STANDY

Sustainable
Showcasing
Concept

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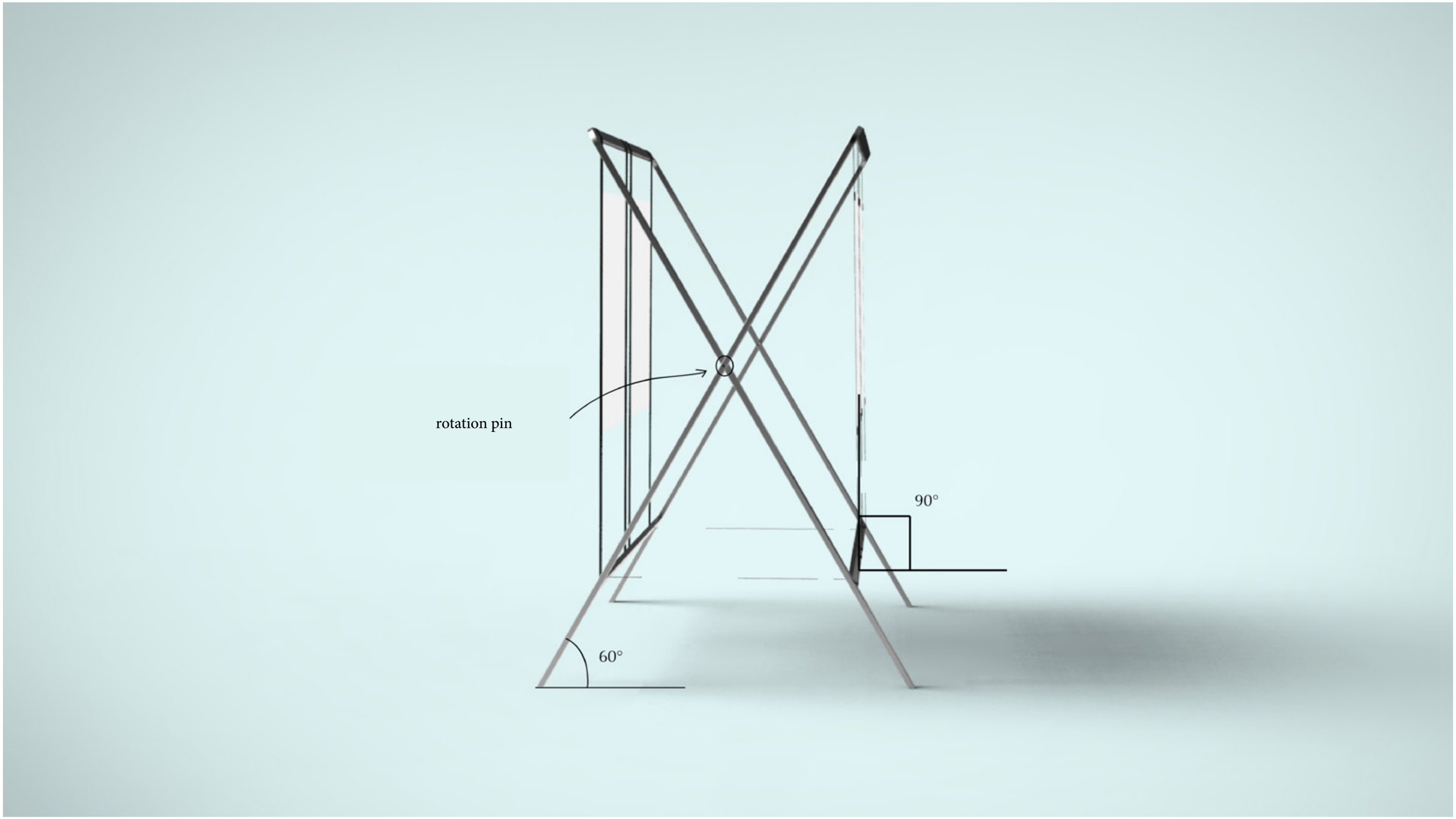
Concept description

