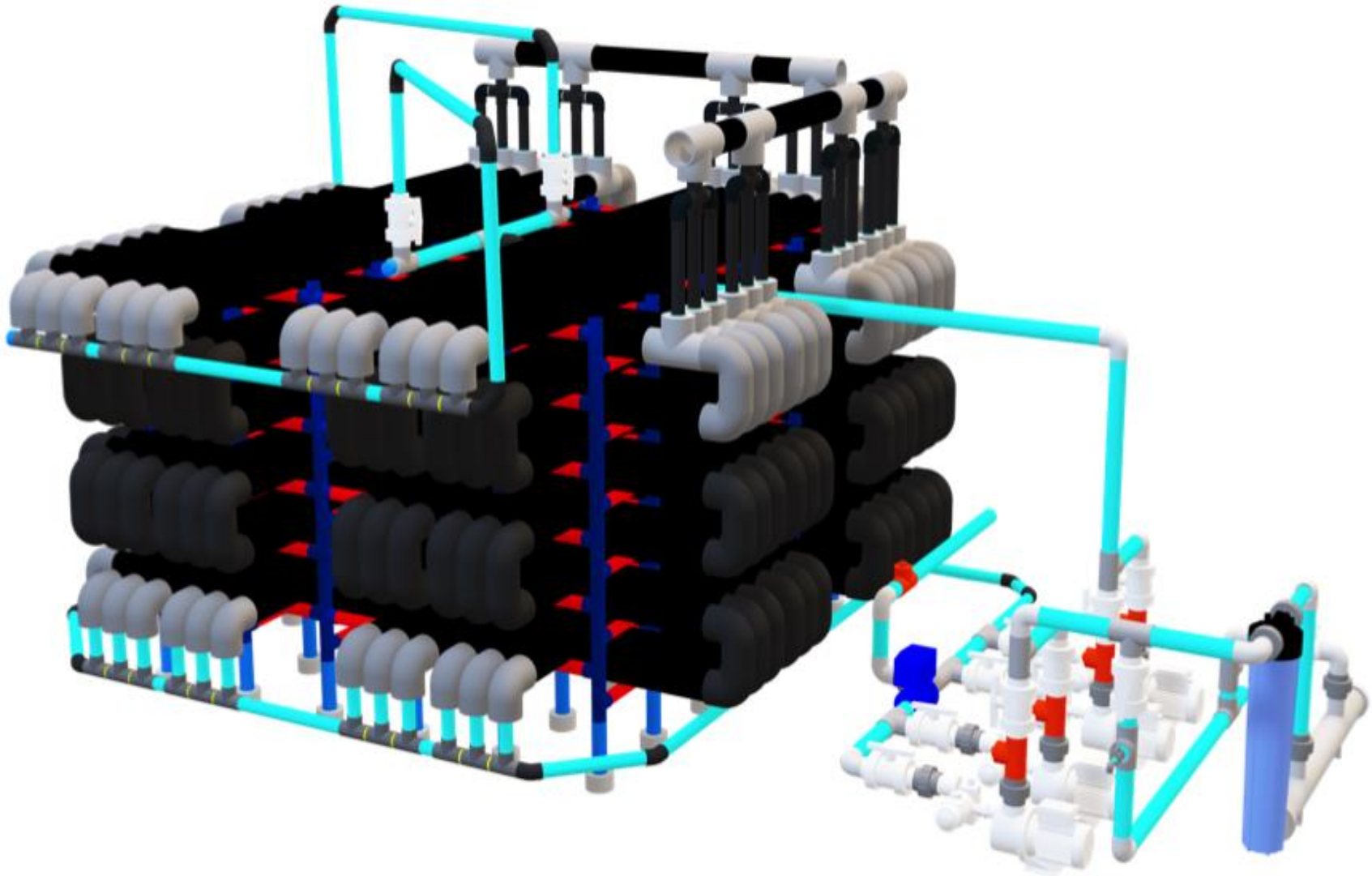
BIOPIPE INDIA PRIVATE LIMITED



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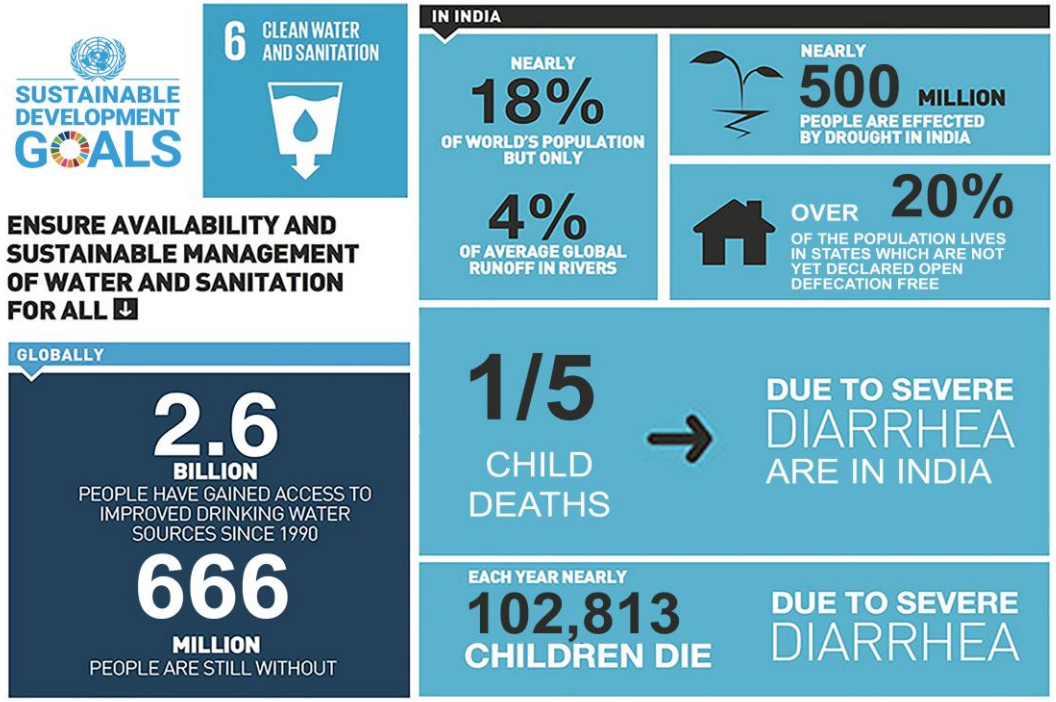
BIOPIPE MISSION AND VISION

Lifequest World Corp's mission is to become a global technology leader in low-cost, low-maintenance, eco-friendly, decentralized waste water treatment.

