

# BIKE INTERMODAL

## A "Personal" E-Bike, by process evolution

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(<http://www.bike-intermodal.eu>)

### DRIVERS

Making available -realistically- a bicycle working "intermodally" with all other types of transportation. Provide an elegant tool for a fluid and pleasurable individual urban mobility, condensed in a volume and a weight a fraction of the current "folding bicycles".

### INDUSTRIAL CONCEPT

Freeing a Frog Prince.

Express all the technical and economic potential hidden in a market sector of poor appeal, giving it new life producing a modern Personal Vehicle.

The key: severing all ties with the straitjacket of the bicycle industry -a modular supply chain- in favor of a contemporary, vertically integrated, automotive-type supply-chain, economically efficient, scalable, environmentally certified, low-maintenance and technologically reliable.

### A LIFESTYLE PRODUCT

An innovative model of bicycle, ultralightweight, electrically assisted, super-compactable.

The structure unfolds-folds automatically, in the style of convertible car tops, or landing gears, expanding into a rigid space-frame. A process innovation in the service of a sustainable -and cool- urban mobility experience.

### ADVANTAGES OVER THE CURRENT MARKET PLAYERS

1. A 30-litre compacted volume, in spite of a normal bicycle ergonomics usable by 155-192 cm-tall cyclists (5th Woman to 99th Man percentiles).

In comparison the current most compact-folding bike (1% of world folder's market), folds in 90 litres. Most other products fold in 150-210 litres.

2. A powerful, miniaturized power-assist module, custom made by Swiss Maxon Motor (<http://www.maxonmotor.com>).

3. A weight around the HALF of the average of current, non-power-assisted folding bicycles.

4. Its easy and user-friendly operation, storage and handling, lowers significantly the "ownership burden" of a bicycle for the urban dweller.

### INDUSTRIAL GREENING

The innovations implemented to reduce weight and volume also fit the Industrial Greening objectives:

- Integrated design
- Hierarchical assembly / Lean manufacturing
- Reduced Material and Part lists for "Waste minimization" and end-of-life factory recycle
- Halving of the material per-product unit
- Short value-chain and logistics
- Better assembly of small parts
- Small package warehousing and shipping
- High Value-per-Volume shipping ratio
- Modern logistics in distribution
- First Bicycle using Product Lifecycle Management" (PLM).

## **OPENNESS TO TECHNOLOGY EVOLUTION**

• It constitutes an "open development platform", a new "product archetype", particularly suited to incorporate the new materials (bi-dimensional, graphene-like) and technologies (3D printing) of the impending "Third Industrial Revolution".

## **SUSTAINABLE MOBILITY**

• BIKE INTERMODAL assumption:

technologic advancements - providing newer, better, higher performing products - can do as much and sometimes more than persuasion, obligation or deterrence to change behaviours and life-styles.

• The project aims at establishing the intermodal cycling as a synergic "third pillar" along Policy-making and Infrastructural development to promote bicycle use.

• It also represents, in a scenario of ever growing metropolitan areas everywhere in the world, a form of flexible, near-zero energy, micro-mobility, empowering the individual.

## **MARKET**

The product targets several market segments::

- Urban commuters
- Car range extender (OEM/Aftermarket)
- Fleet sales: Car Rentals, Cruise ships, Hotels
- Bike Rental services
- Corporate Mobility Managers
- Nautical accessories
- General Aviation
- RV accessory (OEM/Aftermarket)
- Emergency Mobility Module (Civil Protection, Military etc.)

## **AWARDS**

Marzotto Start-Up competition "From the idea to the enterprise" prize

Marzotto Start-Up competition "Talent of Ideas" prize

EU Grant "The Minimal Vehicle", LIFE Program

EU Grant "Bike Intermodal", 7th Framework Program

"Signalled Project" XXI° Compasso d'Oro

Philip Morris Science & Technology Prize Italy

## **INFO**

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