ASTI Parkers
Final Idea presentation

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Our Challenge

Problem: The municipality of Riihimäki is not satisfied with the current situation, concerning the bicycle parking facilities next to the railway station. Our task is to present the initial idea, how to improve the existing parking according to certain criteria.
Stated Criteria

The customer established and provided us with several requirements, which shall be considered during our work. The ordered expects us to make the comprehensive report, containing the following aspects:

- Description on the product: dimensions, capacity for bikes, cost
- Description of materials, recycling issues
- Need for foundation, mounting, need for maintenance
- Is it for indoors or outdoors
- Lightning, transparency
- Suitability for eBike charging
- Option for solar panel system in order to charge eBikes and for lightning
- Availability of electronic and ‘intelligent’ locking system
- Evaluation: risk of vandalism
- Evaluation: ease of use (e.g. user must lift up bike to the closet)
- References: places where this product is in use and user experiences if available
Our Idea

I. Architectural Part – The preconstructed compartment of structural steel and galvanized steel mesh.

II. Accommodation Part – The set of two-tier racks at the further side of the compartment and several ground racks, each one for two bikes.

III. Controlling Part – The single entrance with the electronically controlled system, providing the membership access and the one-time access.

IV. Energy Supply Part – The set of solar panels installed on the roof of the compartment and connected to the electronic charging station for E-bikes + municipal energy supply.

V. Security Part – 24-hours surveillance camera and the electronically locked door.
I. Architectural Part

General View

Side View

Upper View

This space before staples is occupied by two-tier racks located along the wall
Frame, Wall Coverage and Foundation

The Frame Tube Type
- Standard: EN 10219-1
- Steel Grade: S355J2H
- Tensile Strength: 470 – 630 MPa
- Minimum Yield Strength: 355 MPa
- Classification: Non-alloy Structural

The Foundation System

Steel Mesh For External Coverage
Roof Construction

Roofing System

Profiling Rack  Polycarbonate Sheet

Skeleton Tube

The Cut View of Utilized Panels

16 mm

20 mm
II. Accommodation Part

Two-tire Racks
Along with two-tire racks, there are eight ground staples, each is supposed to hold two bicycles – one at the each side.

• Mild Steel construction and Galvanised finish applied

• Overground fixing dimensions: 750mm wide x 750mm tall. Baseplate: 150mm x 150mm x 6mm with 8 x M12 size holes total. 50mm tube o/d diameter, 2.5mm wall thickness. Approximate weight: 8Kg.

• By summarizing the two-tire racks and the staples, the total capacity is seventy two bicycles.
III. Controlling Part

The door is locked by the central electronic system, which contains two options to get in – membership access and the one-time access.

- The person intends to park his bike.
- Membership card, purchased from the governmental company.
- Inserting the coin to access or paying with card.
- Benefits for the municipality.
IV. Energy Supply Part

- Due to the Northern weather conditions, the availability to maintain the charging station for the electronic bikes and the entrance system by the means of solar panels is possible only within the short period of time.

- That means that the charging station and the entrance controlling system will require the extra energy support from the municipal sources during the rest of the year.
V. Security Part

- The whole security system will consist of the set of surveillance cameras – either battery-powered or electricity-powered, and the entrance system, mentioned before.
Thank You For Attention