

## **INTRODUCTION:**

The "BAU Recycling Station Design Student Competition" is a sustainability-focused competition platform that encourages the development of innovative designs to accurately sort glass, metal, paper, and other recyclable waste. Aiming to design functional and aesthetic stations through the use of fiberboard (MDF) and chipboard panels manufactured from wood or industrial wood waste, the competition supports students in exploring the potential of the material and creating modular, durable solutions compatible with the campus environment.

The primary objective of the competition is to improve waste management and raise environmental awareness in line with sustainable forest management and upcycling principles. Accordingly, the competition aims to popularize the culture of recycling within the university by serving the United Nations Sustainable Development Goals, particularly Goal 12: Responsible Consumption and Production, Goal 13: Climate Action, and Goal 11: Sustainable Cities and Communities.

Within the scope of the competition program, participants are expected to deliver flexible designs that consider human ergonomics data, are self-supporting (not fixed to any wall or floor surface), and inform users about which waste should be disposed of where. Fiberboard and chipboard, which create added value from waste, will be used as the primary materials in the structural system; secondary materials such as recycled cardboard and textiles will also be utilized along with additional connection elements.

This process was organized by the BAU Faculty of Architecture & Design and the BAU Timber Building Construction and Research Center and supported under the sponsorship of YOMSAD MDF and Chipboard Manufacturers Association, with the partnership of BAU TTO and the Mind Your Waste Foundation.

The competition calendar commenced with the official announcement made on December 16, 2025; to inform the participants, a mandatory seminar program was organized on December 24, 2025, at the BAU North Campus with the participation of experts. In accordance with the competition terms, participation in the seminar studies was made compulsory, and the final submission deadline for the projects was set as April 3, 2026, at 17:00. Students were granted additional time, and the submission date was extended to May 11, 2026.

Participants submitted their projects via MS Teams in a digital poster format of maximum 4 A2 or 2 A1 sheets, while simultaneously delivering their 1/5 scale physical models showing the main design decisions and wooden connection details to the

rapporteurs. To ensure anonymity, pseudonyms (codes) consisting of numbers were used in the projects.

The received projects were meticulously examined by the rapporteurs regarding their compliance with competition conditions, technical format, originality, and elements that could cause disqualification (direct contact, being a copy/studio project, incorrect QR code redirections, etc.).

Projects participating in the competition were evaluated between June 5–12, 2026, within the framework of originality and innovation, suitability for function, sustainability and environmental compatibility, user experience, feasibility and production, and presentation skills.

When the jury evaluations and the general status of the participating projects were considered together, it was evaluated that the projects did not reach the proficiency level to meet the first, second, and third places, especially in terms of criteria such as originality, innovation, feasibility, and manufacturability.

Nevertheless, considering our students' interest in the competition, the effort they put forth, and the educational goals of the competition, it was deemed appropriate to encourage successful works. Accordingly, it has been decided not to award the first, second, and third prizes in the competition; instead, Honorable Mention Awards will be given to three prominent projects.

As a result of the jury evaluation, the teams that won the Honorable Mention awards are listed below:

- 1. Honorable Mention Award (Code: 10928)**
- 2. Honorable Mention Award (Code: 80720)**
- 3. Honorable Mention Award (Code: 30046)**

# **BAU RECYCLING STATION DESIGN STUDENT COMPETITION**

## **JURY EVALUATION REPORT: 1st HONORABLE MENTION**

**Competition Name:** BAU Recycling Station Design Student Competition

**Project Owner:** Moozhan Gholinataj Jelodar

**Project Code/Motto:** 10928

**Project Name:** SECOND STATE

**Award Category:** 1st Honorable Mention

### **1. General Description and Concept of the Project**

The project titled "SECOND STATE" is an innovative waste management system that transforms the daily act of disposing of waste within a campus environment into an active process of energy generation. The design integrates waste separation, compaction, and energy production within a single circular unit. It relies on the principle that users place their waste into relevant compartments separated as plastic, glass, paper, metal, and general waste, and then compact it by turning manual levers. This mechanical movement is converted into electrical energy through an internal gear and generator system; the generated energy is stored in a central battery and made visible simultaneously on a digital screen. In accordance with the competition specifications, wooden structural elements and steel mechanical components are utilized together in the design.

