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Zero Waste Citizen

Company Profile

Company Name: ZWC Solutions Private Limited
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About Us

ZWC is a forward-thinking environmental solutions organization committed to creating sustainable, scalable, and smart waste management systems. Founded with the vision of achieving zero waste to landfill, ZWC blends innovation, technology, and community engagement to address critical urban and rural sanitation and waste challenges.



△ Vision & Mission

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Vision

To lead the transformation toward a cleaner, greener India by delivering zero-waste solutions that improve public health, preserve natural resources, and empower communities.



Mission



- Promote sustainable waste management and circular economy practices.
- Deploy innovative sanitation solutions such as EcoFlush Toilets and Green STPs.
- Partner with educational institutions to build environmental consciousness among youth.
- Deliver high-impact, tech-enabled waste collection, recycling, and treatment systems.



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ZERO WASTE STP SOLUTIONS

Innovative, Decentralized & Sustainable Wastewater Management

Zero Waste Circular Solutions (ZWC) has pioneered a next-generation decentralized sewage treatment technology designed to make wastewater management completely sludge-free, low-cost, and circular. Our Zero Waste STP (Sewage Treatment Plant) is built on the principle of natural separation and bio-composting, turning waste into a valuable resource while ensuring zero discharge and zero waste generation.

About the Technology

The Zero Waste STP technology eliminates the most persistent problem in conventional wastewater systems — sludge formation. Instead of relying on heavy mechanical and membrane-based systems, our solution works through natural separation and biological treatment.

When a toilet is flushed, the system instantly separates the solid and liquid waste:

- Solid waste (faecal matter and paper) is directed to a Bio-Composting Chamber, where it undergoes aerobic decomposition and is converted into natural manure.
- Liquid waste is filtered through sand and bio-media, making it safe for reuse in landscaping, gardening, or groundwater recharge.

This entire process requires no mechanical components, no external power, and no chemicals, making it one of the most energy-efficient and maintenance-free systems available today.



Why Zero Waste STP?

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Why Zero Waste STP?

Traditional membrane-based STPs involve complex civil works, high operational costs, and continuous maintenance due to frequent breakdowns. In contrast, the Zero Waste STP is:



Process Overview

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1. Instant Solid–Liquid Separation:

Upon flushing, natural centrifugal and gravitational forces separate solids from liquids – instantly preventing sludge formation.

2. Bio-Composting of Solids:

The separated solids are transferred to a Bio-Composting Chamber, where they decompose into nutrient-rich organic manure (only 10–15% of the original volume remains).

3. Filtration & Reuse of Liquid:

The liquid passes through natural sand filtration and is ready for safe reuse in irrigation, flushing, or groundwater recharge.

Environmental & Economic Impact

- Zero Sludge Discharge – no waste sent to landfills.
- Water Reuse up to 100%, supporting circular water cycles.
- Energy-Free Operation, reducing carbon footprint.
- Up to 60% savings in lifecycle cost compared to conventional STPs.
- Scalable, Decentralized Model – ideal for housing complexes, institutions, parks, and public toilets.

Our Edge

- Patented Indian Technology backed by Startup India recognition and ISO 9001:2015 & ISO 14001 certifications.
- Designed and developed under ZWC Solutions Pvt. Ltd., a CMMI Level 3 certified organization.
- Supported by our digital monitoring platform that quantifies your environmental savings and brand impact.

EcoFlush Public Toilets

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Smart • Sustainable • Zero Discharge Sanitation

- Zero Waste Circular Solutions (ZWC) has developed the EcoFlush Public Toilet, a next-generation sanitation system powered by our Zero Waste STP Technology. It's an energy-free, sludge-free, and decentralized toilet solution designed to address the challenges of public sanitation while promoting circular water use and resource recovery.



How It Works

The EcoFlush system integrates Zero Waste STP technology that instantly separates solid and liquid waste after each flush:

1. Instant Solid–Liquid Separation:

Natural gravitational and centrifugal forces separate faecal matter and paper from flushing water — preventing sludge formation.