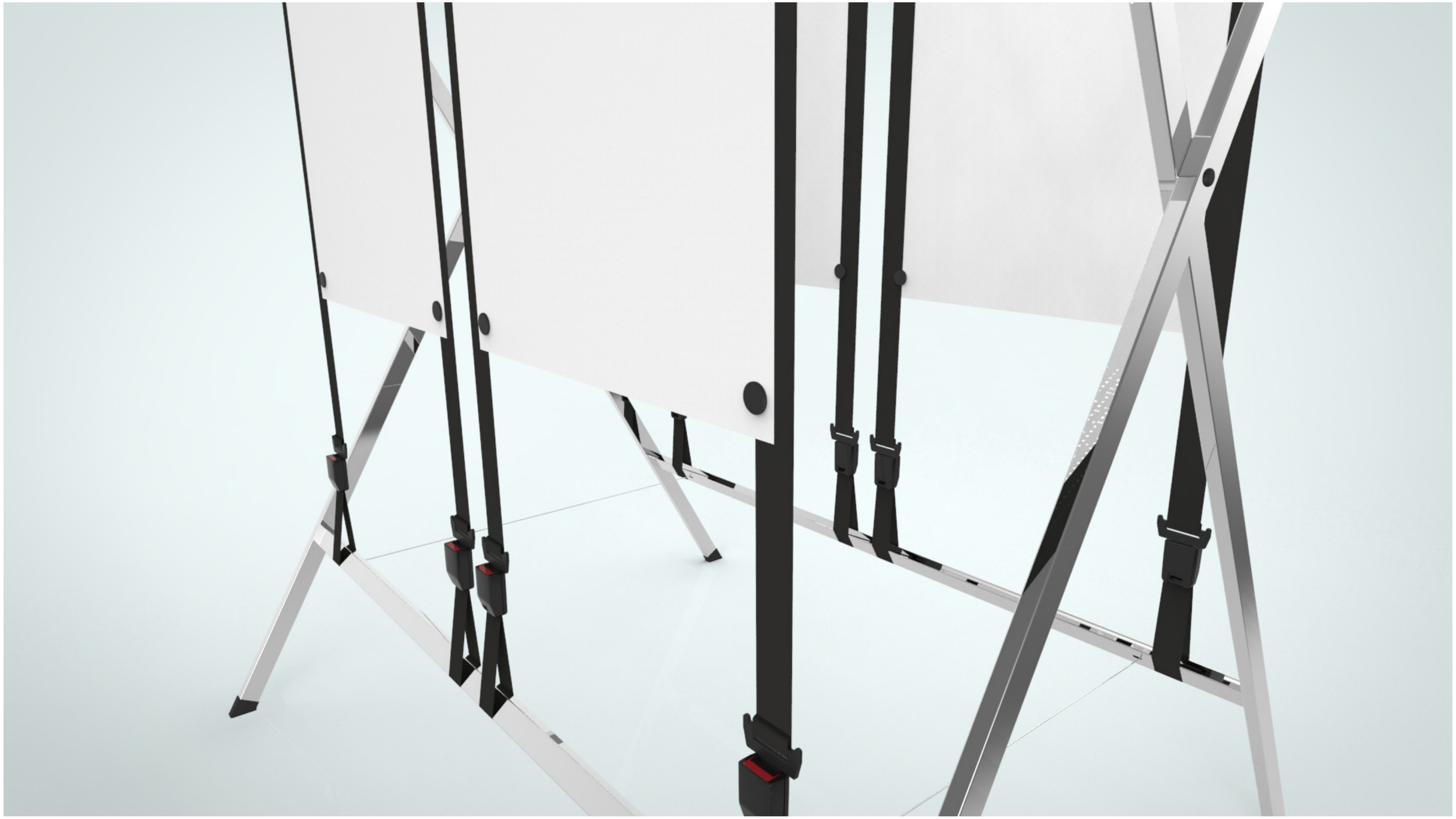
The idea of this project is based on the strategy of dematerialization and was conceived through the study of the structure of a collapsible drying rack.
The item is completely made of recycled aluminum, allowing us to significantly reduce its weight and volume, simplifying the transportation process. To support the boards we used magnets (as the ones used to lock the curtains) that were attached to the seatbelts retrieved from cars' disposal process. The seatbelts have then been given a new purpose.

