**Terms of Reference (ToR)**

**for**

 **Research Project**

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| 1. **TITLE OF THE PROJECT:**

A comprehensive study on management of mobile toilets.**2. BACKGROUND*** 1. Mobile toilets (MT), play a crucial role in addressing sanitation challenges, particularly in densely populated areas and during events or emergencies. In India, where access to proper sanitation facilities is a significant concern, mobile toilets are deployed to improve hygiene and provide temporary solutions in various settings.
	2. Mobile toilets are commonly deployed during public events, festivals, fairs, and gatherings where a large number of people are expected, construction sites where permanent sanitation infrastructure may not be available, urban areas with slums or informal settlements, where access to proper sanitation is limited, and disaster-stricken areas or during emergencies.
	3. Various government initiatives in India aim to improve sanitation facilities, and mobile toilets are sometimes part of these initiatives. The Swachh Bharat Abhiyan (Clean India Mission) is one such initiative that focuses on improving sanitation and hygiene.
	4. Mobile toilets come in various designs, including simple portable units with basic amenities like a toilet seat and a waste collection system. Some units may be more advanced, offering features such as handwashing facilities, proper ventilation, and waste treatment systems. Despite the positive impact, there are challenges associated with mobile toilets in India, such as maintenance issues and the need for proper waste disposal systems.
	5. In order to take a holistic view of the subject, it is important to conduct a detailed study on the operation and maintenance and waste disposal of mobile toilets.
	6. The project aims to prepare an analytical report on best management practices adopted by concerned service providers.
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| **3. OBJECTIVE** The primary objective of the project is the collection of information/data, the study of operation and maintenance and waste disposal of mobile toilets. |
| **4. SCOPE*** 1. Undertake comprehensive study of existing literature including related standards, regulations, reference materials, case studies and SoPs related to the context of mobile toilets.
	2. Comparative analysis of information and data collected as per **4.1**.
	3. Develop a framework for the management of mobile toilets based on information/data collected in the following study on mobile toilets:
1. What are the components;
2. Selection of performance criteria to evaluate the performance;
3. Identification of risks associated;
4. Transportation, installation and disassembly context;
5. Operation and maintenance;
6. Cleaning and disinfection;
7. Testing methods;
8. Protection guide and instructions; and
9. Rapid response mechanisms.

**4.4** Conduct visits as per clause **5** (d).  |
| **4. METHODOLOGY**The research project will follow a structured methodology that includes, but not limited to, the following:1. Review of the literature as covered in para 4**.1** and submission of preliminary report of this review to BIS/TC for inputs and recommendations.
2. Collection of feedback through circulation of structured questionnaire to obtain relevant information/data from experts.
3. Conduct interviews of experts/auditors and have focus point discussions on important aspects as mentioned under para **4.3**.
4. Conduct visits to five mobile toilets service providers of the country and collect information/data as covered under **4.3** above.
5. Focused discussions with experts to analyze and comparative analysis of the information/data collected.
6. Prepare a study report on the basis of findings and data collected as covered in scope (para **4).**
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| **5. DELIVERABLES****5.1** An analytical report containing information/data as mentioned in para 4 and append evidence containing statements, questionnaire, details of interviews, outcome of consultation with experts and data collected during literature review and visits.**5.2** Hard as well as soft copies of the report shall be submitted within the timeframe. |
| **6. TIMELINE AND METHOD OF PROGRESS REVIEW****6.1** The time frame for completing the study and submitting the report is 4 months from the date of the award of the project.**6.2 Stage wise timelines:**

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| **Stage**  | **Time from date of award of research project** | **Progress of work** |
| Stage 1 | Within 45 days | Completion of review of literature and preparation of sampling plan |
| Stage 2 | 46-75 days | Completion of field visit, expert interviews, focus point discussion |
| Stage 3 | 76-90 days | Submission of draft research report to BIS for evaluations and recommendations by TC. |
| Stage 4 | 91-120 days | Submission of final report |

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| **6.3** In case of delay in submission of report at any stage, the justification shall be given by the expert organization for consideration.* 1. The researcher shall comply to the provisions given in the ‘Guidelines for Research & Development Projects for Formulation and Review of Standards’ Doc no. SCMD/R&D Guidelines/20230909.

**6.5** The researcher taking up the project shall clear all doubts on provisions of research including ToR and BIS guidelines before acceptance.**7. BIS SUPPORT*** 1. BIS will provide access to latest editions of Indian and International Standards and available literature.
	2. BIS will facilitate assistance and introduce the research project to research organizations, government departments, and water utilities.
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| **8. NODAL PERSON**Priyanka SinghSc-B/AD & Member Secretary, SSD 14Services Sector DepartmentBureau of Indian Standardsssd@bis.gov.in |