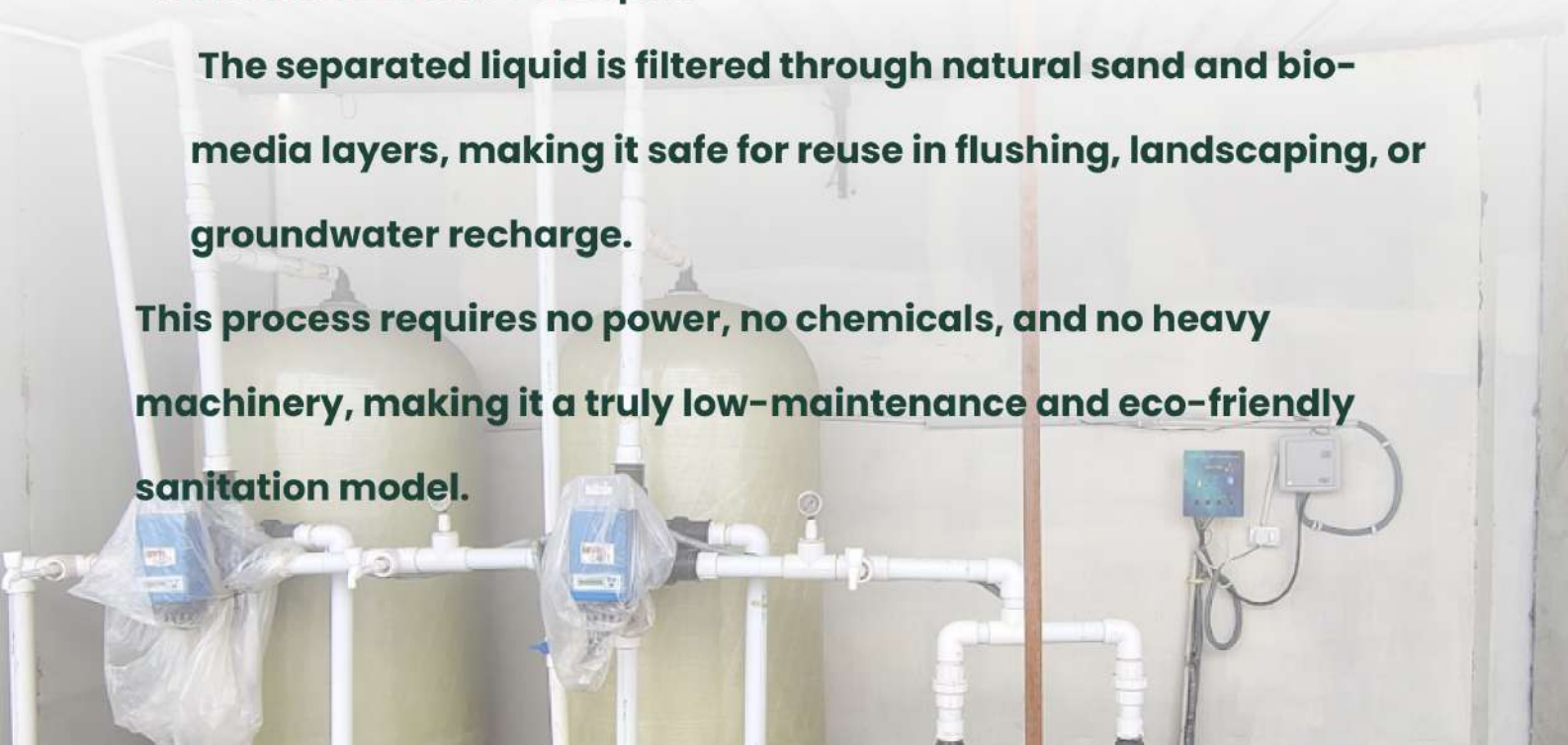
2. Bio-Composting of Solids:

The separated solids move to a Bio-Composting Chamber, where they naturally decompose into organic manure, reducing waste volume by up to 85–90%.

3. Filtration & Reuse of Liquid:

The separated liquid is filtered through natural sand and bio-media layers, making it safe for reuse in flushing, landscaping, or groundwater recharge.

This process requires no power, no chemicals, and no heavy machinery, making it a truly low-maintenance and eco-friendly sanitation model.



Key Features of EcoFlush

- ✓ Zero Sludge Formation – No need for desludging or waste tank cleaning.
- ✓ Water Reuse up to 98% – Greatly reduces freshwater demand.
- ✓ Energy-Free Operation – Functions without electricity or mechanical components.
- ✓ Odor-Free & Hygienic – Natural separation and composting eliminate foul smell.
- ✓ IoT-Enabled Monitoring – Track water savings, usage, and maintenance through a digital dashboard or mobile app.
- ✓ Low Capex & Opex – Minimal civil work, reduced maintenance, and no operational downtime.
- ✓ Compact Design – Suitable for urban, rural, or portable setups.