### **2. Reasoned Evaluation of the Jury**

In line with the jury evaluation data and project panels presented in the visual, the prominent successful aspects of the design as well as the areas open to improvement that can be further refined in the future are as follows:

#### **Successful Aspects:**

- **Innovative User Experience and Awareness:** The project has transformed the ordinary act of throwing away waste into a participatory model that connects human interaction with measurable energy output. The instantaneous energy indicator has the potential to create a strong awareness

and motivation in the user regarding recycling. Due to this aspect, it received a high user experience score from the jury.

- **Explanatory and Professional Presentation:** The visual communication quality of the project was found highly successful by the jury. The exploded assembly diagram, the internal mechanism of the circular structure, the vertical screw shaft, the compaction chamber, and the electrical flow diagram were conveyed in a detailed and professional technical language.
- **Material and Spatial Harmony:** The use of fiberboard/particleboard requested in the specifications has been successfully reflected through the wooden texture of the form. The circular and self-standing modular structure of the design holds the potential to provide an aesthetic harmony with the social spaces and furniture texture within the campus interiors.

### **Areas Open to Improvement:**

- **Strengthening the Conceptual Relationship:** Although the mechanical innovation focus of the project is very strong, deepening and enriching the theoretical conceptual framework it establishes with waste management philosophy could render the design more holistic.
- **Feasibility and Production Details:** In the process of translating the mechanical compaction and energy storage idea into real life, the ease of maintenance and repair, production costs, and long-term durability solutions within the campus for the generator, gearbox, and battery system located in the internal components technically require more detailed resolution. This situation is reflected in the feasibility score of the project.

### **Conclusion**

Thanks to the mechanical compaction and energy conversion innovation it introduces, its high visual presentation quality, and its vision of awareness that involves the user in the ecological cycle, the "SECOND STATE" project has been awarded the 1st Honorable Mention as a result of the jury's evaluation.

# **BAU RECYCLING STATION DESIGN STUDENT COMPETITION**

## **JURY EVALUATION REPORT: 2nd HONORABLE MENTION**

**Competition Name:** BAU Recycling Station Design Student Competition

**Project Owner:** Bengisu Gökalp

**Project Code/Motto:** 80720

**Project Name:** RE-block (RE:BLOCK)

**Award Category:** 2nd Honorable Mention

### **1. General Description and Concept of the Project**

The "RE-block" project is a modular and reconfigurable waste separation station designed around a "lego logic" and playful interaction to encourage recycling habits among campus users. The design consists of color-coded and icon-bearing cubic modules representing different waste types (plastic, paper, glass, metal, organic waste, and batteries). The fundamental feature of the system is the ability of the modules to lock into one another thanks to the protrusions and recesses on their surfaces. In this way, the station can be flexibly configured in linear, L-type, island, or compact block layouts according to the different spatial needs and usage intensities of the campuses. Melamine-faced MDF (MDF lam) and melamine-faced HDF (HDF lam) panels were preferred as the primary materials of the design due to their durability and suitability for mass production, while traditional interlocking wooden joints (dovetail, etc.) were proposed for the connections.

### **2. Reasoned Evaluation of the Jury**

In line with the jury data in the evaluation table and the project panels, the prominent successful aspects of the design as well as the areas open to improvement that can be further refined in the future are as follows:

#### **Successful Aspects:**

- **High Feasibility and Ease of Production:** The project received its highest average score from the jury in the feasibility and production criteria. The selection of melamine-faced MDF and HDF panels as materials, the traditional wooden interlocking details that minimize the need for additional fasteners, and its modular structure render the design highly suitable for mass production and structurally robust.

- **Spatial Flexibility and Modularity:** The capability to decrease or increase the number of units according to the needs of different BAU campus areas, and to form linear or corner layouts, was evaluated by the jury as a strong functional solution.
- **User-Oriented Detail Solutions:** Micro-details such as the specialized lid system for paper waste, plexiglass windows allowing the monitoring of waste levels, and the lining of internal surfaces with acoustic neoprene fabric to prevent noise during the disposal of glass waste have enhanced the functionality of the project.
- **Successful Technical Explanation:** The project's 1/5 and 1/10 scale sections, plans, and detailed drawings were presented in a very clean, understandable manner that complies with technical standards.

