



Digital Transformation of Public Sanitation

Sanitation in India: The Bad, The Good, and The Ugly

100 million urban poor depend upon shared public & community toilets for their sanitation needs. 75 Million Individuals, more than the entire population of France, do not have access to toilets in India.

The Good news is that under Swachh Bharat Mission, 50 Lakh toilets were created only in urban India, just in the past 5 years. However, most of these toilets are falling into disrepair soon after they are commissioned.

The Ugly Picture: without continuous maintenance and monitoring, 2500 crores spent under SBM will literally

$$\text{₹ 2500 Crore Spent} \times 0 \text{ Monitoring} = 0 \text{ Impact}$$

go down the toilet. **Maintenance and Monitoring is THE Governing factor that translates the Capital Investment into Sustainable Impact.**

Samagra and the Conception of SmartLoo

Samagra started 10 years ago with a vision of providing clean public toilets to all. We managed 150 public toilets and served **150 thousand happy users daily**. However, the operator model is challenging to scale due to the varied local contexts. We realized that in order to provide clean toilets at the population scale, we need to distribute the ability to solve the problem to the local ecosystem.

Intervention	Community Context	Market Engagement	Government Engagement	Scalability	Quality
Samagra 1.0	✓	✓	✗	✗	✓

SmartLoo Overview

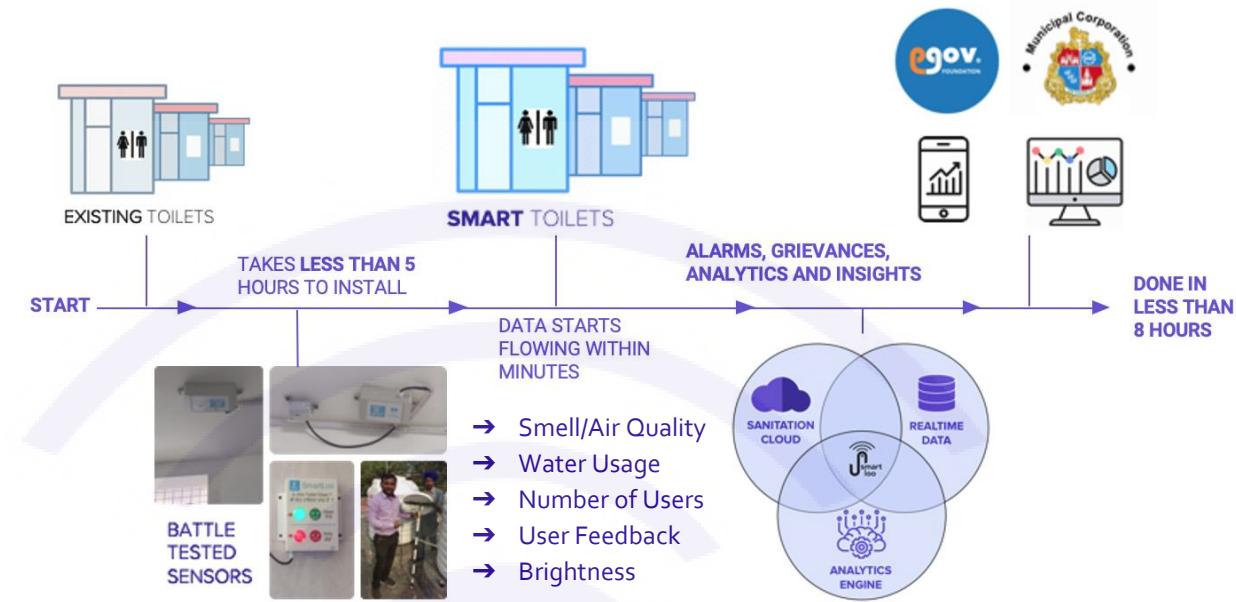
SmartLoo is a **State-of-the-Art IoT platform** that enables toilets to send their machine-based unbiased operational data to the relevant stakeholders in real-time. This provides complete transparency into toilet operations. SmartLoo is powered by a **strong AI backend** that provides actionable insights and decision tools to relevant stakeholders.

- World's 1st Digital Infrastructure for Public Sanitation
- **Designed to distribute the ability to solve sanitation problems to local stakeholders** (Toilet Operators, Municipalities, Community Members)
- Retrofits existing toilets with Internet of Things (IoT) sensors to gather real time data



The Big Idea!
Making
Toilets
Talk

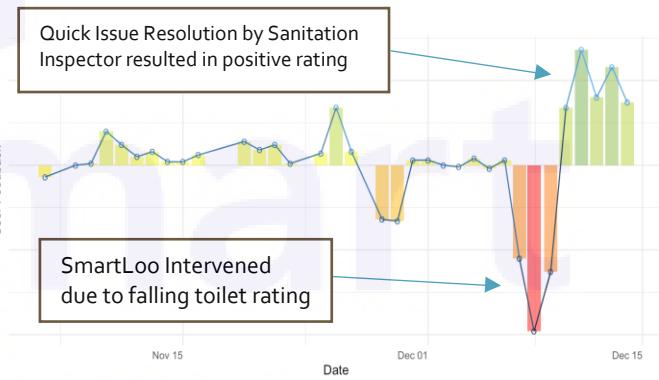
SmartLoo Public Toilet Transformation Project