Our core competency is well-established in sewage waste water treatment, but we intend to rapidly add solutions for treatment of effluents in textile, tannery, fisheries, dairy and processed water industries.



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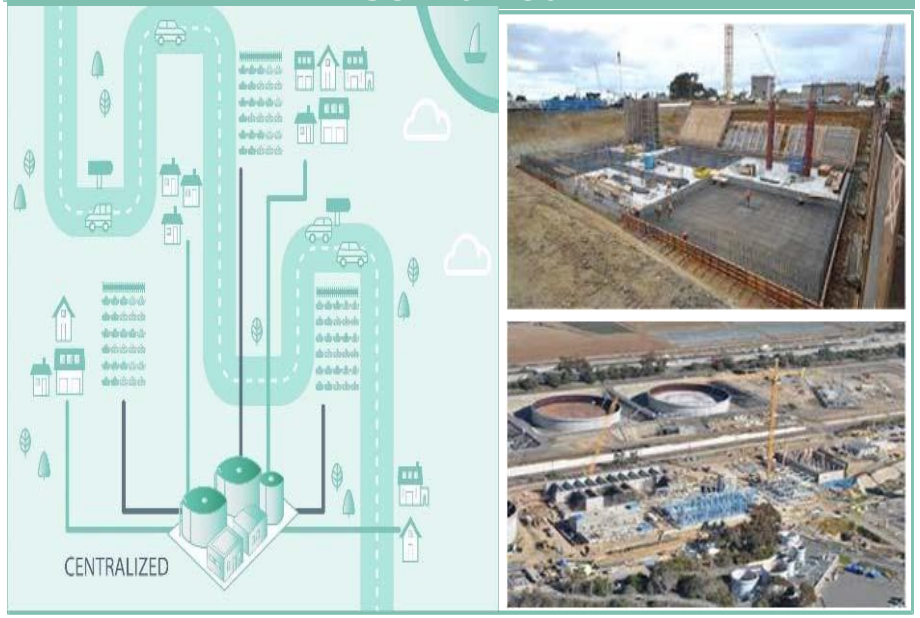
FOCUS ON DECENTRALIZED MARKET

Urgent Need For Affordable, Fast-to-Deploy Solutions

The Rationale

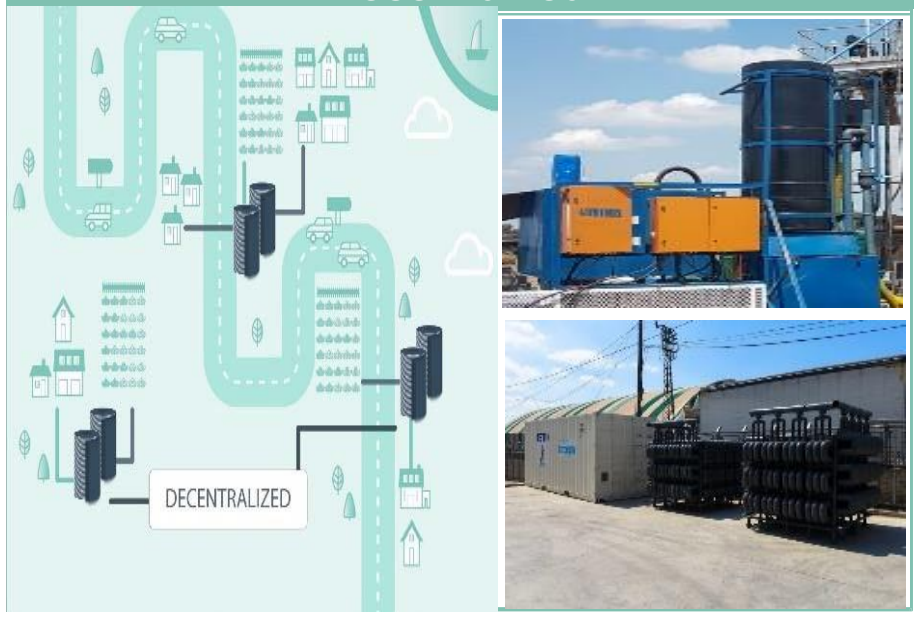
Centralized



- ✘ 2/3 of CAPEX before the plant (piping, pumping)
- ✘ Expensive to maintain and upgrade
- ✘ No flexibility and scalability
- ✘ Mainly for well developed urban areas

vs.

Decentralized



- ✓ 90 day of time-to-complete and lower, just-in-time CAPEX
- ✓ Capturing more value
- ✓ Scalable and customized to fit current needs
- ✓ Easy to upgrade and relocate

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OUR FAMILY OF TECHNOLOGIES

LIFEQUEST WORLD CORP.

- **DOMESTIC SEWAGE** — biopipe
- **INDUSTRIAL WASTEWATER** — ABRIMIX
- **FILTRATION MEDIA** — Glanris

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WASTE-WATER TREATMENT SCENARIO IN INDIA