The idea of this project is based on the strategy of dematerialization and was conceived through the study of the structure of a collapsible drying rack. The main goal is to open and close the structure quickly. Moreover, less volume and weight will simplify the transportation.



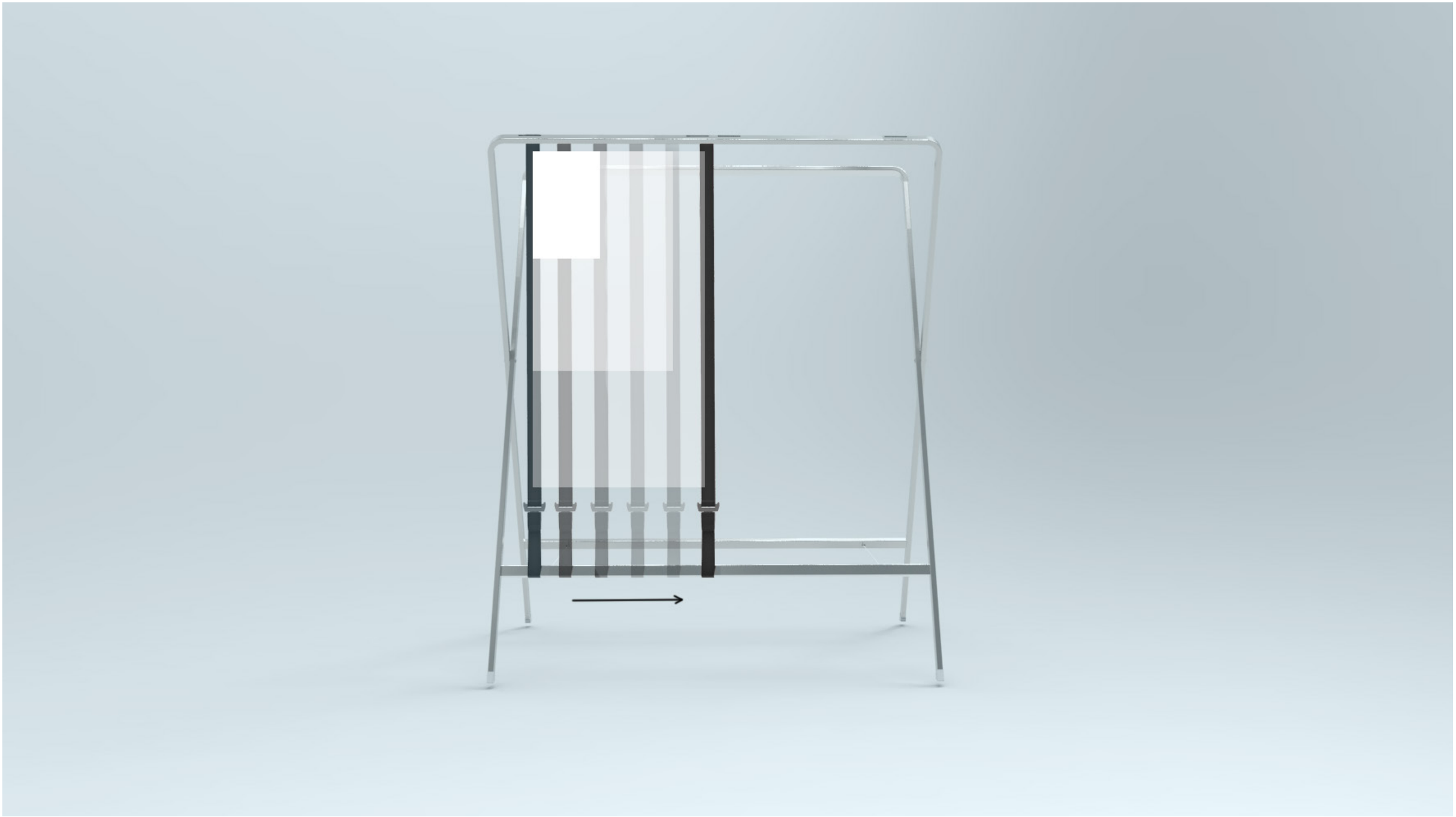
The structure is 60-degree tilt in relation to the floor, that allows the observer to have a better vision of the paper above.

