

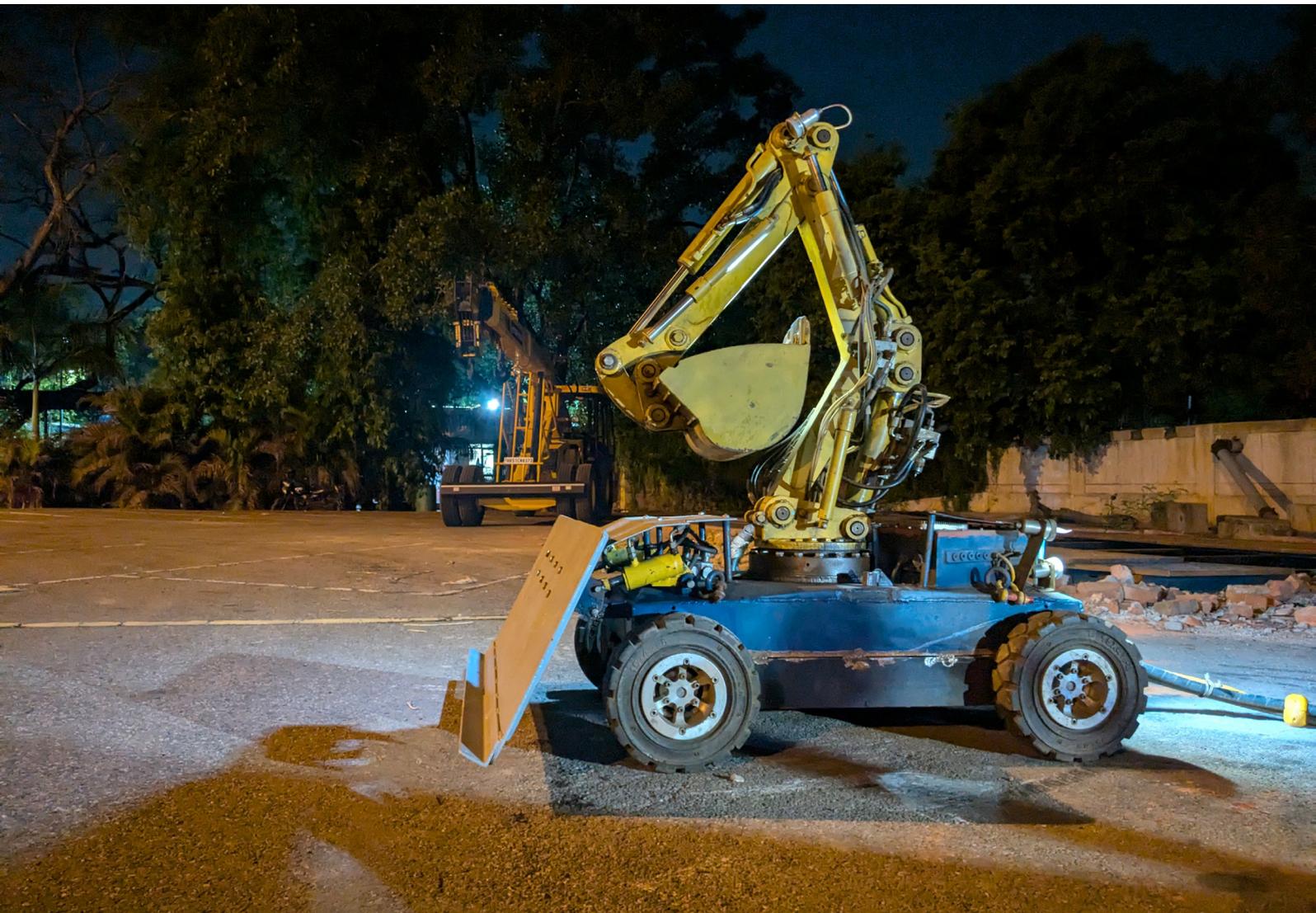


PROUDLY MADE IN INDIA

**DSI** *Robotics*

# Muckbot™ A Robotic Desilting Technology

The World's First Submersible Robotic Excavator ROV's  
Technology - Leads the Innovation for Confined Space Cleaning  
Enabling Cleaner Safer & Efficient Maintenance of Large Sewers  
& Drains





Muckbot™ is an advanced robotic desilting technology that addresses the complex challenges of deteriorating drainage networks. This state-of-the-art solution is engineered to perform desilting operations with high efficiency and safety, eliminating the need for human entry into potentially hazardous environments. By leveraging innovative robotics, Muckbot™ enhances operational effectiveness while ensuring that maintenance work is conducted in a secure and controlled manner.