1,545 meter^3 Low per-capita water availability

20% Groundwater blocks critical or overexploited

55% Households have no or open drains

91% of 302 river stretches polluted, high health impacts

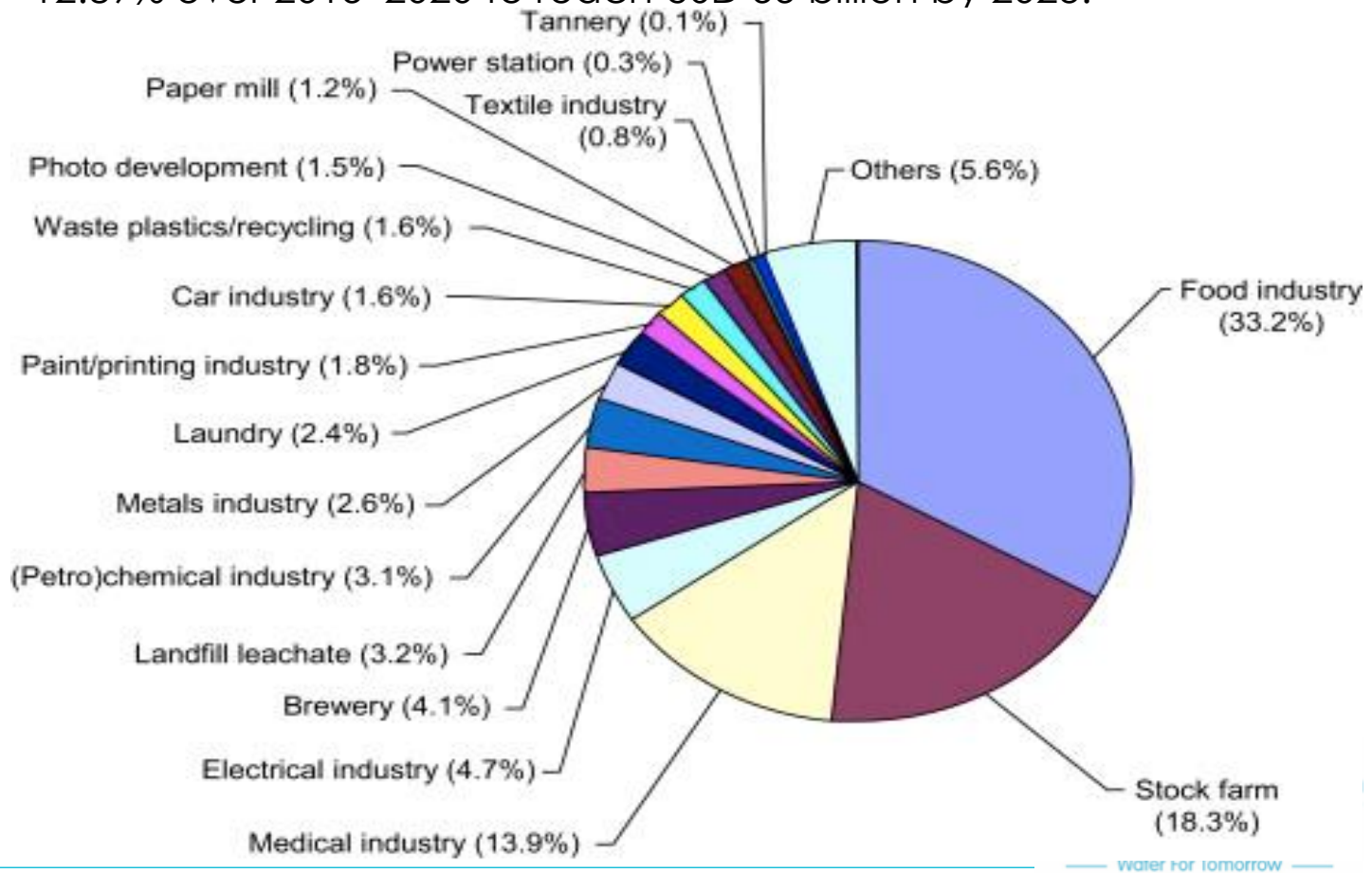
37,000 MLD: Untreated sewage flows

63% waste water flows untreated

8.5% and 10.1%: Freshwater abstraction by industries in 2025 and 2050, respectively

23%: Industries do not get water easily or at high costs

- India's industrial water and waste water treatment market is expected to reach $ 2.3 billion by 2022.
- India's water and wastewater treatment chemicals market is projected to reach $ 805 million by 2023.
- Indian pharmaceutical industry is forecast to grow at a CAGR of 12.89% over 2015–2020 to reach USD 55 billion by 2023.



REGULATIONS, CHALLENGES & SOLUTION

Sewage Treatment Plants (STP) and dual-piping system are mandatory

- Residential buildings measuring 5000 sq m or 50 and more residential units
- Commercial buildings measuring 2,000 sq m and above
- Education institutions measuring 10,000 sq m and above
- Hospitals with 100 or more beds

Challenges

- Odor Issues
- Noisy Operations
- Sludge Generation
- High Electricity Bills
- High O&M Cost
- Space Utilization
- Sludge Management
- Manual O&M
- Treated effluent not meeting targets
- Monthly supply of harmful chemicals

In Existing buildings: No space to construct STPs; structural stability of existing buildings could be endangered as underground STPs come close to load-bearing pillars; cost of STP becomes high.

BIOPIPE as a solution

- **No Odor**
- **Silent**
- **No sludge production**
- **Less space utilization**

Biopipe can be installed at service floor

- **Exceeds EU and Indian Discharge Standards**
- **Flexible Design**
- **Low O&M cost**

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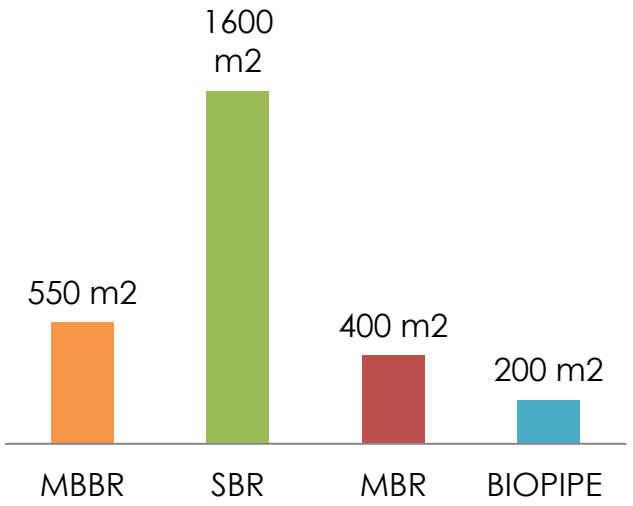
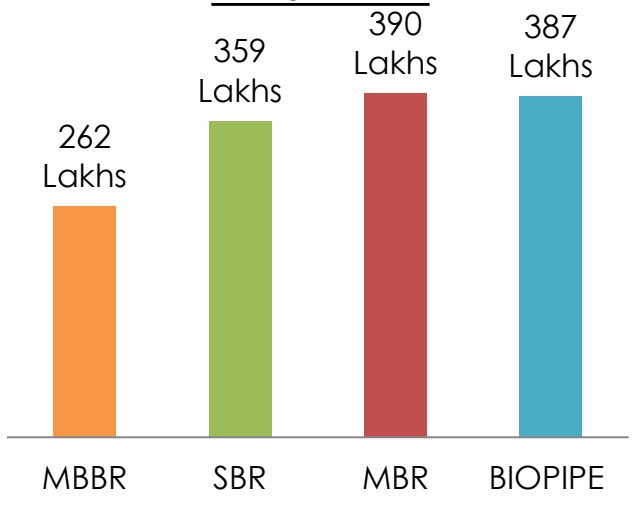
COMPARISON - COMPETITION

