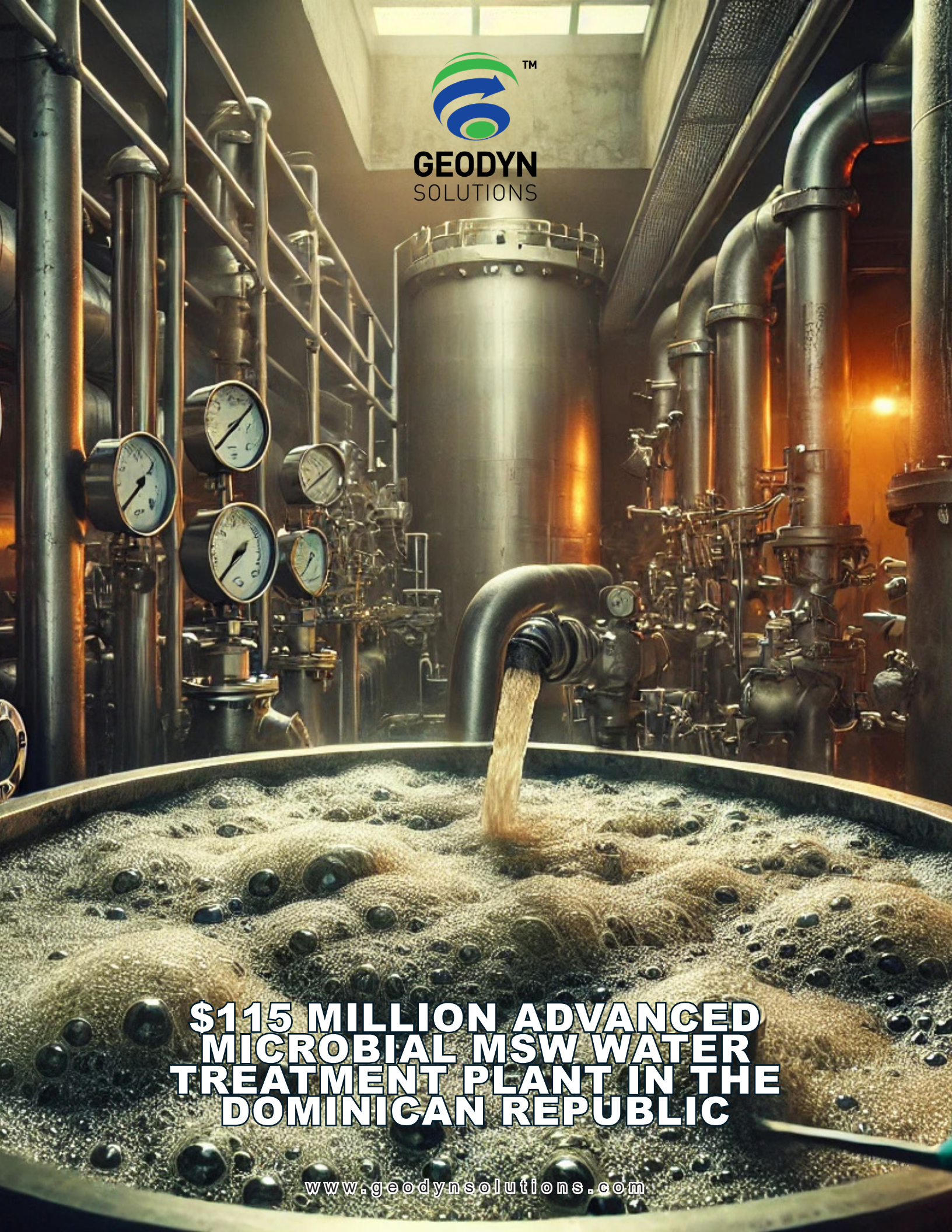
GEODYN
SOLUTIONS
$115 MILLION ADVANCED MICROBIAL MSW WATER TREATMENT PLANT IN THE DOMINICAN REPUBLIC
www.geodynsolutions.com

EXECUTIVE SUMMARY

Geodyn Solutions proposes to develop a state-of-the-art $100 million municipal solid wastewater (MSW) treatment facility, with an added 15% contingency ($15 million), in the Dominican Republic. This innovative facility will apply advanced microbial and nutrient recovery technologies to clean wastewater, produce clean water for reuse, recover valuable nutrients, and convert biosolids into commercial-grade organic fertilizer. The project supports the Dominican Republic's goals of sustainable development, water reuse, and environmental protection, while creating local jobs and long-term economic value.

