

**mando**footloose   
smart simple stylish



## Contents

**Brand Story\_** Mando Footloose Story-04 // About the Brand-06 // Smart Technology-08

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\* Images in this catalog may differ from the actual product.

Smart  
Smarter than a car, simpler than a motorcycle,  
more stylish than a bicycle,  
Mando Footloose is a new concept in e-mobility.

Simple  
With innovative technology and design,  
Mando invented a new mode of transport.  
Urban mobility made simple.

Stylish  
Mando Footloose revolutionises journeys  
with smart, simple, and stylish e-mobility.  
Get ready to transform the way you move.



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# Your Beloved Mando

## 1 MANDO Find inspiration

As a global auto parts leader, Mando has been supplying state-of-the-art automotive ABS, ESP, ECS, EPS as a safety systems and SCC, SPAS, LKS, BSD as a DAS (Driver Assistance System) to the world for 50 years, since its establishment in 1962. In addition to performing social contribution and environmental protection activities, it has been making great efforts to create a better world with technology and experience that it has accrued in the automotive industry. It has dreamt about inventing a truly out-of-the-box vehicle that would create a new lifestyle phenomenon that would contribute to society and reinforce the love that the company receives.

## 2 Think about technology

Mando's dream of creating a vehicle that would take you "As far as you want, in the style that you want, and with only the effort that you please to make" was a challenge which could not be solved with outdated thinking, technology and design. As a result, the company developed the world's first Series Hybrid System that could power the vehicle with a built-in motor without a chain and dressed it up with the simple design of a world-class designer.

## 3 Design

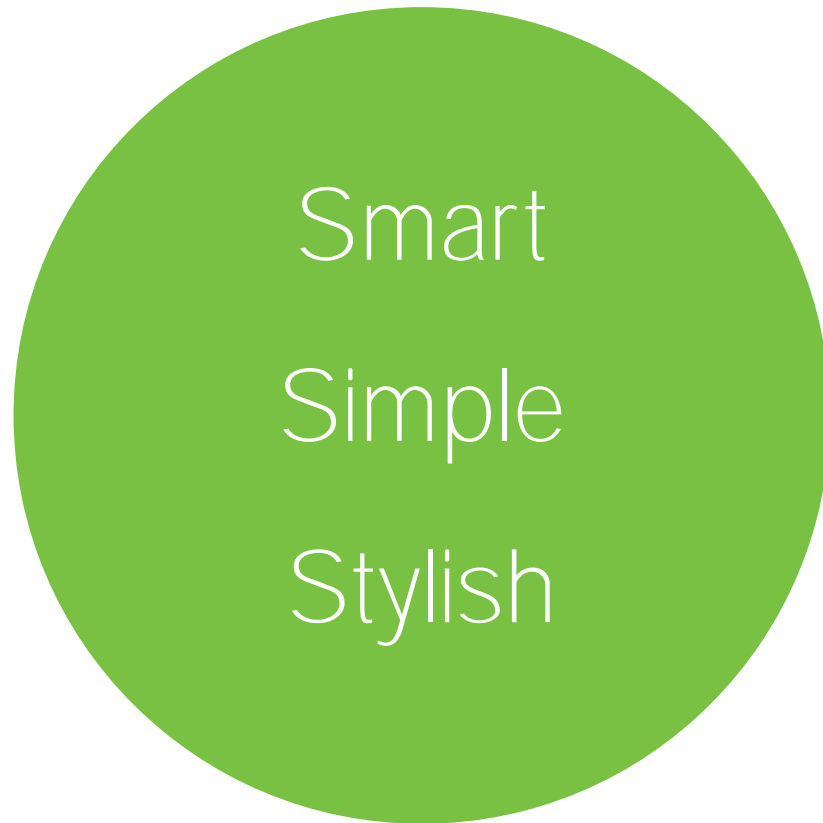
Mark Sanders\*, a globally acclaimed engineer and designer believes that "The ideal combination of science and art offers perfectly elegant products." Combining Mando's new technology with a befittingly novel and unique design, he created the identity of this advanced transportation vehicle by hiding its complex state-of-the-art technology inside a simple and smooth shell.