Why Choose EcoFlush for Public Toilets?

Traditional public toilets often face odor, maintenance, and water scarcity issues. The EcoFlush model solves these problems by combining nature-based treatment with smart monitoring.

- No sludge disposal issues
- Reduces operational cost by up to 60%
- Improves hygiene and user experience
- Promotes sustainability and ESG goals

Creating a Circular Sanitation Future

The EcoFlush Public Toilet is not just a sanitation unit — it's a climate-smart, circular infrastructure that reuses every drop and recycles every output. With this model, ZWC empowers communities and governments to achieve zero discharge, zero waste, and a truly sustainable public sanitation network across India.



OUR CLIENTS

ICD Palwal

TATA
Free zone

Cold
Warehouse

TATA Canteen

Food Asia

Railway

JCB Victora

JSW Warehouse

ICD Warehouse

JSW Gate

ICD Gate



ICD Palwal


HIND TERMINALS

OUR PROJECTS

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Upcoming Projects

- NDMC
- iSmartu India Private Limited C-39 Noida
- Macho Private Limited, Dehradun
- KEC Private Limited, Mumbai
- Multi Decore India Private Limited

Ongoing Projects

- Padget Private Limited D-197
- Padget Private Limited D-199
- iSmartu India Private Limited D-198 Noida



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ZWC Bank – School Waste Exchange Program

ZWC Bank

A flagship student engagement initiative encouraging waste segregation and recycling. Students deposit dry waste at designated tin shed collection points and earn ZWC points that promote environmental responsibility.

Impact So Far:

- 45+ Schools onboarded
- 35,000+ students engaged
- Tons of dry waste diverted from landfills



Community Waste Collection & Recycling

4. Community Waste Collection & Recycling

ZWC offers reliable dry waste collection from residential colonies, schools, and commercial units. Sorted waste is sent for certified recycling, ensuring compliance with waste management norms and reducing landfill burden.

5. Awareness & Capacity Building

We conduct workshops, green drives, and training programs in schools, colleges, and residential societies to promote eco-friendly practices and instill zero-waste values.



Meet Our Team



Tarak Nandan Sahay

Founder And CEO

Mr Tarak is a circular strategist, founder, and CEO of ZWC. He has 27 years of experience in top leadership positions across West Africa, Singapore, and India. Tarak is an EPR, Plastic credit, carbon credit, waste minimization, and zero-waste solutions expert and has managed overall operations of integrated waste management projects in Delhi and Lagos and managed waste management Industrial city Jamshedpur (India) and urban municipality services on the smart city framework.



Manish Chhajed

CSO, Director

Manish has a cumulative experience of 18 years; 16 as an investor, mentor & advisor; 2 in MMIC technology. He has completed and advised deals of over \$1bn across 100+ companies in his career so far across sectors & geographies including technology, education, healthcare, textiles, consumer & retail, renewable & thermal power, oil & gas, auto ancillary, courier & logistics, industrial & manufacturing. He is CSO, Director in Zero Waste Circular Solutions.



Parveen Kumar Mittal

Technical Advisor

Mr Mittal has more than 18 years of experience in the IT industry. During this period he has worked on various technologies, catering to multiple industries. He is a serial entrepreneur, who founded two companies working in the field of IT/IoT. He has been instrumental in the creation of multiple IT products specially designed for the Indian MSME sectors. For ZWC, he is being responsible for scaling up the complete ERP comprising of functionalities ranging from waste collection to connecting dots of the complete waste management eco-system.



Agander Parashar

VP, BD And Implementation

Mr Agander Parashar has more than 30 Years of Diversified experience in Senior Management positions across West Africa & India. He is an MCA, MBA(Materials Management), B. Tech Certified Scrum Master, and Indian Air Force Veteran. He is a Project implementation in ZWC Solution. Proud to be part of a team working towards making all Human and Economical Activities Zero Waste through Innovation, Digital platforms and the Participation of citizens.



Dr. KK Sinha

WASTE WATER ADVISOR

Dr. Sinha has over 30 years of expertise in environmental compliance, waste management, and sustainability. As a NABET-accredited EIA Coordinator and CGWA-authorized auditor, he has advised organizations like BIADA and Bihar Pollution Control Board. With experience in audits, capacity building, and developing detailed project reports, he specializes in innovative water recycling and resource efficiency solutions. Committed to creating sustainable systems, Dr. Sinha combines technical knowledge with practical strategies for optimizing waste management processes.

Our Presence

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