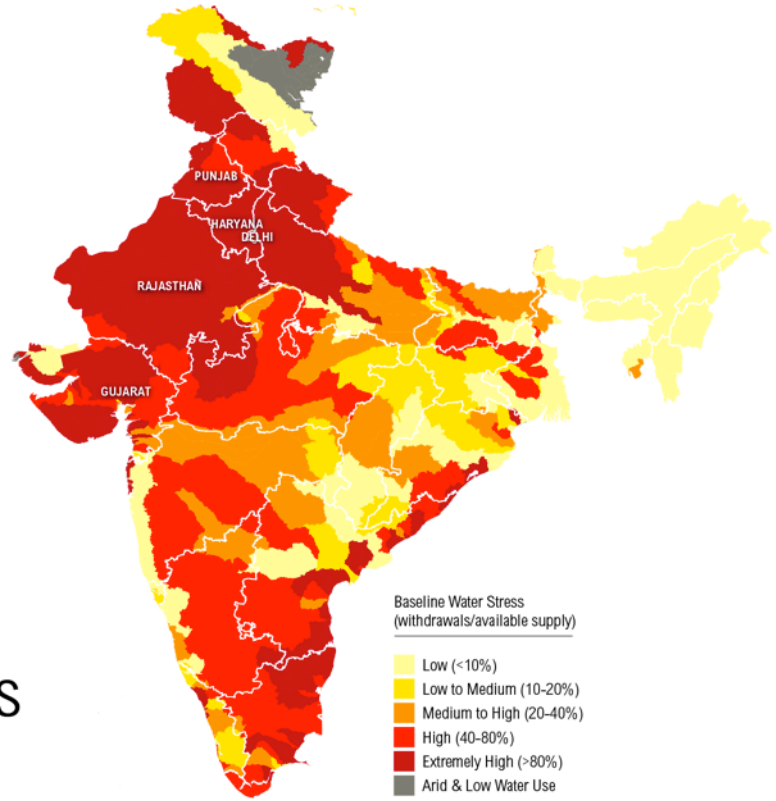

biopipe
A revolutionary wastewater treatment system
www.biopipe.co

Our Mission

Our 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.

54%
of India
Faces
High to
Extremely
High
Water Stress



www.indiawatertool.in

WORLD RESOURCES INSTITUTE

Composite Water Management Index (CWMI) report released by the Niti Aayog in 2018 states that,

- 21 major cities (Delhi, Bengaluru, Chennai, Hyderabad and others) to reach zero groundwater levels by 2020, and to restrict water access for 100 million people,
- The country's water demand is projected to be twice the available supply by 2030,
- Increase in water scarcity and an eventual six per cent loss in the country's GDP
- About 80% of the water that reaches households, leaves as waste and pollutes our waterbodies and environment.

The ultimate solution is to promote a decentralized approach.

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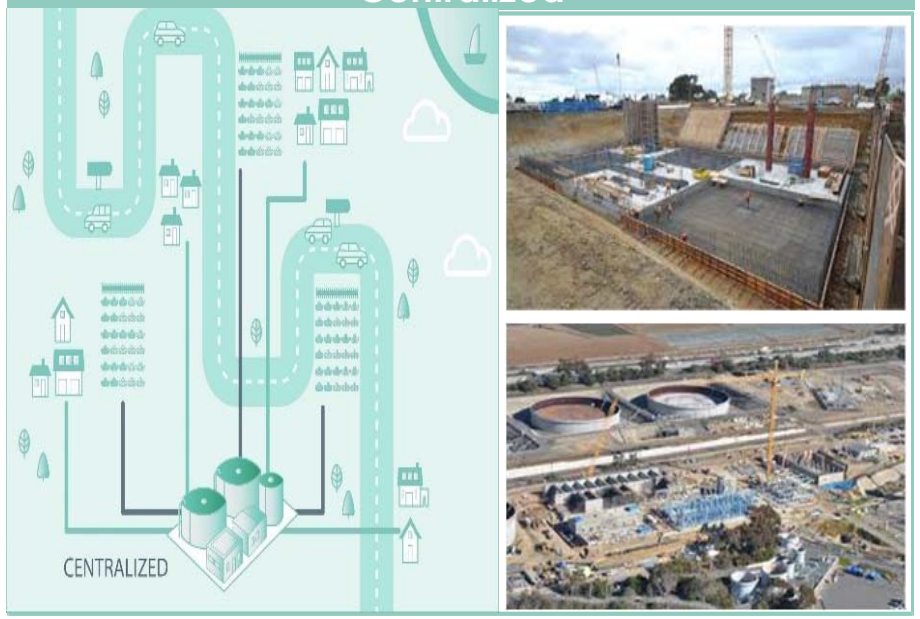
Focus on Decentralized Market