PROJECT OVERVIEW

Project Title: Advanced Microbial MSW Water Reclamation & Fertilizer Production Facility
Total Investment: $115 million (including 15% contingency)
Location: Near major MSW catchment areas in Santo Domingo or Santiago
Daily Capacity: 100 million liters of MSW water
Technology:

- MicrobeBio® microbial consortia and mycorrhizae
- Engineered bioreactors with rhizosphere enhancement
- Nutrient stripping and crystallization systems
- Organic fertilizer production with drying and pelletizing

Land Requirement: ~15 hectares (37 acres)

PROJECT OBJECTIVES

- Reduce environmental pollution from untreated wastewater
- Reuse 70–80% of treated water for agriculture and industrial needs
- Recover nitrogen, phosphorus, and potassium (NPK) for organic fertilizer
- Convert biosolids to pathogen-free, high-quality compost
- Lower carbon emissions and methane production compared to traditional treatment

4

CAPITAL EXPENDITURE *(CAPEX)*

Item	Cost (USD)
Land Acquisition & Site Prep	$3.5 million
Earthworks, Basins, Storage Tanks	$20 million
Microbial Bioreactor Installation	$18 million
Nutrient Recovery System (N, P, K)	$10 million
Water Polishing, Ultrafiltration Units	$12 million
Organic Fertilizer Processing Units	$10 million
Solar Power & Automation	$6 million
Laboratory, Admin, Training Center	$4 million
Licensing, Permitting, Engineering	$3 million
Training & Local Workforce Development	$2 million
Subtotal	**$88.5 million**
Contingency (15%)	**$13.3 million**
Total CAPEX	**$101.8 million**

ANNUAL OPERATING EXPENDITURE (OPEX)

ITEM	ANNUAL COST
Local Staffing & Management	$2.5 million
Microbial Inputs & Reactor Feed	$1.5 million
Energy (solar + grid backup)	$1 million
System Maintenance	$1 million
Transport & Distribution	$0.8 million
Lab Testing, Quality Control	$0.6 million
Administration & Marketing	$0.5 million
Total OPEX	**$7.9 million/year**

REVENUE STREAMS & ROI

(DOMINICAN REPUBLIC CONTEXT)

REVENUE SOURCE	ANNUAL REVENUE
Clean Water (50M L/day at $0.25/1,000L)	$4.56 million
Organic Fertilizer (25,000 tons @ $150/ton)	$3.75 million
Recovered NPK for blending & sale	$2 million
Soil Conditioner from Biosolids (10,000 tons)	$0.5 million
Carbon/Environmental Credits (estimated)	$1.2 million
Total Revenue	**$12.01 million/year**

ROI Overview:

- Payback Period: 9–10 years (without subsidies)
- ROI over 20 years: ~16%
- With donor financing/incentives: Payback in 6–7 years
- Long-term savings: Reduced public health costs and lower reliance on chemical fertilizers

ENVIRONMENTAL & ECONOMIC IMPACT IN THE DOMINICAN REPUBLIC

- Treats 36.5 billion liters of MSW water annually
- Generates 25,000+ tons of organic fertilizer
- Creates 150 direct jobs and over 300 indirect jobs in transportation, sales, and farming
- Reduces dependence on synthetic fertilizers and imported water
- Supports Dominican climate commitments by cutting methane and CO2 emissions
- Improves soil quality and agricultural resilience

8

LAND, UTILITIES, AND INFRASTRUCTURE NEEDS

LAND

15 HECTARES

(LOCATED NEAR MUNICIPAL COLLECTION ZONES)

POWER

2.5 MW DEMAND

(SOLAR HYBRID RECOMMENDED)

WATER SOURCE

MUNICIPAL INFLOW LINES FOR UNTREATED WASTEWATER

OUTPUT CONNECTIONS

TREATED WATER PIPELINES FOR REUSE

(FARMS, FACTORIES, MUNICIPALITIES)

PROJECT TIMELINE

Phase	Duration
Environmental & Feasibility Studies	4 months
Permitting & Local Approvals	2 months
Detailed Engineering Design	4 months
Construction & Equipment Installation	12 months
Commissioning & Training	**3 months**
Total Timeline	**25 months**

RISK MANAGEMENT & CONTINGENCY PLANNING

- 15% contingency to cover inflation, shipping delays, or regulatory changes
- Modular microbial systems allow phased commissioning
- Geodyn’s technology has been tested and piloted in Latin America, Asia, and Africa
- Close collaboration with local authorities ensures regulatory compliance and water safety

The proposed microbial MSW water treatment facility by Geodyn Solutions offers a sustainable, profitable, and scalable solution to Dominican Republic's growing wastewater and fertilizer needs. It transforms a national waste management challenge into a powerful opportunity for environmental restoration, local job creation, and agricultural empowerment.

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