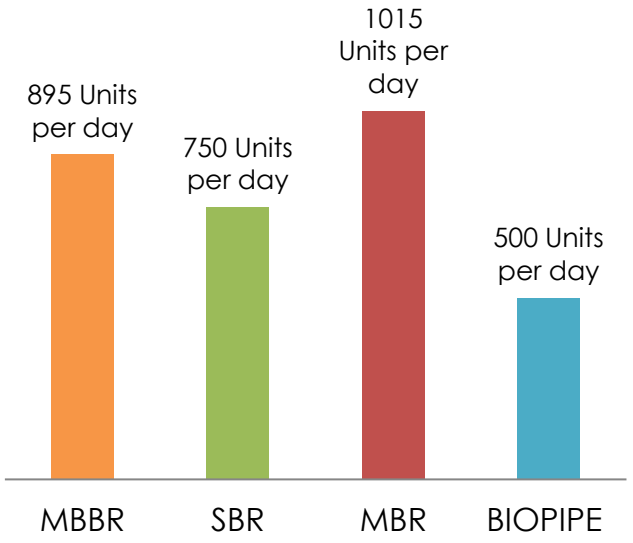
Average Area (m2) Required for 1 MLD STP



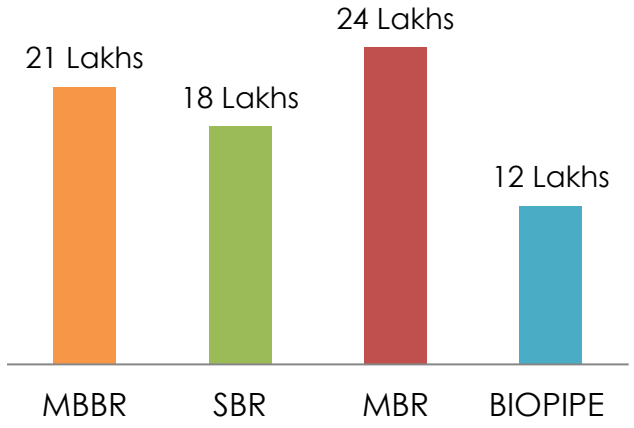
Capital Investment Required for 1 MLD STP in INR



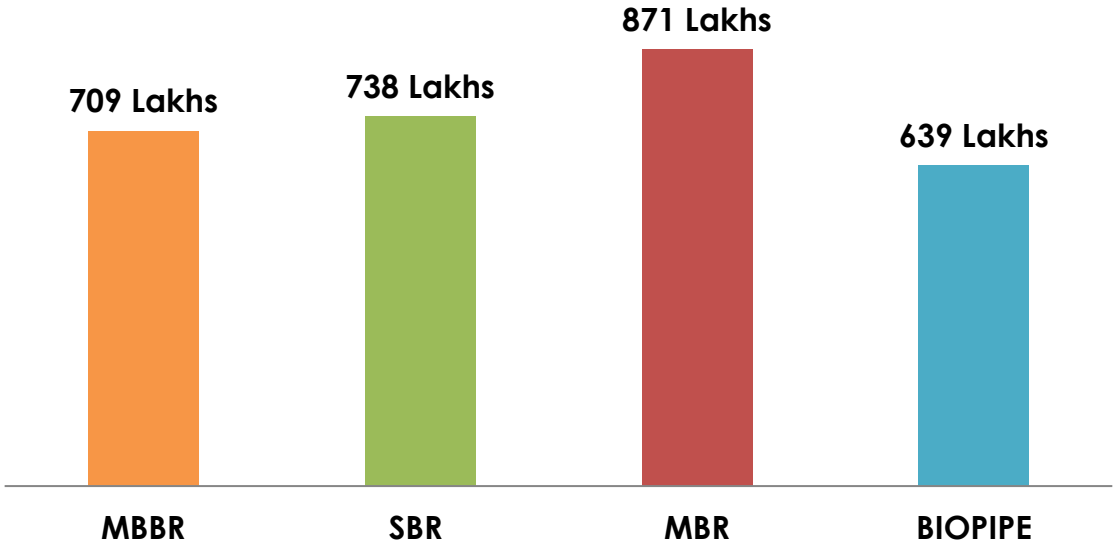
Energy Consumption for 1 MLD STP



Average O&M (AMC) cost for 1 MLD STP in INR



Lifetime Cost for 7 years including chemicals, O&M, spare parts, electricity



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Ref: Schedule Rate (DSR) 2022 | Maharashtra Jeevan Pradhikaran

CASE STUDY – MUNICIPAL CORPORATION (PUMPING STATION)

PIMPRI CHINCHWAD MUNICIPAL CORPORATION

PROJECT SIZE: 15 m3/day

LOCATION: PIMPRI CHINCHWAD, PUNE

This is a containerized Biopipe plant, situated at Delux Chowk Pumping Station, Pimpri.

Biopipe System of capacity 15 cubic meter per day is commissioned which treats the waste water that comes to the pumping station from the near by areas.

The pumping station then delivers this water to the STP situated at Bhatnagar. The treated water from Biopipe meets the pollution control board requirements.