## Key Factors Contributing to Drainage Network Degradation

- Untreated Sewerage Discharge
- Indiscriminate Debris Disposal
- Unplanned Covering of Open Drains
- Unauthorized Construction
- Poor Design and Planning
- Material Degradation
- Presence of Utility Pipes and other unauthorized Infrastructure

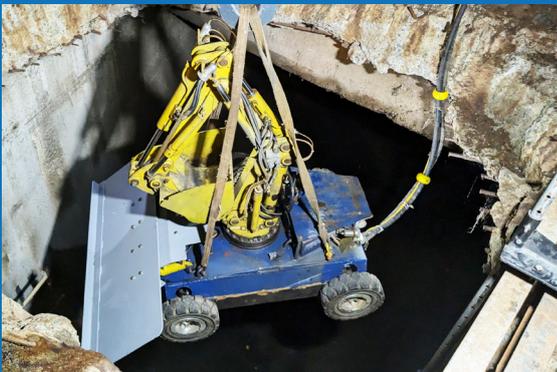


# MuckBot's™ Core Support Zones: Tackling the Toughest Confined Space

- Large Diameter Pipelines, Covered and Box Drains
- Culverts, Ducts and Siphons
- Inaccessible Open Drains
- HRT/TRT sections of river runoff hydro-power projects
- Other Toxic, Hazardous and Confined Spaces that are difficult to access
- Removal of solid waste and debris from hard-to-reach areas



## Muckbot™ in Action: Transformative Applications and Real-World Impact



- Rectification of drainage systems
- Prevention of urban flooding
- Management of solid waste

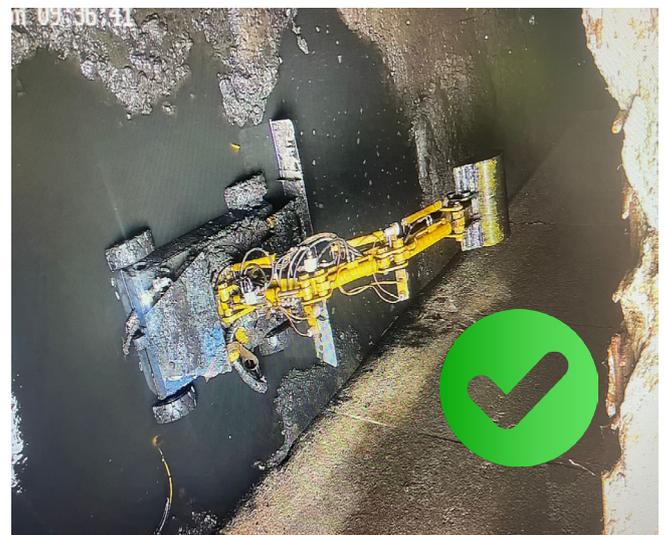
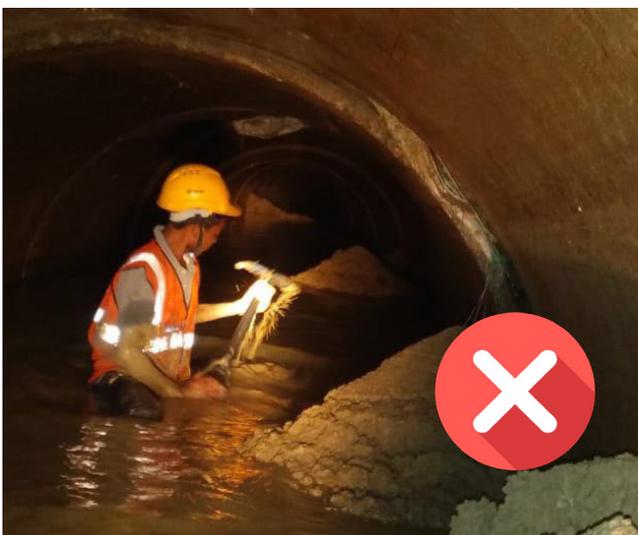
## MuckBot™ - Technology and Design Highlights:



- Operates remotely without the need for human entry
- Fully submersible and capable of operating underwater
- Capable of removing any type of silt or Muck
- High efficiency and operational speed
- Capable of zero-visibility operations
- Live monitoring of desilting work
- Scalable and AI-driven robotic solution

