



Coming soon

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a robot to clean septic tanks-Situation poses multiple challenges, says IIT-Madras group

- A group in IIT-Madras is developing a robot to clean septic tanks.
- After mock trials in the lab scheduled for April and May, the robot will undergo site trials in July through August.
- The dire need for such an invention is starkly obvious with six persons, including a woman, killed on Tuesday near Chennai while cleaning a septic tank.
- The number of septic tanks in India runs into hundreds of thousands, and though it is illegal, sending a person down to clean the chamber is not uncommon.
- According to the 2011 Census, about 400 million people in India use septic tanks.

Technical obstacles

- Propelling a robot in this environment is a major challenge the Centre for Non-Destructive Evaluation at IIT-Madras, who has been working on the project about four years.
- To move in the fluid, a robot needs to have a propeller but the conditions in a septic tank pose specific problems.
- The group hence opted for bioinspired fins and three master's projects later, they now have a standalone six-fin propeller, which was developed by Srikanth, an MS student.
- To simulate the tank liquid, they are now trying to procure sludge from the oil and gas sector, whose properties are similar.
- The group is in close talks with the Safai Karmachari Andolan(SKA) for a partnership.
- The funding for the project were met partly by IIT- Madras Socially Relevant Project on Compact Robotic Vehicle (CRV) for Sewer lines and Septic tank inspection, 2017-2018, and by 2018 Carbon-Zero

National Energy and Environment Innovation Challenge.

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