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BIOPIPE (OUTPUT) WATER TESTING RESULTS

NABL Accredited Laboratory Results

Tel.: 8308805200 / 8446000118, E-mail: info@aavanira.com, Web : www.aavanira.com
CIN NO. U74900PN2010PTC137544

Recognized by Ministry of Environment, Forest & Climate Change (MoEFCC), Govt. of India
ISO 9001: 2015 and ISO 45001: 2018 Certified Company

ENalyse*

Test Report — REPORT NO.- AB/RPO/10/2021-22/75

Client Details Name & Address:
BIOPIPE GLOBAL CORP
Delux Chowk, Pimpri, Pune

Sample Code	AB/10/2021-22/75
Sample Name	STP Outlet
Sample Collected By	Client
Method for Sampling	–
Sample Type	Sewage
Sample Collected On	05/10/2021
Sample Received on Date	05/10/2021
Analysis Date	06/10/2021 to 11/10/2021
Reporting Date	12/10/2021
Sample returned /stored	Stored at 4°C for 1 week from the date of reporting

Sr. No.	Parameter	Results	Units	Standard Method
1.	Total Suspended Solids	6.0	mg/lit	IS: 3025 Part-17 (R.A : 2017)
2.	Total Dissolved Solids	248.0	mg/lit	IS: 3025 Part-16 (R.A : 2017)
3.	pH	6.89	–	IS: 3025 Part-11 (R.A : 2017)
4.	Biochemical oxygen Demand (3 day test at 27°C)	2.0	mg/lit	IS: 3025 Part-44 (R.A : 2019)
5.	Chemical Oxygen Demand	9.48	mg/lit	IS: 3025 Part-58 (R.A : 2017)
6.	Oil and Grease	<1.0	mg/lit	IS: 3025 Part-39 (R.A : 2021)
7.	Chloride (as Cl^-)	47.51	mg/lit	IS: 3025 Part-32 (R.A : 2019)
8.	Sulphate (as SO_4^{-2})	23.82	mg/lit	APHA : 23rd edition -(4500- SO_4^{2-} E)

Verified By – Quality Manager

Authorized By – Technical Manager / Dy. Technical Manager

Govt. Analyst
—End of Report—

AAVANIRA BIOTECH PVT. LTD. PUNE

Pimpri Chinchwad Municipal Corporation Laboratory Results

Biopipe Inlet Water Results

PIMPRI CHINCHAWAD MUNICIPAL CORPORATION
Sewage Treatment Plant Bhatnagar, chinchwad 30 MLD (ASP)
Delux sample collected (Biopipe)
Date- 26.10.2021
Time- 5.30 pm

Sample location - Model 2

Sr.no.	parameter	Result (mg/ lit.)
1	PH	6.44
2	DO	NIL
3	BOD	80
4	COD	316
5	TSS	10
6	O&G	ND

chemist
excel engg.

EXCEL ENGINEERS CHINCHWAD PUNE-19

Biopipe Outlet Water Results

PIMPRI CHINCHAWAD MUNICIPAL CORPORATION
Sewage Treatment Plant Bhatnagar, chinchwad 30 MLD (ASP)
Delux sample collected (Biopipe)
Date- 26.10.2021
Time- 5.30 pm

Sample location - Outlet

Sr.no.	parameter	Result (mg/ lit.)
1	PH	6.9
2	DO	1.7
3	BOD	3
4	COD	24
5	TSS	5
6	O&G	ND

chemist
excel engg.

EXCEL ENGINEERS CHINCHWAD PUNE-19

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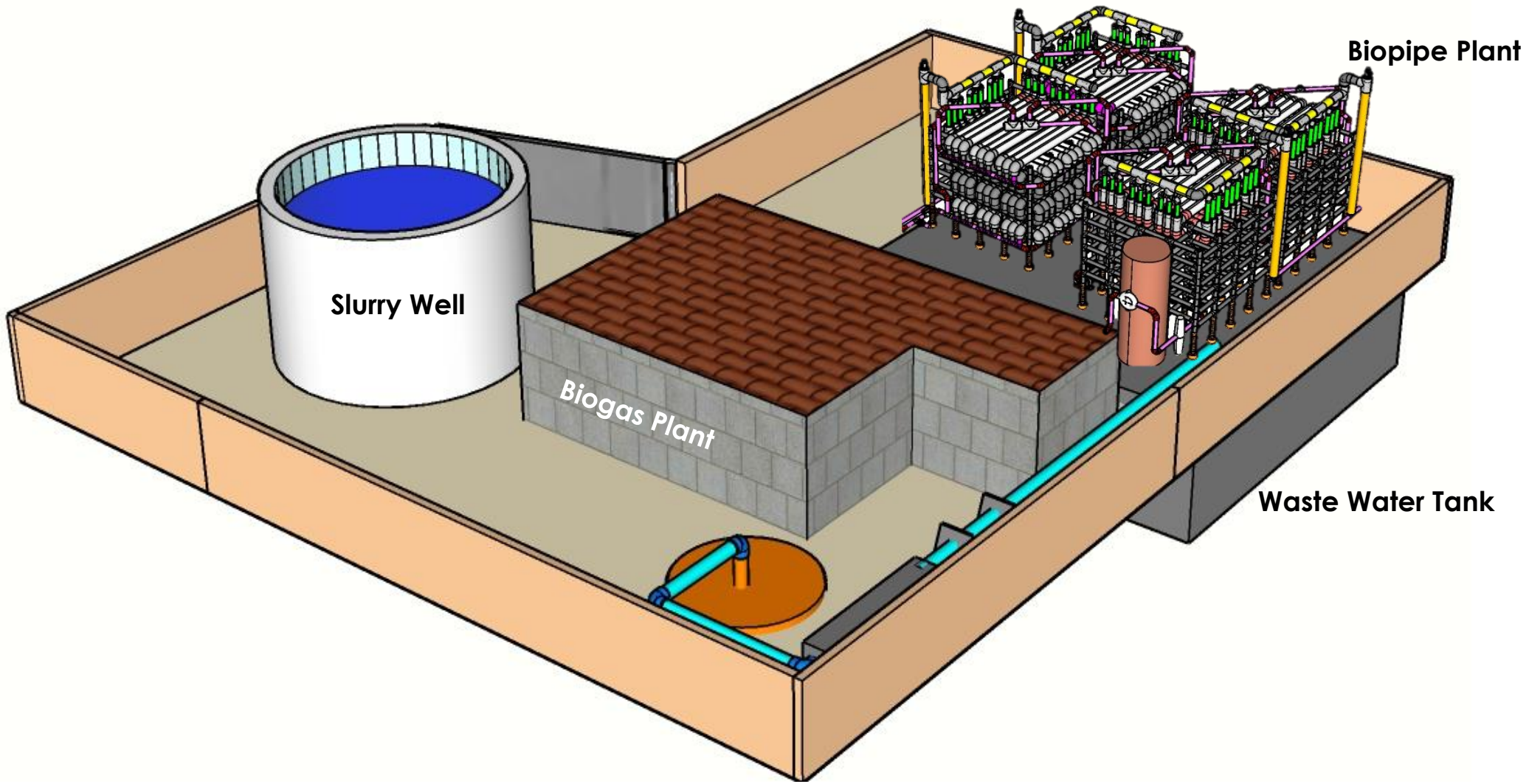
PROPOSED PROJECT



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ABRIMIX INTRODUCTION

What is ABRIMIX?

