intelligent Village

The Satnavari model integrates advanced technologies including:

- Artificial Intelligence (AI)
- Internet of Things (IoT)
- Smart governance systems
- Intelligent surveillance
- Smart irrigation and water management
- AI-enabled education platforms
- Telemedicine systems
- Digital Panchayat services
- Smart banking solutions
- Drone-assisted agriculture

The village is supported through BharatNet fibre connectivity and village-wide Wi-Fi infrastructure.

Samriddh Gram Centres

The Samriddh Centres primarily function as BharatNet-enabled "phygital" access hubs combining physical infrastructure with digital service delivery platforms. Key services include:

- Telemedicine
- e-Governance
- AR/VR-enabled education
- Digital banking
- Smart agriculture tools
- ONDC-linked e-commerce access
- Skill development
- Financial inclusion services

The emphasis is on assisted technology adoption for digitally underserved populations.

3. Economic Development Orientation

Satnavari

The economic philosophy of Satnavari focuses on long-term rural modernization through:

- AI-driven agricultural productivity
- Smart resource management
- Sustainable infrastructure
- Rural innovation ecosystems
- Entrepreneurship development
- Reduction in rural-to-urban migration
- Digital financial inclusion

The initiative seeks to create a future-ready rural economy where technology becomes embedded in governance, production systems, and daily community life.

Samriddh Gram Centres

The Samriddh Centres emphasize immediate socio-economic inclusion through:

- Faster access to government services
- Reduced travel and transaction costs
- Financial inclusion
- Rural digital literacy
- Telehealth accessibility
- Market linkages for rural producers

Their impact is more service-access and transaction-oriented during the initial phases.

4. Bridging the Rural Digital Divide

Both initiatives address India's rural digital divide, though through distinct approaches.

Satnavari Approach

- Village-wide digital infrastructure
- Smart governance integration
- AI-enabled agriculture and education
- Continuous digital engagement
- Intelligent utilities and public systems

Samriddh Gram Approach

- Assisted digital access through service hubs
- Human-supported technology adoption
- Last-mile digital service delivery
- Inclusive access for digitally less-literate citizens

The Samriddh model demonstrates how existing government services can be integrated with value-added digital facilitation to accelerate adoption among underserved rural populations.

5. Governance and Replicability

The Samriddh Gram Centres are structured as scalable national pilot projects under the Department of Telecommunications utilizing BharatNet infrastructure. Pilot villages already include:

- Umri
- Narakoduru
- Chauruwala

The Satnavari initiative represents a more advanced “smart rural ecosystem” model requiring:

- Higher capital investment
- Stronger local governance capacity
- Multi-stakeholder coordination
- Advanced technology partnerships

Maharashtra has already initiated plans covering 75 villages across multiple districts including:

i. Pune
ii. Nagpur
iii. Amravati
iv. Sindhudurg
v. Hingoli

6. Comparative Assessment

Parameter	**Satnavari**	**Samriddh Centres**
Technological Sophistication	Very High	Moderate to High
Infrastructure Intensity	Village-wide	Centre-based
Ease of Replication	Moderate	High
Capital Requirement	Higher if all use cases are included	Moderate with lesser use cases
Immediate Social Impact	Medium-term	Immediate
Long-term Economic Transformation	Strong potential	Strong support role
Digital Inclusion Strategy	Embedded smart ecosystem	Assisted digital access
National Scalability	State-led smart village scaling	BharatNet and Digital Nidhi-driven scaling

7. Strategic Assessment

The two models should not be viewed as competing approaches, but rather as complementary stages of rural digital transformation.