# Traditional vs Technology Driven Methods :

Feature	Robotic Desilting Muckbot™	Manual/Traditional Desilting
Operation Method	Automated, robot-operated	Labor-intensive, human-operated
Efficiency	High, continuous operation	Low, limited by human capacity
Safety	Remote operation, eliminates risks	High risk of accidents/ injuries
Speed	Faster, consistent	Slower, labor-dependent
Cost	Higher initial investment, lower long-term costs	Variable, high Social costs
Quality of Services	Demonstrable Quality, Visibility of Excuted work	Dependence on Feedback
Heavy Machinery, Lowdown Time, Continous Operation	Light Machinery Tools (if used), Higher Downtime	Potentially higher due to human error risk to Human life.
Risks	Low ,Controlled Operation	Potentially higher due to human error
Labor Requirements	Low skilled engineers & Technician also required	High, requires human workforce

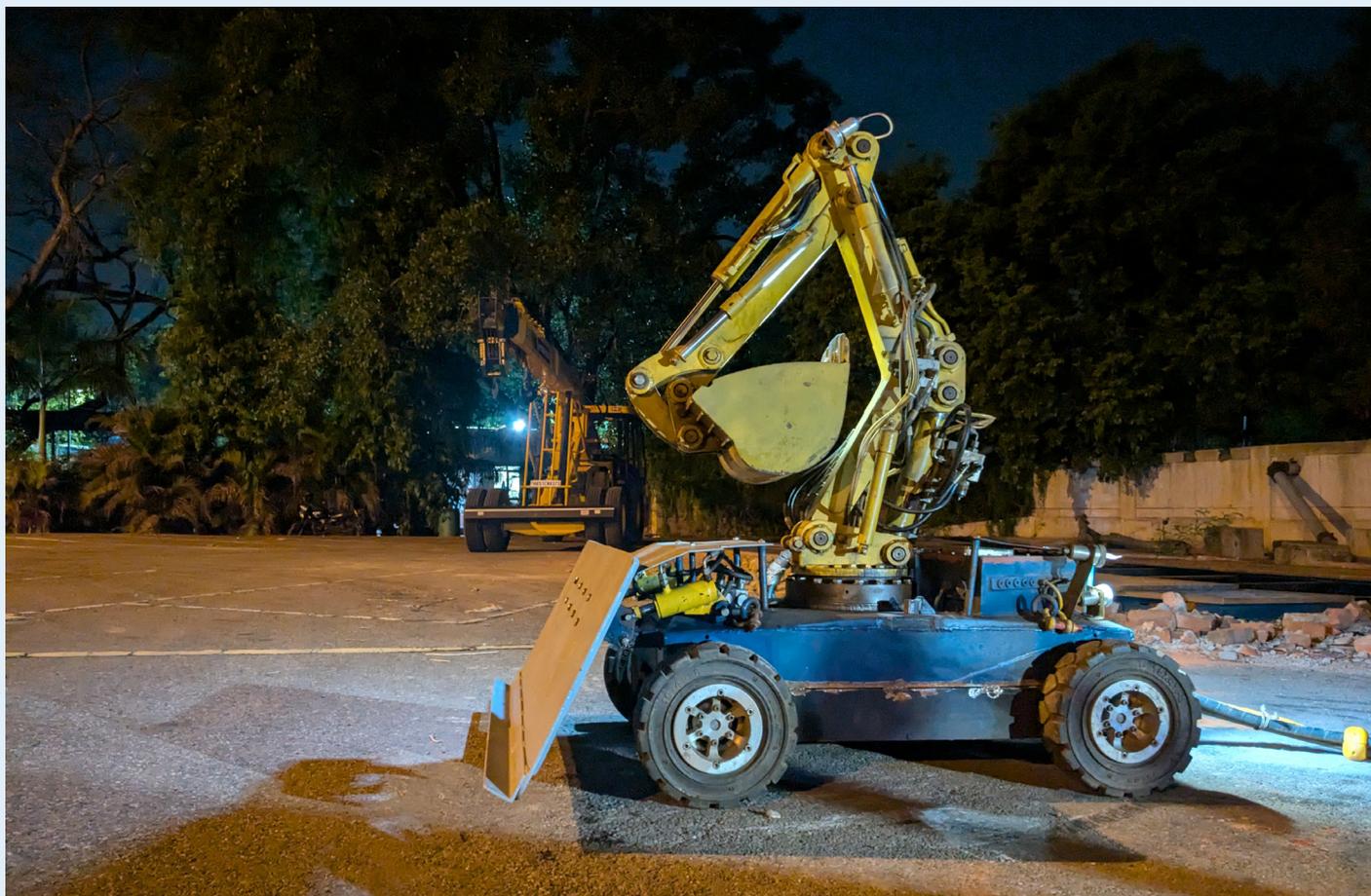


# Unmatched Value Beyond Bespoke Solutions: Driving Innovation, Sustainability, and Safety

Not only do our bespoke solutions stand out, but we also add value in multiple ways:

