



TECHNOLOGY BLUEPRINT

ECOURBANIX - ECOCRUSH SMARTBIN

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Group Members :

1. 2022818826 PUTERI INTAN NURLIYANA BINTI MOHD FADZIL
2. 2022611498 HAZIYAHTUL HAZIQAH BINTI MAHADI
3. 2022605368 KHAIREEN NELYSSA BINTI KAMARUZAMAN
4. 2022478748 NOOR SHAFIQKA BINTI MOHD YAZID

Submitted to

ASSOCIATE PROFESSOR DR WAN NORMILA MOHAMAD

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1.0 EXECUTIVE SUMMARY

EcoCrush SmartBin is an innovative waste management product developed by EcoUrbanix Company. It is designed to address common waste-related problems such as overflowing bins, bad odors, and inefficient recycling in public spaces. With smart features like a sensor-activated lid, an internal grinder, IoT-based waste level detection, and separate compartments for recyclable materials, the product enhances hygiene, improves user safety, and supports environmental goals.

Targeting institutions such as schools, offices, malls, and government buildings, the SmartBin is practical, cost-effective, and user-friendly. It aligns with the 3R principles (Reduce, Reuse, Recycle), offering a sustainable solution to modern waste issues. Our local production allows faster delivery, affordable pricing, and reliable after-sales service.

EcoCrush SmartBin is backed by a skilled management team and thorough market research. With strong interest from potential customers and clear competitive advantages, this product has the potential for wide market adoption and long-term impact on cleaner, greener communities.

2.0 PRODUCT OR SERVICE DESCRIPTION

2.1 Product Description

This innovative product introduces advanced technology to solve long standing issues such as overflowing bins, bad odors, unhygienic conditions, and inefficient waste collection. The SmartBin features a sensor-activated lid that opens automatically when users approach, ensuring hands-free and hygienic operation. It also includes an automated grinder to reduce the volume of waste, and separate compartments specifically designed for recyclable materials such as paper, plastic and aluminium.

In addition, the product integrates user-safety elements like a spring-loaded flap lid to prevent injury, and a specially designed EcoFresh Absorbent Sheet that filters and traps liquid waste to avoid leakage and odor buildup. The EcoCrush SmartBin fully supports the 3R principles which is Reduce, Reuse, and Recycle by minimizing waste volume, encouraging responsible disposal behavior, and facilitating easy recycling.

2.2 Application of the Product

The EcoCrush SmartBin is suitable for various environments where waste is commonly generated in large volumes and often not disposed of properly. Locations such as shopping malls, schools, universities, bus terminals, government offices, and public parks are ideal for its installation due to high public usage and frequent sanitation challenges. These areas typically face issues like overflowing bins, bad odors, and low recycling rates, which the SmartBin aims to resolve with its advanced features.

In addition to improving public cleanliness, the SmartBin also supports operational efficiency by reducing the frequency of manual waste collection. This makes it especially beneficial to local councils, private cleaning companies, and environmental service providers who are constantly seeking smarter and more sustainable ways to manage waste.

2.3 Unique Features of the Product

I. Safety First, Always

EcoCrush SmartBin is designed with public safety as its top priority. The sensor-activated lid reduces physical contact, lowering the risk of injury, cross-contamination, or exposure to sharp or hazardous materials often found in public bins. This contactless design is especially helpful for children, the elderly, and cleaning workers, ensuring the bin is easy and safe to use in any situation whether in a busy mall, school, or park.

II. Smarter Waste, Smaller Footprint

EcoCrush SmartBin includes a built-in grinder that doesn't just reduce the volume of waste but also transforms it. By crushing plastic bottles, cans, or paper waste into smaller, manageable particles, it helps prevent overflow, eases transportation, and even supports potential future innovations like compact waste bricks or conversion to eco-materials. This process not only saves space but opens up possibilities for waste reuse.

III. Guided Recycling Made Easy

The bin has three built-in compartments clearly marked for paper, plastic, and metal. This feature simplifies recycling for users and reduces contamination between waste types. With separate chambers and matching openings, the SmartBin gently educates the public while encouraging responsible disposal behavior in a fast and easy way.