Samriddh Gram Centres

These represent:

- Accessible
- Scalable
- Service-oriented
- Rapid deployment models for digital inclusion

Satnavari Smart Intelligent Village

This represents:

- Deep structural rural transformation
- AI-driven modernization
- Smart governance integration
- Technology-enabled economic ecosystems

8. Recommended National Strategy

A phased national strategy could combine the strengths of both approaches in Consortium mode supporting Atma Nirbhar Bharat mission of Hon'ble Prime Minister.:

Phase 1

State Level deployment of Gram Centres with more use cases to establish:

- Digital literacy
- Assisted service access
- Connectivity utilization
- Digital public service adoption
- Financial inclusion

Phase 2

Gradually evolve selected villages into fully integrated Smart Intelligent Villages incorporating:

- AI-enabled governance
- Smart agriculture
- IoT-based utilities
- Village-wide intelligent infrastructure
- Rural innovation ecosystems

Such a combined strategy could:

a) Accelerate rural prosperity
b) Improve governance efficiency
c) Reduce regional inequalities
d) Strengthen rural entrepreneurship
e) Enhance digital inclusion
f) Promote sustainable rural development

ANNEX A

MORE DETAILS on the Smart Intelligent Village Satnavari: (A Model for Rural Transformation)

The "Smart Intelligent Village" initiative at Satnavari represents a pioneering model of technology-enabled rural development in India. It was inaugurated by H.E. Shri Devendra Fadnavis, Maharashtra Chief Minister on 24th August 2025 as India's first Smart Intelligent Village- in Maharashtra's Nagpur district

Team on 22nd May at Satnavari

DoT	VoICE	Satnavari Gram Panchyat
Shri Atul Sinha ji, Shri Atiq Ahmed ji, Ms Radhika, Ms Tiwari (BSNL Maharashtra)	Shri Rakesh Kumar Bhatnagar (DG VoICE), Shri Yeshwant Shinde (GC Member VoICE), Shri Keerthi Lal, Shri CK Chandramohan, Shri Kunal Bharvirkar, Shri Deepak Nari	Srimati Vaishali Chaudhari (Sarpanch), Shri Anil Gotmare (Dy Sarpanch), Shri Bhoge (GP member), Shri More (GP member), Shri Vijay Chaudhari (Former Sarpanch), Medical Officer (MO PHC), Aasha Tai

Demonstration of each deployed solution at Satnavari was given to DoT team through field visit. Deployment and adoption of following solutions have been seen by DoT team by visiting respective locations in village:

1. Solution Architecture
2. Dashboard
3. Mobile Application with built in Ai with Voice module
4. Cash & Forex conversion ATM
5. CSC with Aadhar facility
6. Education (1-7 standard)
7. Healthcare (Health PoD + Teleconsultation)
8. Smart Farming through soil sensors and pump automation
9. Animal Health monitoring through IoT sensors
10. Water quality and quantity monitoring
11. WiFi access points, users and data usage
12. Mobile Tower and cabin
13. CCTV surveillance
14. Solar street lights with sensors

15. Smart pond with sensor based Dissolved (DO) monitoring
16. Climate Smart Agriculture
17. Public Protection and Disaster Relief
18. EV Auto
19. Drone
20. Auto Fire extinguishing device

- **Visit highlights captured by VoICE team:**

- Deployment is combination of technology solutions to address real life challenges and adoption of these solutions by village
- Adoption and relevance of each solution was presented and discussed in detail
- Members of VoICE team expressed their keenness to deploy its solutions at Samriddh Gram
- Presently there are no charges levied for any of the services. But in principle approval has been given by Zilla Parishad & Gram Panchayat to start usage based charging for: 1) healthcare, 2) add-on education classes, 3) Drone, 4) EV auto, 5) CSC services etc.

- **Following field visit & interaction with GP members, DoT & VoICE team visited CEO Nagpur Zilla Parishad, Shri Vinayak Mahamuni, IAS. Summary of this discussion**:

- DoT team presented and discussed Samriddh Gram project
- Services led approach with sustainability focus, monthly revenue from Umri is INR 93000.
- Chaurawala and Narakoduru adoption and revenue is lower as compared to Umri.
- Community based organisations involvement is key for adoption of services
- Another 3 villages are selected (1 each in Bihar, Odisha & Maharashtra) for the next phase of Samriddh Gram

- **CEO Zilla Parishad Shri Mahamuni ji updated DoT team about current Government services model in Maharashtra:**

- Since Covid19, health services in Maharashtra are free through its PHCs and its sub centres
- Prior to Covid19, there was Rs5 consultation charge for healthcare. But Maharashtra Government has not yet decided on re-starting consultation charges
- Medical Officer (MO) is present in each PHC and AMO is present in each sub centre. Aasha worker is present in each PHC and sub centre
- MO are made available for teleconsultation for Satnavari
- Adoption and enrolment of Aadhar, other Government services, banking services in Maharashtra deeply penetrated and earning potential for CSCs is limited