Two parts pivot on two pins in the middle of the structure. The opened structure functions thanks to two stretched ropes at the base of the structure.



Finally, the papers are attached on the seat-belts thanks to simple circular magnets.

The seatbelts are recycled from the cars' disposal process. The seat belt lock has also been used in the showcasing module to make the assembly easier for the operator.



The belt can be switched along the bar depending on the paper dimension. Hence in this showcasing module different paper formats can be exhposed.

Lifecycle exploded view

ROTATION PIN
WEIGHT: 0,033 kg
MATERIAL: steel
MANIFACTURING PROCESS: standard for fastener
LIFETIME: 120 exhibitions
DISPOSAL SCENARIO: open-loop recycling

BEARING
WEIGHT: 0,001 kg
MATERIAL: PMMA
MANIFACTURING PROCESS: extrusion
LIFETIME: 40 exhibitions
DISPOSAL SCENARIO: open-loop recycling

PIN BELT
WEIGHT: 0,055 kg
MATERIAL: acciaio
MANIFACTURAL PROCESS: extrusion and cut
LIFETIME: 120 exhibitions
DISPOSAL SCENARIO: close-loop recycling

BELT
(reuse from car safety belt)
WEIGHT: 0,02 kg
MATERIAL: nylon
MANIFACTURAL PROCESS: weaving
LIFETIME: 120 exhibitions
DISPOSAL SCENARIO: open-loop recycling retrieved from cars' disposal process

PAPER A1
WEIGHT: 0,13 kg
MATERIAL: paper ETH S
MANIFACTURAL PROCESS: included in the material
LIFETIME: 3 exhibitions
DISPOSAL SCENARIO: open-loop recycling

MAGNETS
WEIGHT: 0,01 kg
MATERIAL: magnetite
MANIFACTURAL PROCESS: included in the material
LIFETIME: 60 exhibitions
DISPOSAL SCENARIO: open-loop recycling. The material out of power will be recharged and used for other magnets

SEAT BELT LOCK
(reused from car safety belt)
WEIGHT: ~ 0,1 kg
MATERIAL: polymer and steel
MANIFACTURAL PROCESS: various
LIFETIME: 120 exhibitions
DISPOSAL SCENARIO: open-loop recycling

MAIN STRUCTURE
WEIGHT: 2,3 kg e 2,274 kg (inside)
MATERIAL: aluminium 100% recycled
MANIFACTURAL PROCESS: extrusion
LIFETIME: 120 exhibitions
DISPOSAL SCENARIO: close-loop recycling