### \* Mark Sanders

The fusion of science and art results in efficient and elegant product solutions from the point-of-view of an engineer and refreshingly simple and practical consumer propositions from the point-of-view of a designer. Mark Sanders, the designer of Mando Footloose, devoted the last 25 years integrating science and art to create elegance, the most prized value, in every product that he made. He has received numerous international awards and holds many patents, including his unconventionally designed folding bicycle, Strida. He continues to create beautiful masterpieces to this day.

## 4 Put it into words

Mando combines the words "man" and "do" in reference to technology that empowers mankind to do whatever it wants. "Footloose" means unencumbered, carefree travel and expresses the values that Mando wanted to capture in this innovative, eco-friendly vehicle. Mando Footloose represents the freedom of movement that mankind has always longed for and it is a new lifestyle proposition made possible by unprecedented technology and design.



# It's an electric car on two wheels

Control everything by software

## Smart inside

The world's first chainless e-bike was created thanks to Mando's innovative technology. Advanced automotive know-how made the invention of the series hybrid system possible. Smart technology made it possible to hide all parts inside a sleek frame. Mando Footloose is the beginning of a new concept in e-mobility.

## Simple outside

Mando Footloose conveys a new sense of elegance and simplicity. Using an optimum blend of technology and design, its unique exterior is stylish and ergonomic. Like a smart phone it is sleek on the outside, with technology inside.

## Stylish for all

Mando Footloose gives you the freedom to go wherever you want in a unique elegant style. All it takes is a simple step on the pedal and you have power. Its appealing shape shines out even when tucked away in the corner of the office. Mando Footloose offers the best in stylish dependable urban mobility.

## Mando Footloose History

### International exhibitions

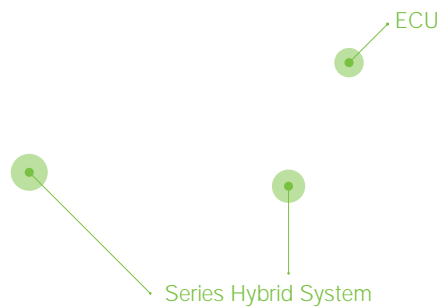
- Displayed as a representative design product from Korea in locations such as Harrod's (London) and the Louvre (Paris)
- Luxury product exhibitions: Nautic 2013 (Paris Boat Show), Masters of LXRY 2013 (Amsterdam)
- Frankfurt Motor Show (IAA) 2013
- Eurobike 2012/2013

### Awards and accolades

- 2013 IF Design Award
- 2013 Red Dot Design Award, Best of the Best
- 2013 Frost & Sullivan Excellence Awards, Innovation Award
- Designs of the Year 2013, London Design Museum
- ISPO 2012 BRANDNEW Competition finalist



# The world's 1<sup>st</sup> chainless series hybrid technology for e-mobility



## Series Hybrid System



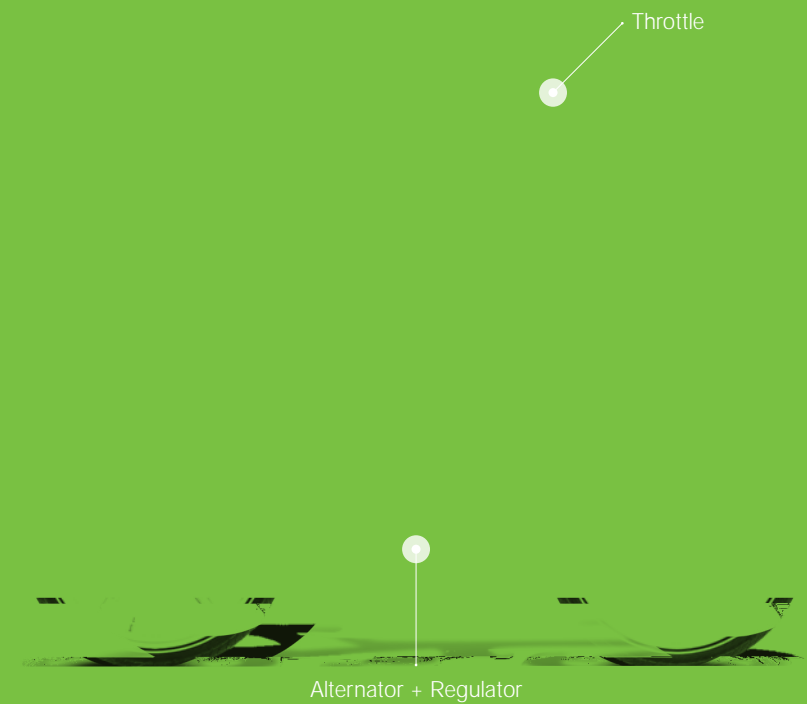
Mando Footloose eliminated chains that are symbol of bicycles and used its Series Hybrid System to enable the vehicle to travel as effortlessly as a car. This first-of-its-kind system powers the wheels with a built-in motor that does not require chains that connect the wheels and pedals.