The ABRIMIX Process utilises high shear with pressure to rapidly achieve a treated waste water end point, providing for the following :

- Less usage of chemicals
- Small plant foot print
- Ease of operation
- Low maintenance cost
- Ease of control
- Highly efficient results
- Clear clean treated water
- Separated reduced moisture solid

The Abrimix technology is extremely effective in the removal of

- Suspended solids(organic / inorganic)
- Hydrocarbons such as , Oil, Fats, Grease
- Breaking and separation of emulsions
- Precipitation of Divalent and Trivalent

THE TECHNOLOGY IS ABLE TO CAUSE REACTIONS THAT NORMALLY DO NOT OCCUR UNDER ATMOSPHERIC CONDITIONS

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ABRIMIX APPLICATIONS

Active applications/use cases of Abrimix

Mineral Extraction	Oil Separation	Fish Processing
Pulp and Paper Processing	Paint Removal	Tanneries
Explosives Manufacturing Waste	Bevarages	Dairy Processing
Rendering Industry	Chemical Manufacturing	Food Processing
Other Separation Processes	Mine Impacted Water Treatment	Abattoirs

Abrimix Mobile unit

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MARKET DEVELOPMENT STRATEGIES

The 7Ps for Biopipe/ Abrimix/ Glanris

1. **Product**
2. **Price**
3. **Promotion**
4. **Place**
5. **People**
6. **Process**
7. **Physical evidence**

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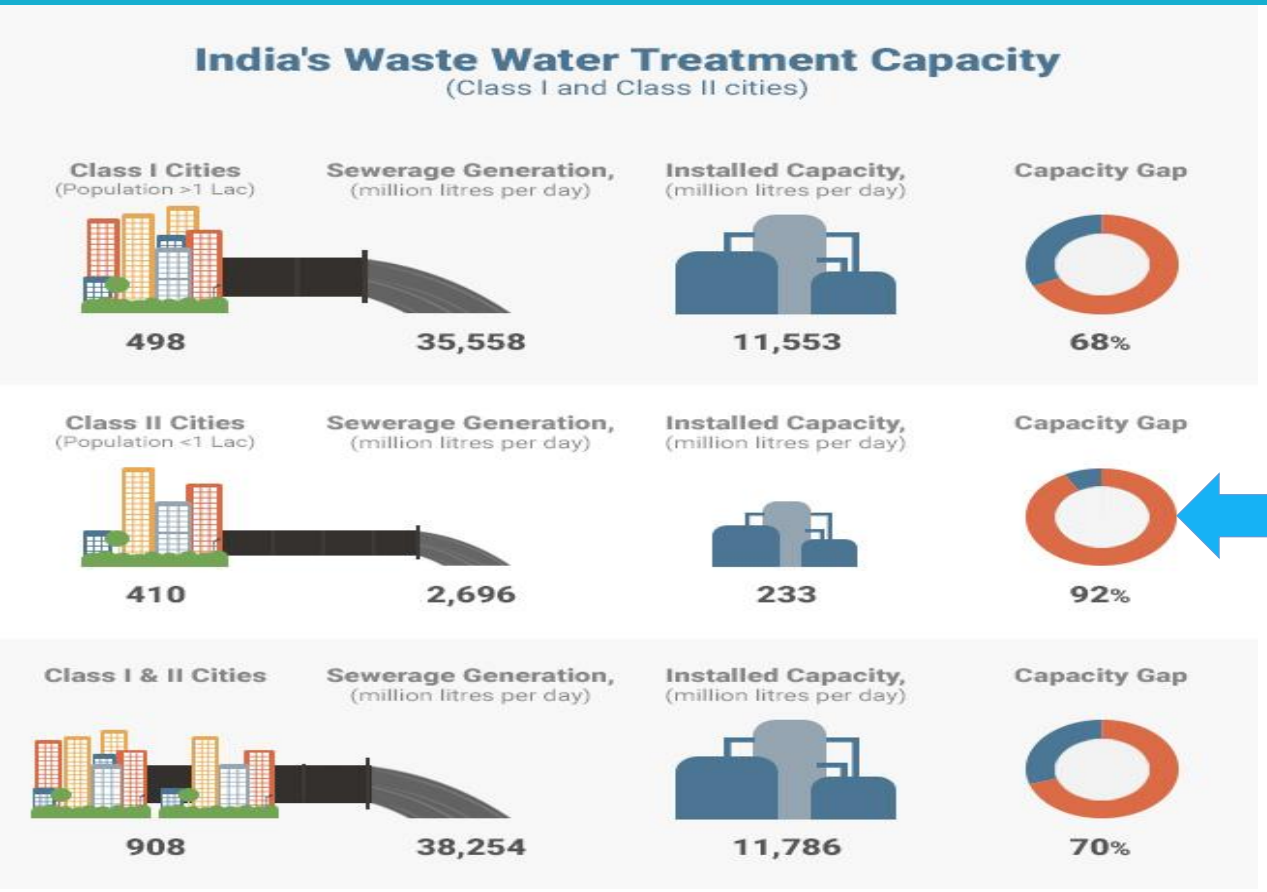
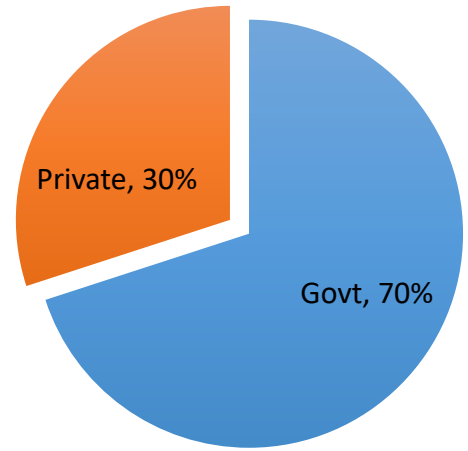
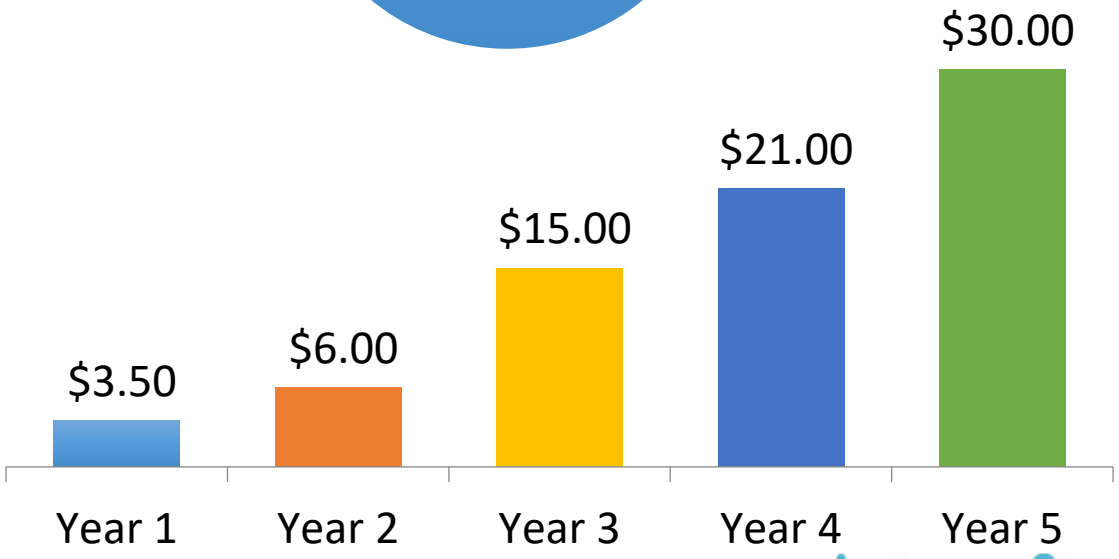
MARKET SEGMENT & TARGET FOR BIOPIPE INDIA