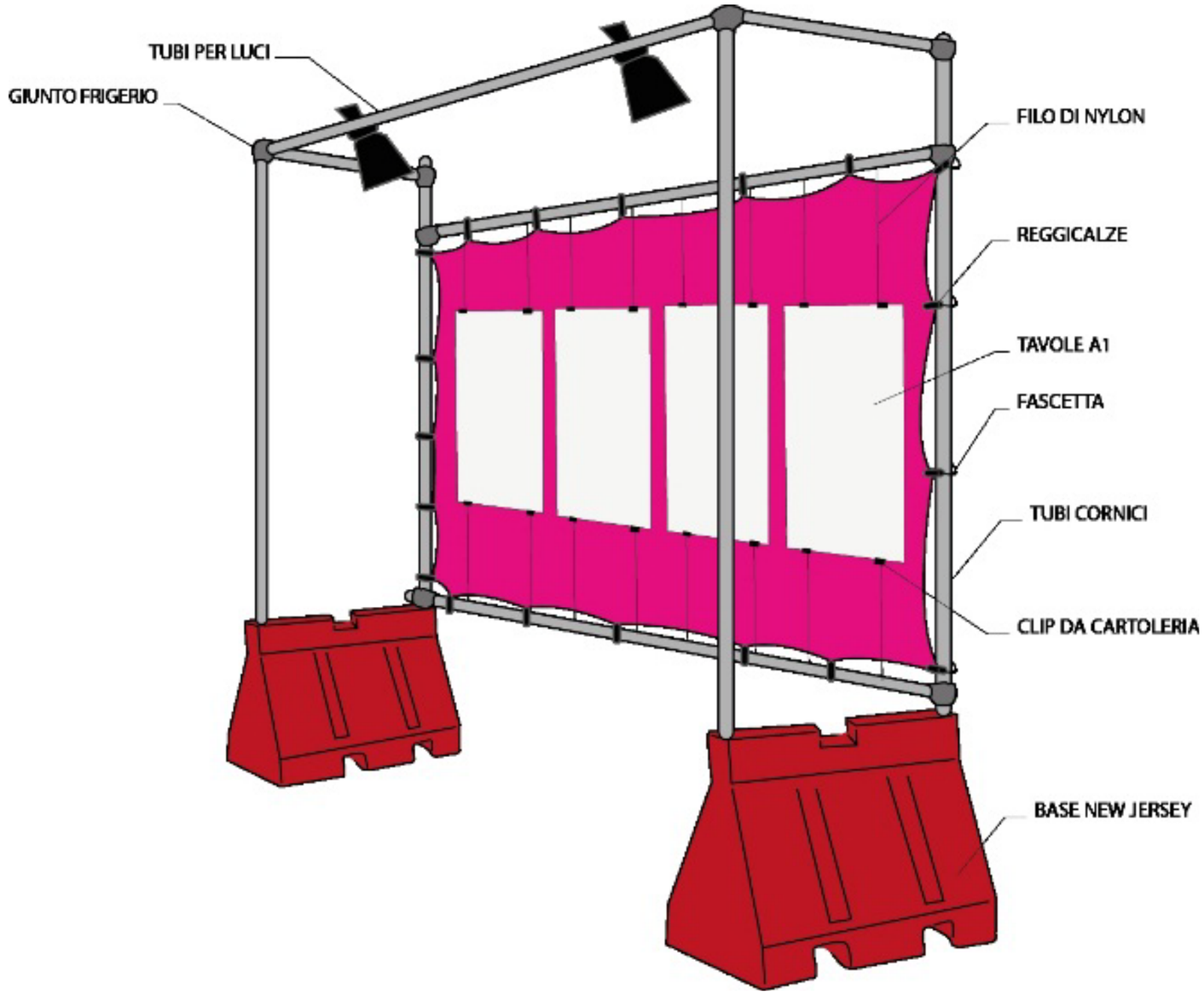
CONTROL STRING
WEIGHT: 0,02 kg
MATERIAL: steel
MANIFACTURAL PROCESS: extrusion
LIFETIME: 120 exhibitions
DISPOSAL SCENARIO: close-loop recycling