Urgent Need For Affordable, Fast-to-Deploy Solutions

The Rationale

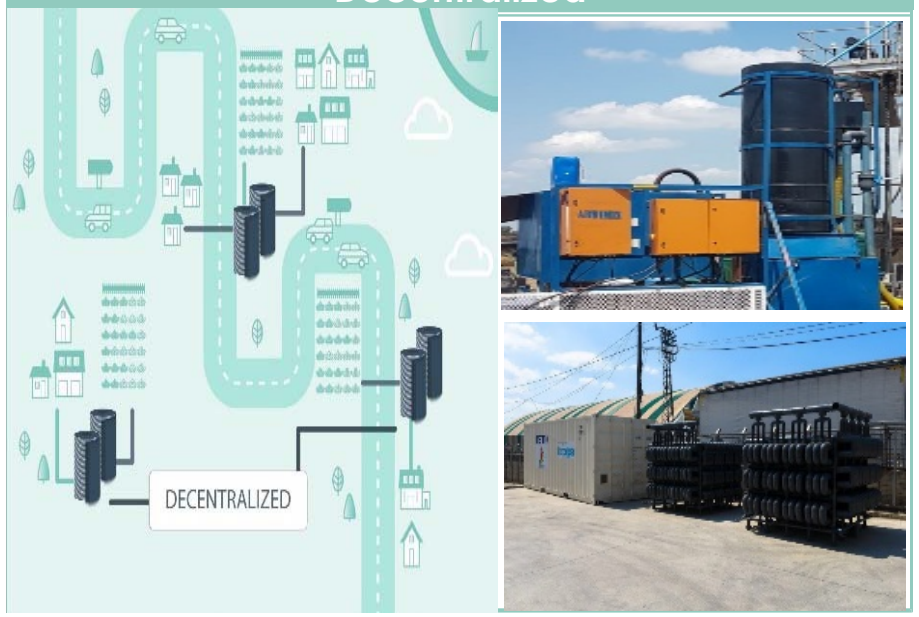
Centralized



- ✘ 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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What is Biopipe?

The world's first biological wastewater treatment system where the process takes place entirely inside ***the pipe*** and is patented in more than 55 countries.

It is the result of years of research that has now developed into one of the most scalable, sustainable, eco-friendly and cost effetive wastewater treatment solutions in the world.