- 816 municipal sewage treatment plants (STPs) listed across India, only 522 work.
- The listed capacity is 23,277 MLD but no more than 18,883 MLD of sewage is actually treated.

India Wastewater Treatment Plants Market size to reach **3.45 lakh crore (USD 4.66 billion)** in 2026.





Biopipe India Targets in millions

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MARKET SEGEMENTS & FOCUSED STATES IN INDIA

Targeted States

Maharashtra, Goa, Gujarat, Karnataka, Rajasthan, Kerala, Haryana, Punjab, Delhi, 7 sisters, West Bengal, Uttar Pradesh, Telangana, Andhra Pradesh

Targeted Customers

Ministry of Drinking Water and Sanitation, Govt. of India

जल शक्ति मंत्रालय
MINISTRY OF JAL SHAKTI
DoWR, RD & GR

Central Public Health & Environmental Engineering Organisation (CPHEEO)
Ministry of Housing and Urban Affairs, Government of India

Ministry of Environment, Forest & Climate Change

MUNICIPAL

CIDCO
WE MAKE CITIES

ओएनजीसी
ONGC

INDIAN RAILWAYS

MALL

UNIVERSITY

Sugar Mills

HOTEL

BANK

MAHAPREIT

NAMAMI GANGE

भारतीय सेना

REAL ESTATE

IN PURSUIT OF CLEAN ENVIRONMENT
cpcb

भारतीय विमानपत्तन प्राधिकरण
AIRPORTS AUTHORITY OF INDIA

LIC
भारतीय जीवन बीमा निगम
LIFE INSURANCE CORPORATION OF INDIA

MINISTRY OF DEFENCE
DEFENCE RESEARCH & DEVELOPMENT ORGANISATION

MAHARASHTRA
Maharashtra Pollution Control Board
महाराष्ट्र प्रदूषण नियंत्रण मंडळ

MSPHC

इंडियनऑयल
IndianOil

TATA

Targeted Industries

Municipal Corporations, Real Estate, PWDs, Housing Societies, Hospitals, Educational Institutes, Malls, Distillery, Dairy, Pulp and Paper, Oil refinery, Solvent Extraction units, Solid Waste Disposal plants, Tannery, Chemical, Textile, Fisheries, Pharmaceutical, Food, Fertilizer, Steel, Sugar Factories, Petro-chemicals, Automobile industry, Airports, Railways etc.

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BUSINESS MODELS CANVAS

Key Partners

- Existing Customers
- Government Officials
- Liaisoning officers
- Politicians
- Influencing Personalities
- Consultants
- Competitors

Key Activities

- Marketing
- Sales
- Liaison

Key Resources

- Existing Infrastructure
- Key Relations
- Experts

Value Proposition

- Patented
- Sustainable
- Modular
- Low Space occupying
- Cost Effective
- Efficient

Customer Relationships

- Face to face meeting
- Customer retention

Channels

- Direct Sales to existing customers
- Developing Govt Projects
- Policy level changes

Customer Segments

- Municipal Corporations
- PWDs
- Housing Societies
- Hospitals
- Educational Institutes
- Malls
- Industries

Cost Structure

- Marketing
- Working Capital
- Logistics
- Contract Manufacturing
- Civil works
- Labor

Revenue Streams

- Sales
- Operations and Maintenance
- WaaS

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BUSINESS MODELS

CAPEX

Capital Expenses

- Customer invests in the plant
- Customer claims tax incentives
- Customer claims depreciation
- Customer pays upfront for the system
- OEM provides O&M services over the period

OPEX

Operating Expenes

- Developer Invests in the plant
- Customer Pays according to the service level agreement (for amount of treted water)
- Developer claims tax incentives
- Long term agreements (10 – 15 years)

Lease Based

Leasing of the equipment

- Leasing compnay invets in the plant
- Leasing compny pays upfront to OEM
- Leasining compnay claims tax incentives
- Customer pays monthly EMI to leasining compnay

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PROJECT SELECTION - LOW HANGING FRUITS FOR STP AND ETP

Municipal Corporations	Government Housing Colonies (Mhada, CIDCO, Police, Military)	Private Housing Colonies (Tata, L&T, Mahindra, Lodha)	Industries summoned by pollution control board, NGT
Government / Private Hospitals	Ministry of Rural Development, Water Sanitation	Railways / Airports / Hotels	Educational Institutions
Clean Ganga / Namami Ganges / Industrial Associations	Government and Private Industries	Ministry of environment and rural development, ministry of Heavy Industries	Ministry of urban housing and environment, PSUs, Oil and Gas Industry

- Delay in tender process
- No capital available with customer due to severe impact of COVID
- Pollution control board gave relaxations to industries
- extension of validity of statutory clearances without inspection
- Decision making delay
- Technology acceptance delay

CHALLENGES

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ABRIMIX– INDUSTRY RELEVANCE

Proposal 23 nos	Chemical Infra – Being Developed	Request for Lab Set up
Capacity 200 MLD+	Cost Comparison completed	Request for vehicle purchase
Amount $50 million +	Production and Engineering facility identified	Request for warehouse rent
Pharma, Dairies, Textile, Oil Refinery, Automobile	Pilot plant require to justify high claims	Request for working capital

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GLANRIS– INDUSTRY RELEVANCE

Glanris

Number of Units – 4
Customers – Pharma Industry , Municipal Corporation, STPs, Plating Industry, Railways, Auto Mobile Industry
Successful pilots.