## Automotive level ECU and CAN communication



Mando Footloose's automotive level Electronic Control Unit (ECU) is a central control unit that regulates a wide range of functions, from the vehicle's propulsion to self-diagnosis and tracking of the state of the vehicle. The Battery Management System (BMS) actively helps to manage the battery's condition and displays data through the vehicle's Human Machine Interface (HMI).

Mando Footloose is a new concept in e-mobility using the latest automotive technology. It is novel urban transport that anyone can enjoy, regardless of age. It offers freedom from traffic congestion, narrow parking spaces and energy shortage.



## Dual riding mode



Riding uphill is as easy as riding on flat road. The choice between using the throttle or pedals lets you travel the way you want - whether you want to pedal yourself or ride around more comfortably. Mando Footloose gives a unique experience where the rider gets to choose how energy is used.

\* Use of the throttle may be restricted in some countries.

## Generating power with an Alternator

Mando Footloose can power itself as the mechanical energy generated by pedaling is transformed into electrical energy to charge the battery. The range increases by simultaneous battery power and self generated power.



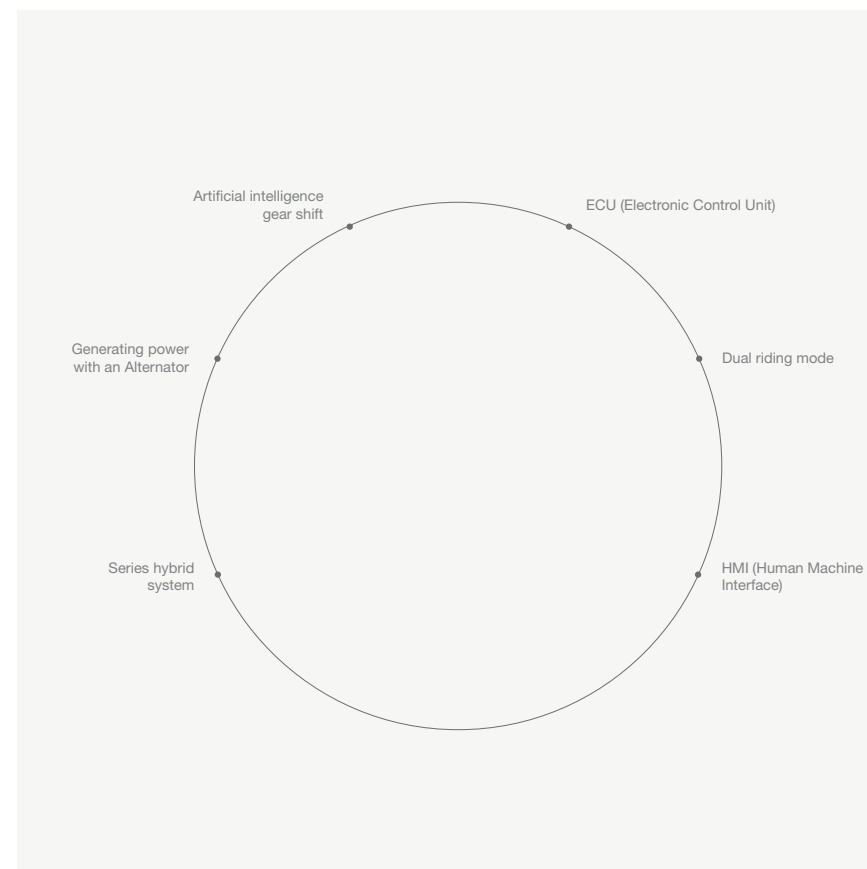
Mando Footloose offers a totally new type of elegance in transport with its original e-mobility solution that optimally blends smart technology and simple design.