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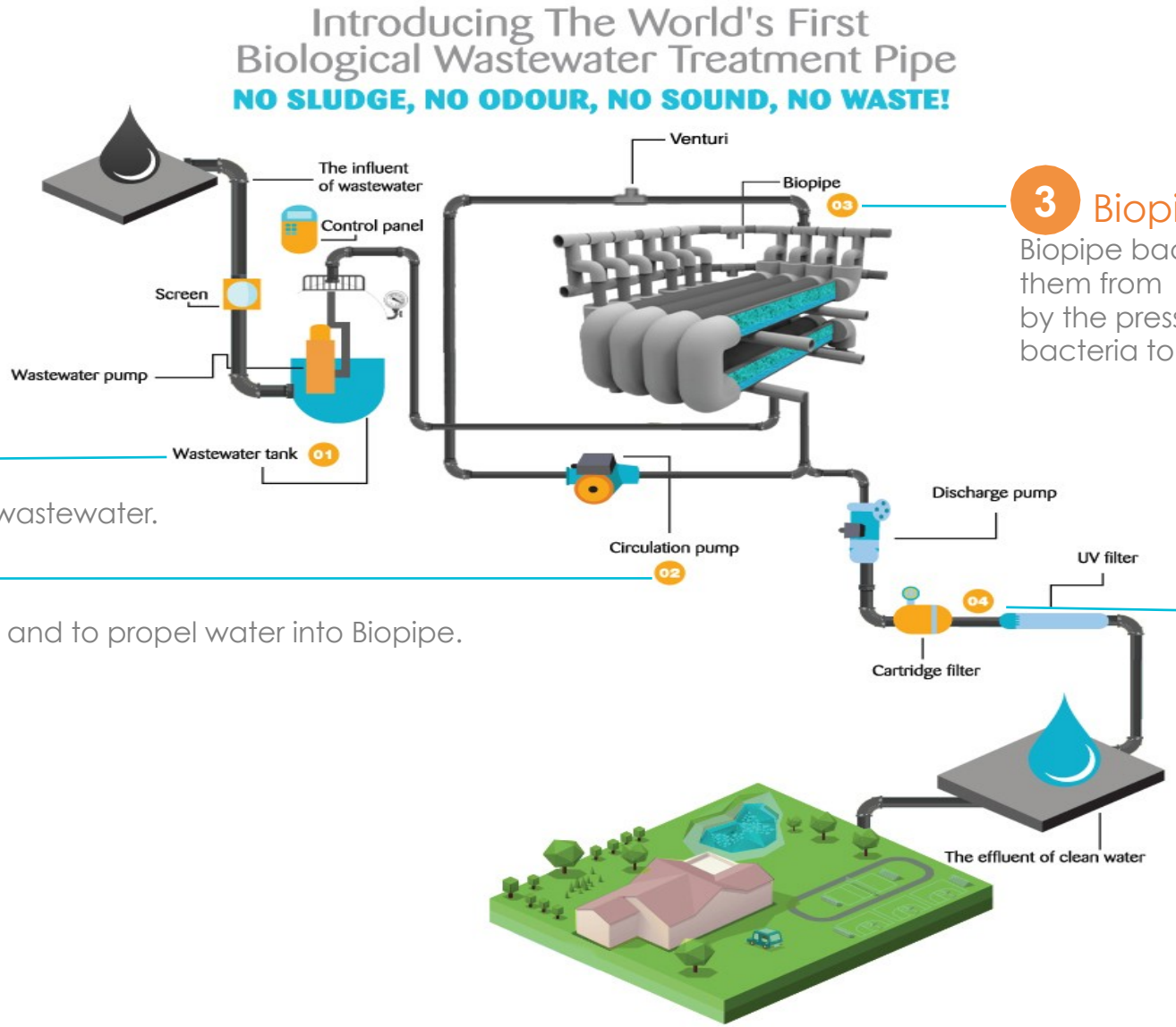
How Biopipe works?



1 Wastewater Tank

Store the inorganic waste and wastewater.

2 Circulation Pump

Separate the organic materials and to propel water into Biopipe.

3 Biopipe

Biopipe bacteria engages with pollutants and eliminates them from wastewater. Air is automatically vacuumed by the pressure difference in order to allow aerobic bacteria to further treat the wastewater.

4 Cartridge Filter

Wastewater then passes through a cartridge filter or equivalent and a UV filter to complete the treatment. The treated water can then be used directly or stored in a clean water tank.

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Why Biopipe?

Eco friendly

- Unlike other traditional wastewater systems Biopipe produces **NO SLUDGE, NO ODOUR, NO SOUND AND NO WASTE**.
- **NO CHEMICALS** are required to operate the Biopipe biological wastewater treatment system.

Scalable with a flexible modular design

- Biopipe can treat wastewater generated by individual houses of two people to cities of millions - just as efficiently.
- Unlike other systems, which require a starting operational capacity of 80%, Biopipe can operate at only 10% capacity.
- Biopipe is simple Lego-like modular construction! The size of the modules is based on the requirements of each project and assembled contiguously or consecutively in a short time span.
- The system is compact, easy to transport, install and operate.