Glatt

Date: 20/05/2021

To,

Tanmay Pawale

Biopipe Global Corp.

I am writing this letter to confirm that we have received a skid mounted pilot unit of Glanris Filter media from Biopipe Global Corp for our plant at Glatt Systems Pvt Ltd, GAT No 321/2, 322/1, 324/1 & 324/2, Taluka - Shirur, Nagar Road, Kondhapuri, Maharashtra 412209.

Glatt Systems possesses an ETP of the 10,000 liters per day capacity and have been facing critical issues of colorized treated effluent and odor from the treated effluent. Thus, Glatt Systems requested Biopipe Global Corp for an innovative solution for the rectification of the issues and they have supplied us with Glanris filter media skid mounted unit. We have received this plant in month of February and we started the operations of the Glanris filter media plant immediately for testing.

We have observed that the product worked efficiently to de-colorize the treated water and also it has eliminated odor from the treated water.

We are satisfied with the initial results, however, we will be testing the product till May end.

We wish all the best to Biopipe Global Corp.

Thanks & regards

Glatt Systems Pvt. Ltd.

Mr. Venugopal Rao

Manager (Maintenance)

Glatt systems Pvt. Ltd.

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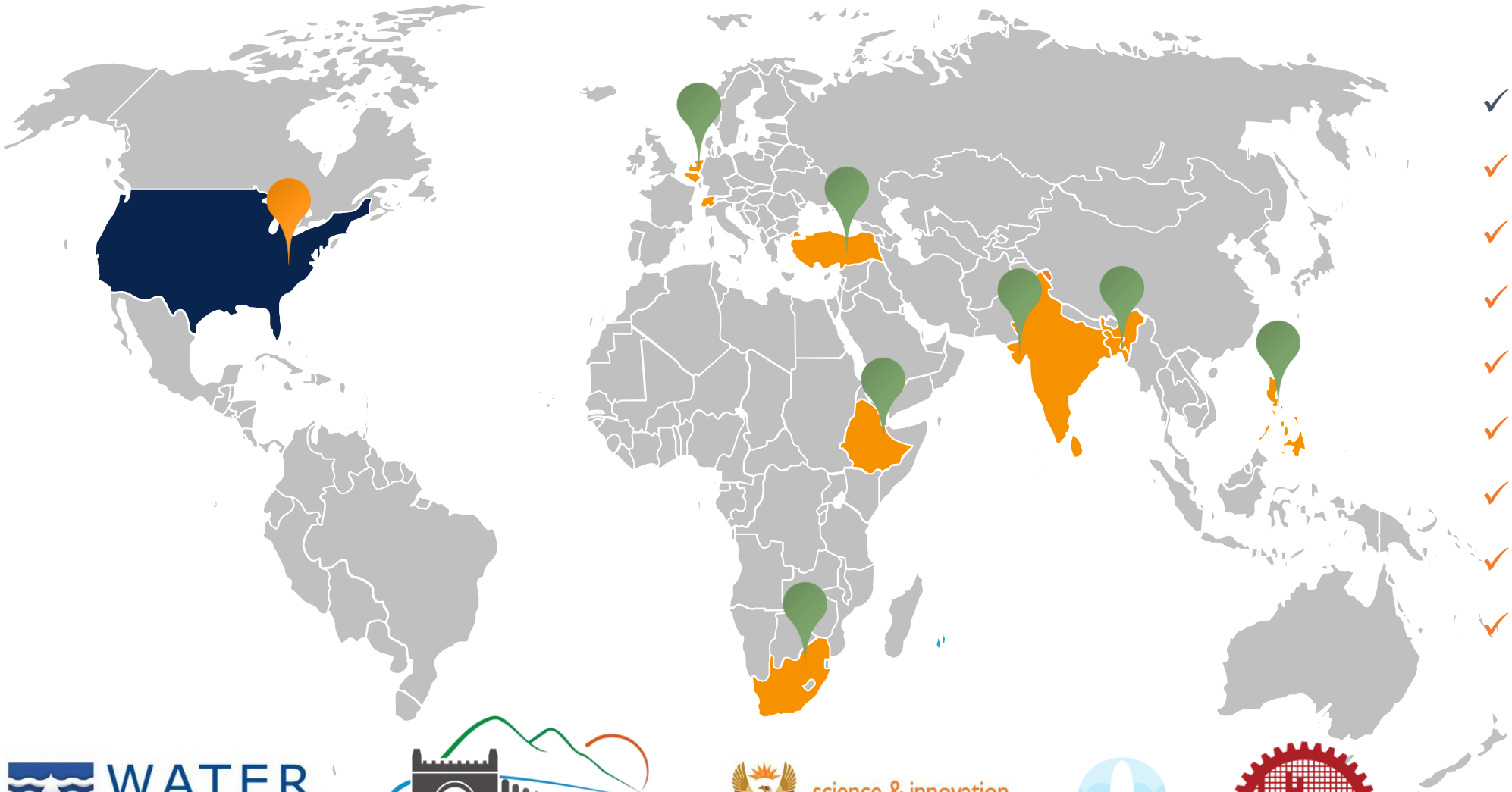
BIOPIPE GLOBAL CORP PRESENCE & PARTNERS



- ✓ USA
- ✓ India
- ✓ Switzerland
- ✓ South Africa
- ✓ Turkey
- ✓ Philippines
- ✓ Ethiopia
- ✓ Bangladesh
- ✓ Sri-Lanka

WATER RESEARCH COMMISSION

Indian Institute of Technology Mandi

science & innovation
Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA

Our Future Water

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