- **Job Opportunities:** Unlike others, we create job opportunities not just for unskilled workers but also for educated youth, enhancing their knowledge in robotics. We offer a platform for engineers to excel in the fields of robotics and AI, fostering growth and innovation.
- **Environmental Impact:** Our green technology operates with minimal fuel, electricity, and water consumption, leading to reduced diesel usage and water waste. It's designed to have a low environmental footprint while delivering high efficiency.
- **Efficiency and Effectiveness:** Our machines ensure fast, precise, and controlled desilting, minimizing human intervention in hazardous spaces and increasing overall productivity.
- **Saving Human Lives:** By minimizing exposure to dangerous environments, we ensure safer operations without the need for chemical treatments or imposing high social costs. This approach protects unskilled laborers from hazardous conditions.

*Additionally, our technology is built to perform in extreme weather conditions. Even when manual operations become impossible, our machines have continue to deliver results, maintaining uninterrupted progress.*



# Why Muckbot™ Is Unique?

The Muckbot™ Series of Robotic Excavator and Loaders are highly customizable and can fit the specific needs of various lines and drains, requiring minimal external modifications for operation. Whether the drains are box-shaped, rectangular, circular, or elliptical, our machines can be easily adapted. This ability to tailor our equipment to the site's requirements sets us apart from the competition.

Muckbot™ is specially designed to tackle the unique challenges of circular or elliptical drainage systems. Its streamlined, curve-focused design allows the robot to navigate seamlessly through pipes and drains with rounded geometries, where sediment tends to accumulate unevenly. Muckbot's™ agility in these curved environments ensures thorough and consistent cleaning, minimizing the risk of blockages caused by sediment buildup along the curves. This capability improves the overall efficiency of the drainage system by maintaining optimal flow, preventing backups, and enabling regular maintenance in hard-to-reach or hazardous locations.



**Customized for Circular/  
Elliptical shaped lines.**



**Customized for Box Shaped/  
Rectangular lines**

Muckbot™ is engineered to excel in desilting operations within rectangular or box-shaped drainage systems, where silt and debris often accumulate in flat-bottomed, straight-lined areas, making maintenance difficult. Our robotic design, specifically customized for these shapes, ensures precise navigation and efficient debris removal along straight edges and sharp corners typical of such lines. This optimization enhances desilting effectiveness, thoroughly cleaning even hard-to-reach areas without requiring human entry. Muckbot's™ capability to operate in covered or otherwise inaccessible drains ensures faster, safer, and more efficient desilting, reducing the need for expensive manual labor and minimizing infrastructure disruptions.

# Client:

We are proud to have worked with a range of esteemed organizations and government bodies dedicated to urban development, waste management, and environmental Engineering. Some of our notable clients include:



Michigan Engineers Pvt Ltd



**LARSEN & TOUBRO**



## Real Work,Real Result

*The technology is instrumental in helping us manage our drainage systems more effectively. Its ability to operate in hazardous spaces without human intervention ensures the safety of our workers while delivering unmatched results.*

*The efficiency is impressive. A truly revolutionary technology.*

*We are extremely satisfied with the performance in our confined and underwater spaces. The precision and control it offers have made desilting operations much more streamlined and safer.*

*It is environmentally-friendly approach to desilting has been key to maintaining clean and functional drainage systems along critical water bodies.*

# About DSI Robotics

With a mission to revolutionize hazardous and inaccessible industrial workspaces, DSI Robotics has emerged as a trailblazer in the realm of smart robotic solutions. Over the past decade, we have distinguished ourselves as a leader in mobile robotic inspection and underwater work-class robots, delivering unparalleled expertise across a diverse range of industries.

Our rich experience, coupled with a broad client base spanning both government and private sectors, has solidified our reputation as a comprehensive one-stop solution provider for all your Water, Wastewater (Drainage/Sewerage), and Marine Pipeline Inspection, Maintenance, and Repair needs.

## DSI ADVANTAGE

INDIAN WARRANTY  
ECONOMICAL PRICES  
INTERNATIONAL QUALITY  
USER FRIENDLY INTERFACE  
CUSTOMIZED DESIGN & FABRICATION  
RUGGED DESIGNS FOR HARSH ENVIRONMENT



DIGITAL SURVEILLANCE INC.

For more details,  
Visit: Address: Plot D-8, Sector-63,  
Noida, U.P, India 201301  
Phone : 0120-4655777 | Sales/Project: +91-9999229779

**Email:** [info@dsirobotics.com](mailto:info@dsirobotics.com)

**Web:** [www.dsirobotics.com](http://www.dsirobotics.com)



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