Proof of Concept: Impact Results from Patiala Pilot

SmartLoo has been piloted in cities of Pune, Warangal and Patiala and has been monitored for more than 6 months. We saw a dramatic improvement in the state of cleanliness & upkeep of these toilets

- ✓ Toilet usage more than doubled
- ✓ User engagement more than doubled
- ✓ 50% reduction in issue resolution time in Patiala



"Smartloo system is enabling me to get issues resolved promptly. I am able to consistently provide clean toilets to happy customers and increase my income" – Toilet Cleaner in Patiala

"Smartloo system has transformed how we monitored toilets. We have seen increased footfalls and positive feedback, while saving costs" – ULB Officer in Patiala

Public Toilet Transformation Project - PTTP

Given the success of the pilots across 3 cities, we now plan to execute city-wide deployments of SmartLoo in Punjab and Telangana in partnership with **Existing Local vendors/operators**. The aim of the project is to:

- ✓ *Completely transform and disrupt the Public sanitation in these cities, and*
- ✓ *Make these cities the shining examples of sanitation service provisioning*

PTTP will benefit 1 Million People (10,00,000) with a per beneficiary cost of mere **Rs 35 (\$0.5)**

PTTP: Synergy with eGovernments' DIGIT and ASCI

DIGIT is already implemented and well adopted by most of the cities in Punjab. Similarly, ASCI has established PMUs in Telangana. SmartLoo will seamlessly plug into the existing **DIGIT platform** and **ASCI's PMUs** to get into the Municipal Workflows from Day 1 and provide alarms, triggers and insights to the ULB officials and other stake holders for improved issue resolution and upkeep of the toilets.

Team

SmartLoo founding team is a group of three highly accomplished cofounders with a combined work experience of over 45 years. The SmartLoo core team has strong expertise in technology domains like **Scalable IoT architecture and Artificial Intelligence**.



Swapnil Chaturvedi (The Poop Guy)
CEO, Award Winning Social Entrepreneur



Rahul Nayak
CTO, Tech Entrepreneur
IIT Bombay, ex IBM, ex-CEO M Lifestyles



Iti Mathur
Partnerships Head, ex-Teacher and Coach

PTTP Summary	
Size	2 CITIES 100 PUBLIC TOILETS 1000 TOILET SEATS
Duration	12 MONTHS, DEPLOYMENT AND M&E
Direct Beneficiaries (Users)	>200,000
*Total Beneficiaries	> 1 Million
Hardware Cost	₹ 15000 (~\$215) PER SMARTLOO DEVICE TOTAL: INR 1.5 CR (\$215k)
Execution and M&E Cost	₹ 2 CR (~\$285K)
Total Cost	₹ 3.5 CR (~\$500K)
Cost per User	₹ 175 (\$2.5)
Cost per Beneficiary	₹ 35 (\$0.5)

* Total population that will be positively impacted by Proper Sanitation and Open Defecation Free environment.

Mentors and Board Advisors

Ajay Sharma CEO, PMIDC

Kunal Kumar Mission Director, Smart Cities

Rusen Kumar MD, India CSR

Sanjay Purohit Chief Curator, Societal Platform

Hari TN HR Head, Big Basket

Rajesh Chandran APAC CX Head, CISCO

Appendix

Stakeholders: Their Reality and Desired State

	Desired State	Result	Reality	Result
User	Needs access to clean toilets and exert her feedback	Dignified life and ODF India	Lack of clean public toilets and no avenue for feedback	Lack of dignity, forced to defecate in open
Toilet Operators	Predictable revenue and reduced cleaner attrition	Increased revenue with honest means	Revenue Pilferage, high cleaner attrition	Resorts to dishonest means
Toilet Caretakers	Stable Income, Dignity of labor	Clean toilets with dignity	Uncertain payments and lack of dignity	No incentive to clean toilets
ULB Officers	Wants to provide clean toilets to citizens	Good Service	Lack of means for Operator performance assessment	Overloaded with complaints

SmartLoo @Scale

SmartLoo is a robust system designed to provide the right tools in the hands of the stakeholders to work at scale. Beyond PTTP, the operations will be scaled through participation from **Existing Local Vendors and Operators**. As the economies of scale kick in, the cost of hardware will become marginal and competition will drive efficiency. SmartLoo Team will assume the role of the custodian of the SmartLoo Platform and sanitation advisor to the ULBs. The entire technology, HW + SW will be made available with open source.

- SmartLoo will prescribe the Standards for the sensors
- Production will be done through local vendors
- The competition amongst producers and vendors will reduce the cost of HW and Deployment.