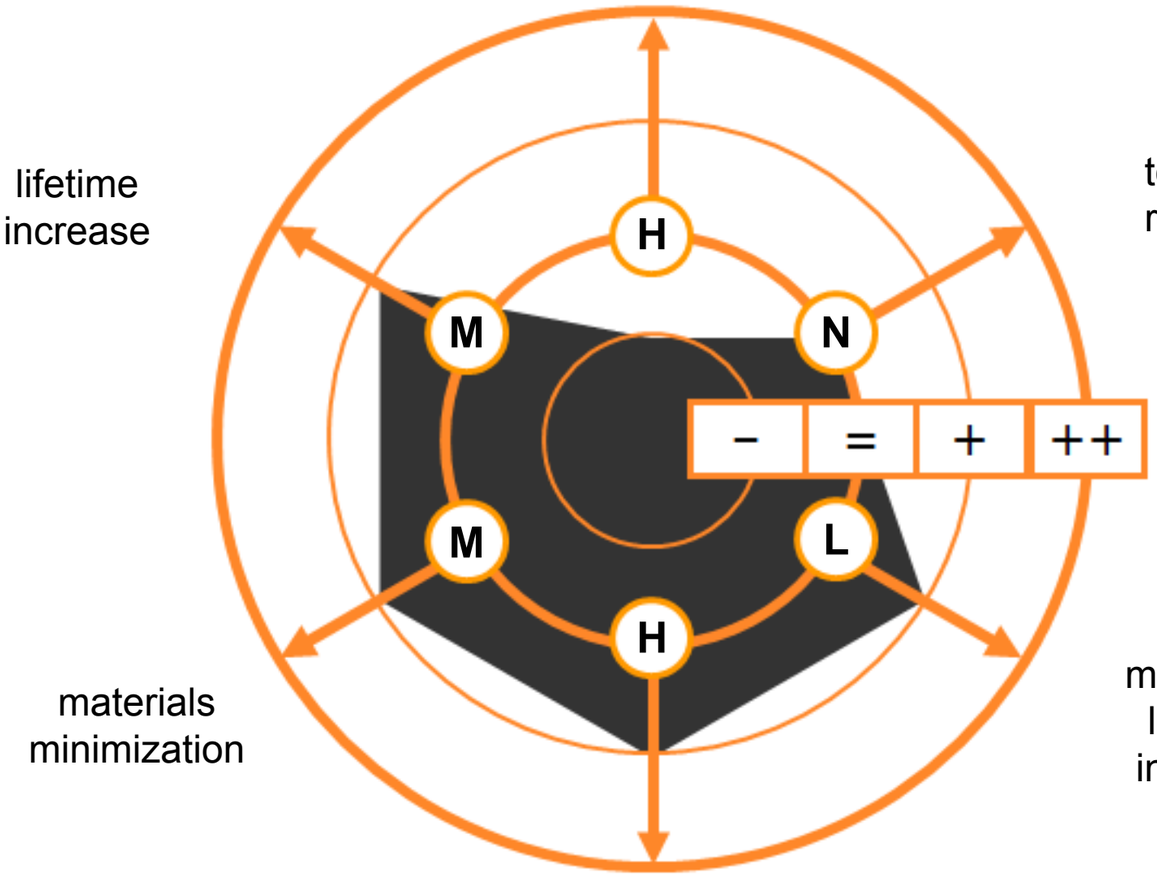
RUBBER CUP
WEIGHT: 0,007 kg
MATERIAL: SBR
MANIFACTURAL PROCESS: injection molding
LIFETIME: 40 exhibitions
DISPOSAL SCENARIO: close-loop recycling e riutilizzato per il medesimo componente

PS: The seatbelts are recycled from the cars' disposal process. That's why the manufactural process is not taken into consideration but only the disposal impact is meaningful.

Comparing two systems

The project was born from the design of the exhibition module "New Jersey", currently used at the Polytechnic of Milan to expose 4 tables A1. The structure made of tubular steel is supported by two New Jersey bases. The main component of the exhibition module is the Lycra cloth on which the 4 boards are placed.
To improve the New Jersey exhibitor we did a LCA analysis and we found the point to improve for the new one.





