## 1. Team Introduction

Good morning everyone. [pause, smile, eye contact]

We are Team BAT — five people from different backgrounds, one shared mission.

Pranika Dahiya – research and sustainability.

Shivang Dash – tester.

Nurmuhammad Shukhratzhonov – microelectronics integration.

Vladislavs Lazdāns – CS specialist.

Abhiraj – IT specialist.

Together, we combine sustainability, engineering, and technology into one solution. [pause] [Next slide]

## 2. The Challenge

Cities everywhere are struggling with waste. [pause]

Overflowing bins. [pause]

Inefficient routes. [pause]

Polluted air. [pause]

The result? More costs. More emissions. And still… [pause] no real solution. [slow emphasis]

This is not just an inconvenience. [pause]

It’s an environmental crisis. [Next slide]

## 3. Our Vision

We believe the future of waste management must be… smart, sustainable, and seamless.

Small electronic components.

Big ideas.

A massive impact. [pause]

And that’s our 2 concepts. [Next 2 slides]

## 4. The Solution

Our Smart Waste Management Platform turns every bin into a smart node.

Here’s how:

At the core is the ST NUCLEO-F401RE — efficient, reliable, and proven.

Ultrasonic sensors measure fill levels. [pause]

Tilt sensors detect misuse or vandalism.

Flame and gas detectors ensure safety.

Temperature, humidity, and light sensors monitor the environment. [pause, eye contact] [Next slide]

All this data flows into the cloud. [pause]

Analytics transform it into optimized routes, risk predictions, and real-time dashboards.

For the first time… cities don’t just collect waste. [pause]

They manage it intelligently. [Next slide]

## 5. Environmental Sustainability

The benefits are immediate.

Optimized routes mean fewer trucks on the road. [pause]

Less traffic. Less fuel. Cleaner air. [pause]

And with solar-powered bins, the system is energy independent.

We’re not just improving waste collection. [pause]

We’re reducing emissions.

Cutting costs.

And building healthier cities.

## 6. Human-Centric Design

What does this mean for people?

For citizens: no more overflowing bins. Safer neighborhoods. Cleaner streets. [pause after each]

For governments: lower costs, efficient services, and data-driven decisions.

And for the environment… less waste, fewer emissions, and a real step toward sustainability.”

## 7. Smart city map

Here, intelligent collection routes mean fewer trucks on the road and faster, more efficient pickups.

Our eco-zones, highlighted in green, allow us to monitor air quality and emissions in real-time, holding ourselves accountable.

This dynamic system doesn't just report — it adapts. It reroutes resources on the fly, responding to the city's changing needs.

The result is undeniable: an optimized urban environment with cleaner streets and safer spaces for everyone. [Next slide]

## 7. Scalability & Market Potential

And this doesn’t stop here.

The market for smart city solutions is growing worldwide.

Our platform is modular. Scalable. Ready for deployment in any city.

With proven components and a global need, the opportunity is enormous. [pause]

It’s a blueprint for the future.

## 8. Closing

So let’s imagine a city…

No overflowing bins.

No wasted fuel.

No unnecessary pollution. [pause, slower]

Instead — cleaner streets, healthier people, and a smarter infrastructure.

This is more than a prototype.

This is the next generation of urban infrastructure.

Small components. [pause]

Big ideas. [pause]

A sustainable future. [smile, eye contact]

And it starts today.