Cost efficent

- Biopipe brings energy consumption to a minimum because it stores wastewater in a horizontal position that better distributes water pressure and requires less energy when compared to other systems which use vertical tanks.
- No blowers involved which reduces energy consumption.
- Unlike other wastewater treatment systems, Biopipe only uses PVC pipes and is not made of different hardware and materials, which result in higher costs.
- Biopipe doesn't need a lot of space and can be easily installed in a basement, on an elevated structure or on a rooftop which saves the cost of land/real estate.

Sustainable

- Biopipe guarantees a wastewater treatment system good for life and warranted by an annual maintenance agreement.

Fully automated

- Biopipe is fully automated and can be controlled from remote locations.

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Regulations and challenges of STP

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

Space Utilization

Noisy Operations

Sludge Management

Sludge Generation

Manual O&M

High Electricity Bills

Treated effluent not meeting targets

High O&M Cost

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.

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BIOPIPE as a solution

- No Odor
- Silent
- No sludge production
- Low O&M cost
- The lowest energy consumption
- Operates in Extreme Temperature & Humidity
- Less space utilization
  Biopipe can be installed at service floor
- Remote monitoring
- Automatic Operations
- Eco friendly
- Exceeds EU and Indian Discharge Standards
- Flexible Design

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Comparison - Competition

	Activated Sludge System		Biofilm System
Features	Package Treatment	MBR System	**BIOPIPE**
Minimum Capacity	50 people	25 people	**2 people**
Chemical Additions	Yes	Yes	**No**
Odor Problem	Yes	No	**No**
Sludge Production	Excessively	Low	**None**
Maintenance Period	Once a year	Once a year	**Once a year**
Full System Maintenance	Once in 5 years	Once in 3 years	**None**
Waste Description	Sludge+Inactive Bacteria	Sludge+Inactive Bacteria	**Inactive Bacteria**
Cleaning the System	3 times a year	Once a year	**Once a year**
Organic Irrigation Quality (BOD<20)	No	Yes	**Yes**
Initial Investment	Medium	High	**Low**
Transport and Relocate	Only Electromechanical	Only Electromechanical	**Full Plant excluding Civil Work**
Plant Extension Facility	Partial	Partial	**Full**
Plant Expansion Facility	Critical	Critical	**Smooth**
Extension Shutdown	Needed	Needed	**Not Needed**

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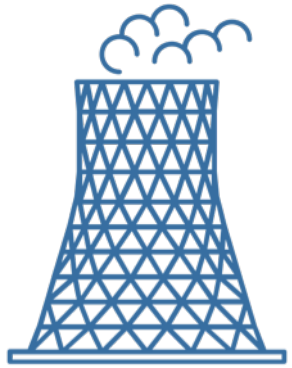
Applications

Gardening and Landscape Irrigation

Toilet Flushing

Organic Irrigation



Cooling Tower

Concrete mixing and Other Construction application

Cleaning / Non potable use

Fire Sprinklers

Car Wash

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Biopipe – Industry Relevance

Biopipe System is installed at Rooftop / Elevated structure / Basement / Service floor/ Containerized

Rooftop

System Capacity: 30 m^3/day
System Area: 9 m^2
Location: Dubai, UAE

Elevated structure

System Capacity: 30 m3/day
System Area: 9 m^2
Location: Chennai, India

Basement

System Capacity: 240 m3/day
System Area: 50 m^2
Location: Dhaka, Bangladesh

Service floor

System Capacity: 10 m3/day
System Area: 5 m^2
Location: Istanbul, Turkey

Containerized

System Capacity: 15 m^3/day
System Area: 12 m^2
Location: Dubai, UAE

Scalable Plant

System Capacity: 1000 m^3/day
System Area: 150 m^2
Location: Turkey

Space Saving

System Capacity: 10 m^3/day
System Area: 4 m^2
Location: Vellore, India

- ☑ Zero liquid from STP (ZLD).
- ☑ Extremely low Maintenance.
- ☑ Minimal foot Print.
- ☑ Automatic plant operation.