- More villages from Maharashtra should be chosen by DoT for next phase of Samriddh Gram project
- Approval for starting charges for services at Satnavari has been given and this should be charged through Gram Panchayat. There should be revenue for Gram panchayat to achieve sustainability of project
- Maharashtra Government is developing 75 villages on similar lines of Satnavari Smart Intelligent Village project. It is a reverse engineering model where solutions will be presented to each village and they can choose 4-5 top priority solutions for deployment

The Satnavari initiative represents India's first Smart Intelligent Village model integrating:

- AI
- IoT
- BharatNet connectivity
- Smart governance
- Digital agriculture
- Telemedicine
- Intelligent infrastructure

The project was developed with support from:

- VoICE (Voice of Indian Communication Technology Enterprises)
- Maharashtra Government
- Local district administration

The initiative includes:

- Village-wide Wi-Fi
- AI-enabled classrooms
- Smart irrigation
- Drone-assisted agriculture
- Digital Panchayat services
- Smart surveillance
- Smart banking
- Water-quality monitoring systems
- Village WiFi

Economic Implications

1. Agricultural Productivity

Precision agriculture tools improve productivity while reducing resource consumption and input costs.

2. Employment Generation

New opportunities emerge in:

- Drone operations
- Digital services
- Equipment maintenance
- Data management
- Agri-tech support

3. Rural Entrepreneurship

Digital connectivity enables:

- E-commerce participation
- Digital banking
- Market access
- Online education
- Government scheme access

4. Reduced Healthcare and Education Costs

Telemedicine and digital education reduce dependency on urban centres.

Telemedicine Solution at Satnavari

5. Inclusive Governance

Digitized Gram Panchayat services improve transparency, efficiency, and public service delivery.

6. NEW ADDITION FOR FINANCIAL SHOWCASING

Live dollar to rupee and vice versa was also shown going through processes of KYC including Passport, Aadhar, PAN authentication, face recognition and more. All can be used for account openings, Aadhar card opening/ modification, PAN card changes etc all on one machine. First machine of its kind.

Financial Services at Satnavari

Water Pond Sensors

Annex B
International Relevance and Strategic Importance

The Satnavari model aligns closely with international frameworks promoted by:

- International Telecommunication Union (ITU)
- UNDP
- UN-Habitat
- Global smart community initiatives

The initiative reflects international best practices in:

- Rural broadband connectivity
- Smart agriculture
- Digital governance
- Telemedicine
- Financial inclusion
- SDG-oriented development

VoICE presented India's Smart Intelligent Village model during the ITU-T Study Group meeting on 25 March 2025.

International Cooperation and Partnerships

The initiative has already attracted international interest and collaboration. Key developments include:

- MoU between VoICE and UK-India Future Technologies Initiatives (5 May 2026)
- Collaboration interest from European stakeholders
- MoUs involving C-DoT and TSDSI
- Alignment with international smart community ecosystems

The model has relevance for:

- Asia
- Africa
- Pacific Island nations
- Global South digital inclusion programs

Alignment with Sustainable Development Goals (SDGs)

The initiative contributes directly to:

- SDG 1 – No Poverty
- SDG 2 – Zero Hunger

- SDG 3 – Good Health
- SDG 4 – Quality Education
- SDG 9 – Industry, Innovation and Infrastructure
- SDG 10 – Reduced Inequalities
- SDG 11 – Sustainable Communities

Conclusion

The Smart Intelligent Village at Satnavari represents a globally relevant model for technology-enabled rural transformation. Combined with scalable service-delivery models such as the Samriddh Gram Centres, it offers India a practical pathway toward inclusive digital modernization of rural communities.

The initiative demonstrates how:

- AI,
- broadband connectivity,
- smart governance,
- digital public infrastructure, and
- community participation

all, can collectively transform rural economies into sustainable, resilient, and digitally empowered ecosystems.

India now has an opportunity to position itself as a global leader in rural digital innovation through scalable Smart Village frameworks aligned with national priorities and international development goals.