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It is Smart

# Smart



## Artificial intelligence gear shift

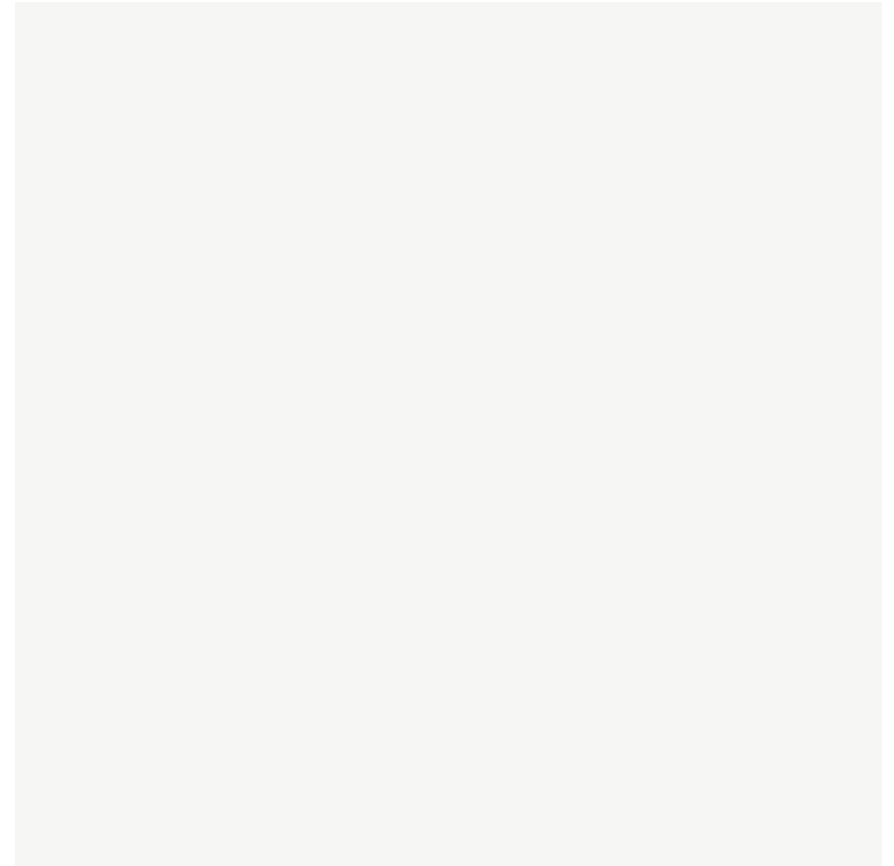
Mando Footloose automatically detects road gradients and shifts gears to allow the driver to navigate over hills with the same pedaling intensity as pedaling on flat roads. It eliminates the hassle of coordinating speed and timing to shift gears. (\* Manual shift mode is also available)

## Human Machine Interface (HMI)

The removable HMI display on the handlebar shows diverse information, such as range, speed, battery level, self-generated power level, and product alerts. In addition, the rider can adjust pedal resistance, riding mode, and auto/manual shift mode. The vehicle does not operate when the HMI is removed, helping to prevent theft.