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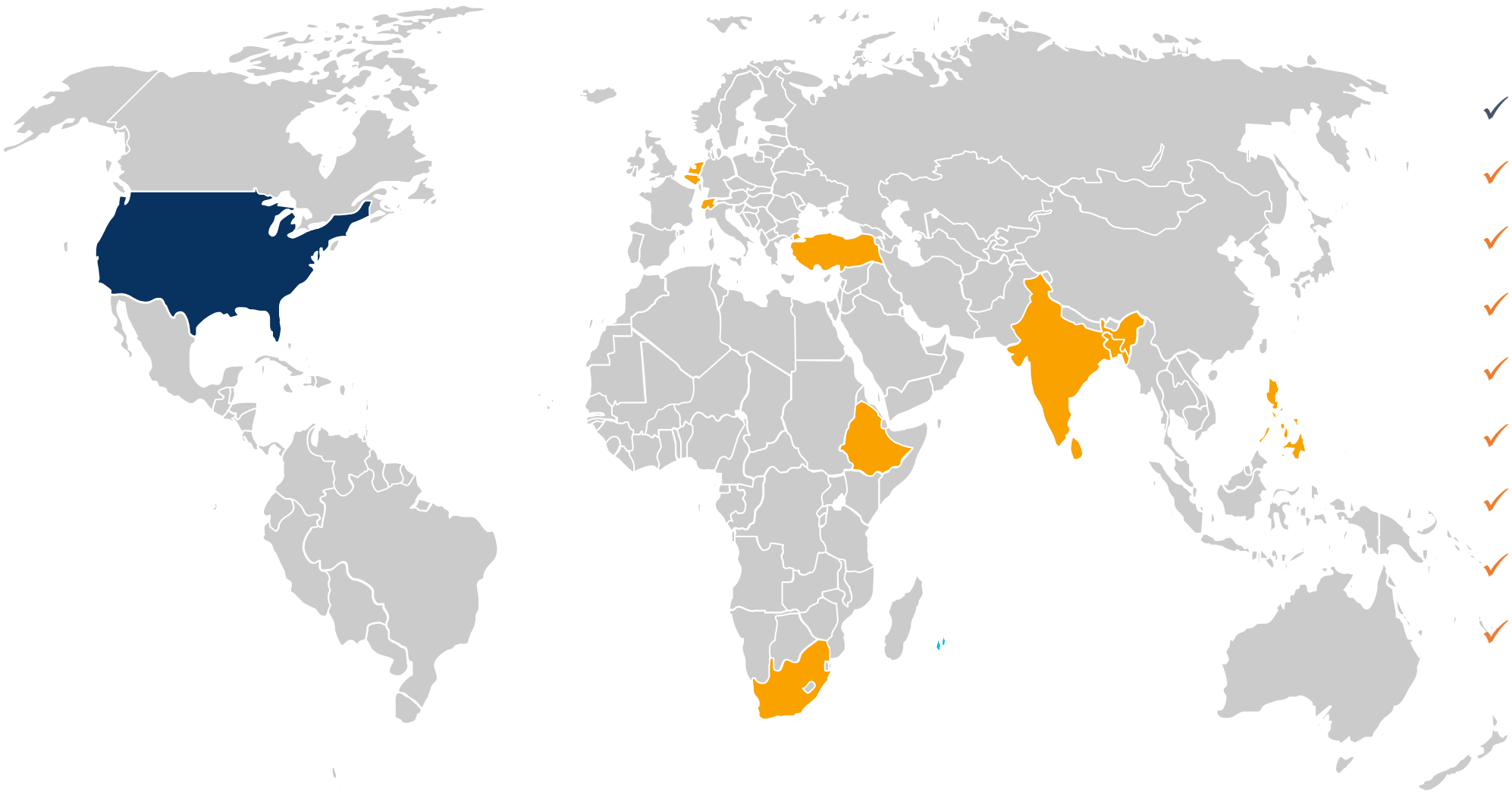
Biopipe Global Corp presence



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

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A revolutionary wastewater treatment system

Thank you!

Global Headquarters

Biopipe Global Corp.
100 Challenger Road,
8th Floor New Jersey,
USA 07660
+1 646-201-5242

Bioipe AG,
Seegarten Strasse
12, 8008 Zurich /
SWITZERLAND
info@biopipe.co

Biopipe India,
Mumbai, India

+91 80 1409 1409
tanmay@biopipe.co