PRIORITY

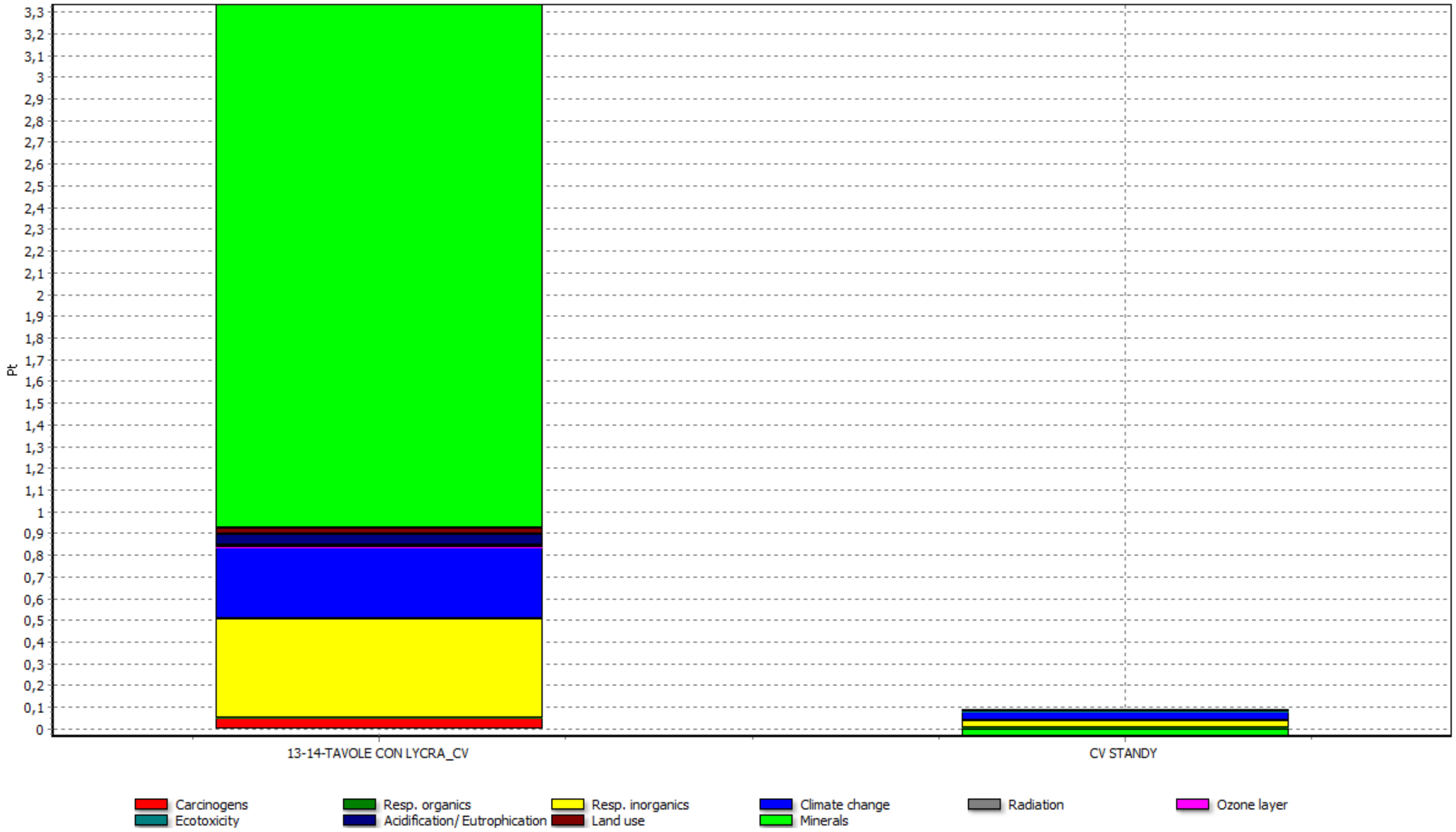
HIGH - **H**
MEDIUM - **M**
LOW - **L**
NONE - **N**

IMPROVEMENT FACTOR

\- = WORSENING
= = NO CHANGE
\+ = IMPROVEMENT
++ = STRONG IMPROVEMENT

	lifetime increase	materials minimization	energy use minimization	materials lifetime increase	toxicity reduce	resources preservation
priority	P: MEDIUM	P: MEDIUM	P: HIGH	P: LOW	P: NONE	P: HIGH
f.n.m	+	+	+	+	=	-

Calculating the total impact



In comparison to the old showcasing system the new concept reduced the imp act on the environment by the

98 %