# Simple



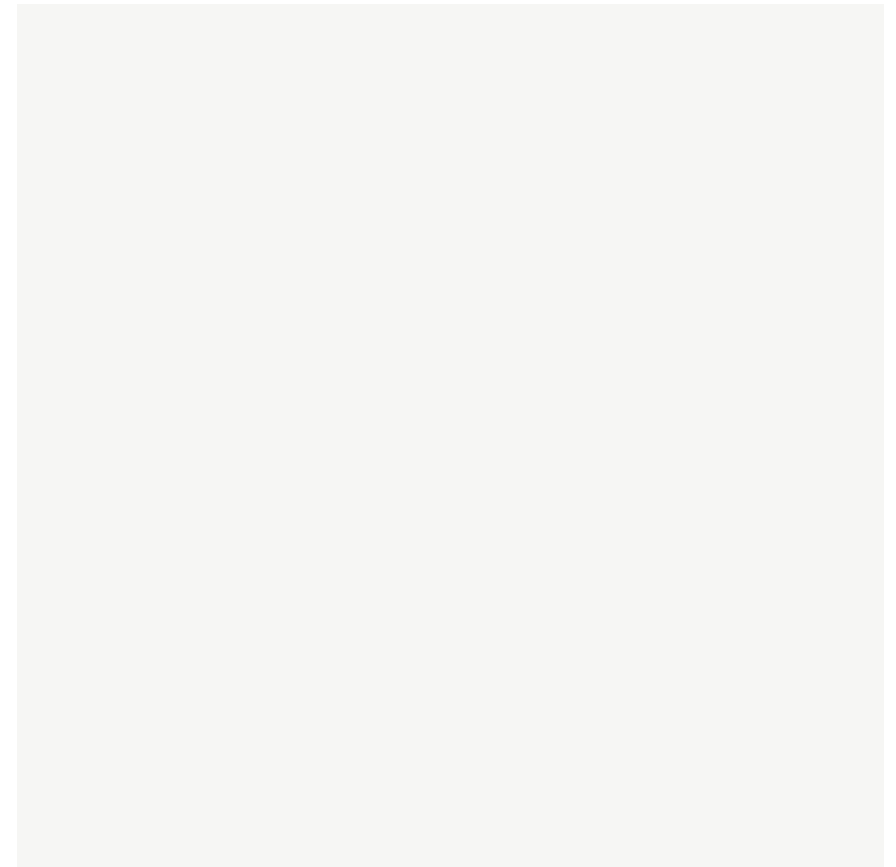
## **Minimalist & Contemporary**

With conviction that "Less is More," Mando Footloose made the bold decision to remove chains that were regarded as being essential to bicycles and embedded all the major parts, such as the ECU, battery, alternator, and motor, into its minimalist frame to emphasize the vehicle's simple lines.

## **A new and unique shape inspired by nature**

Mando Footloose's sleek, streamlined frame has a new and unique shape that has never been seen in traditional folding/electric bicycles. Its design was inspired by organic forms in nature.

# Stylish



## User-friendly ergonomic design

Mando Footloose's ergonomic design allows the vehicle to be ridden and operated easily by anyone, regardless of age and gender. It discarded straight lines and sharp edges as much as possible to retain a sleek design even when folded.

## Easy & Quick Folding and Rolling

Whether it is taken in your car, subway, office, or a cafe, Mando Footloose can be easily folded into a compact size and accompanies you wherever you go. It is easy to roll, carry, and store.

(\* The European model includes a secondary folding-lock)



Mando Footloose IM\* is a new model that allows you to show your youthful style through exciting color choices. Personal transport has never been so expressive.

\* IM : Iconic Mobility

# I AM SMART

## Outstanding range

By using key components such as motors, alternators, and regulators made by using automotive technology, Mando Footloose IM can give outstanding range.

## Removable battery

The battery is built-in into the front frame to maintain the unique design of the original Mando Footloose while protecting it from the weather and damage. Because the battery is removable, it is easy to recharge and can be replaced with extra batteries to increase the vehicle's range. Moreover, the Battery Management System (BMS) built-in into the battery tracks and manages its condition to avoid risky situations. It notifies the driver of break-downs and failures through the ECU.

## HMI (Human Machine Interface)

HMI Display attached to the handle bars provides diverse information supplied by the BMS and ECU built-in into the vehicle, such as range, speed, battery level, calorie consumption, self-generated power level, and break-down alerts. The vehicle does not operate when the HMI is dismounted, and a serial key matching feature helps to prevent theft.

\* New riding mode (Health Mode)  
(Ride modes that maximise electric power generation -- 15 km/h, pedaling only, pedal resistance "Hard," and ECO acceleration -- for greater exercising effect than riding a regular bicycle)



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### **A smooth and sleek exterior**

In-house development of a battery, motor, and alternator made it possible to install and hide all major parts inside a minimalist frame. Meticulous attention to details and finish completes the impeccably clean and stylish product design.

# I AM SIMPLE

### **Cables inside**

A minimalist, straight and clean silhouette was completed on the stem by minimizing the external exposure of cables and wires using a specially designed handle post and stem.

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# I AM STYLISH



## Frame covers that come in a variety of colors

The appeal of Mando Footloose IM is enhanced by the variety of colors it offers. Coloured covers gently wrap the polished aluminum frame. Combining interesting colours with precision aluminum gives a contemporary style unique to Mando Footloose IM. You have a choice of five different colors.

## Chainless

With a Series Hybrid System that powers the vehicle electronically without a chain, Mando Footloose eliminates the risk of having a skirt or suit getting caught on the chain.





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