#### **Areas Open to Improvement:**

- **Potential for Originality and Innovation:** The area where the project scored the lowest by the jury was the originality criterion. Although the Lego-like interlocking modular block idea works flawlessly functional-wise, since it is an approach frequently encountered in the design world formally and conceptually, transforming it into a more radical or differentiating identity in terms of form and innovation could have made the design more original.
- **Enhancing the User Experience (UX) Flow:** Although the physical relationship of the modules with each other is successful, leaving the top openings of some units completely exposed could lead to odor or hygiene problems during intensive indoor campus use. In this sense, the balance between user interaction and hygiene is open to a bit more optimization.

#### **Conclusion**

Thanks to the superior ease of production it offers, its success in traditional wooden detail solutions, and its modular flexibility that adapts highly to campus spaces, the "RE-block" project has been awarded the 2nd Honorable Mention as a result of the jury's evaluation.

# **BAU RECYCLING STATION DESIGN STUDENT COMPETITION**

## **JURY EVALUATION REPORT: 3rd HONORABLE MENTION**

**Competition Name:** BAU Recycling Station Design Student Competition

**Project Owners:** İbrahim Emir Kımıl, Inas Ouertani, Nurseli Azra Özlü

**Project Code/Motto:** 30046

**Project Name:** BUZZ-IN

**Award Category:** 3rd Honorable Mention

### **1. General Description and Concept of the Project**

The "BUZZ-IN" project is a community-oriented and technology-integrated recycling and reuse ecosystem inspired by the collective intelligence of bees and the geometric structure of carbon bonds. The design aims to transform waste collection from being just a physical infrastructure into a rewarding habit across the campus. The system operates integrated with an artificial intelligence-backed scanning mechanism and a digital platform. Guided by the AI assistant named "Rebee," users scan their waste or reusable materials into the system and deposit them into the correct compartment. The "recycling points" earned in return for correct sorting actions can be used as a digital currency for on-campus expenses. For the production of the physical units, OSB panels presenting a modular silhouette and HDPE (high-density polyethylene) lids were preferred.

### **2. Reasoned Evaluation of the Jury**

In line with the jury data in the evaluation table and the project panels, the prominent successful aspects of the design as well as the areas open to improvement that can be further refined in the future are as follows:

#### **Successful Aspects:**

- **Strong Visual Communication and Presentation Quality:** The project received its highest average score from the jury in the presentation and visual communication criteria. The conceptual flow diagrams, graphics reflecting the beehive geometry, and technical drawing presentations were found highly impressive and professional by the jury.
- **Original Digital Ecosystem and Innovation:** The fact that the design does not merely offer a physical waste bin but incorporates an artificial intelligence

(AI)-backed scanning system, smart sensors, and a point-based gamification model brought a high originality score. This circular economy idea, which turns recycling into a part of the campus lifestyle, won the appreciation of the jury.

- **Flexible Variation Solutions:** The three different plan/layout alternatives (variations) developed according to the square footage and density needs of different campus areas were evaluated as a functional and scalable approach.

### **Areas Open to Improvement:**

- **Feasibility and Production Difficulties:** The area where the project scored the lowest by the jury was the feasibility and production criterion. Translating the proposed AI-featured scanner, weight/smart sensor systems, liquid filtration units, and compost mechanisms into real life, along with their maintenance-repair and production within the campus budget, was found technically quite complex. These details may need to be simplified for the project to come to life.
- **Material Selection:** Instead of the fiberboard and particleboard panels primarily requested in the specifications, the use of OSB panels in the main structure and intensive HDPE material in the secondary elements was found open to improvement by the jury in terms of the efficient use appropriate to the material's character.

### **Conclusion**

Thanks to the innovative artificial intelligence integration it offers, its circular scoring vision that appeals to campus life, and its highly successful graphic presentation quality, the "BUZZ-IN" project has been awarded the 3rd Honorable Mention as a result of the jury's evaluation.