



**EV CHARGING SOLUTION**

**GREENCHARGE** 



This city  
needs me

the electric car - and Batman.

Guest



# We are Greencharge

Greencharge CEO

**Andreas Varkevisser**

We vowed to dedicate ourselves to the rEVolution and contribute our share to ensure a zero-emissions future through Greencharge. This mission is to ensure a liveable planet and sustainable society for our future generations to come for our children and their future children in Korea and beyond.

To realize this goal we directly collaborate, partner and represent the global leaders and pioneers in advanced electric vehicle charging infrastructure solutions who have been building the global charging infrastructure from the very beginning over 15 years ago.

Powered by the global leaders in electric charging for personal cars, electric buses, heavy duty vehicles and industrial vehicles, Greencharge takes a leapfrog on smart and future-proof charging solutions and charging management providing services that will take Korea by storm as it has done the rest of the world.

Building interconnected EV charging infrastructures from the ground up is what we do and is embedded in our DNA. We focus on building regionally, city and even nationally wide charging infrastructures with a mature and smart slow, rapid, fast and ultrafast charging sites balance.

Our advanced smart charging solutions backed by our leading cloud-based platform, Greencharge Platform charging management software, we are ready to disrupt the Korean EV charging market.

We intend and vow to build a Korean society where the public opinion on driving an electric vehicle is the standard and where it is as easy and carefree to drive an EV as driving a gasoline car and realize the rEVolution!



# Who is **EVBOX**?

YOUR  
PRODUCT IS  
**10X**  
BETTER  
THAN THE  
COMPETITION.

YOUR  
CUSTOMER  
EXPERIENCE  
**10X**  
LIGHTER  
THAN THE  
COMPETITION.



In 2010, EVBox made its breakthrough when the market for electric vehicles (EVs) was still in its infancy. Techies at heart, our founders saw the importance of having a connected charging infrastructure at an early stage. EVBox soon became the sole supplier of public charging infrastructure in cities such as Amsterdam, Rotterdam and Monaco. Meanwhile, EVBox played an active role in creating and innovating Smart Charging technologies and roaming of charging infrastructure with industry partners.

In 2017, EVBox was acquired by energy utility and global service provider ENGIE, who identified EVBox as a disruptive, leading cleantech company making a difference in the fast-growing industry of electric mobility. Today, with projects running across Europe, North America, South America, and Asia, EVBox moves forward by perfecting its original recipe with a second generation of hardware and software that are energy efficient, future proof, and easy to use.

Now by 2020, we have over 100.000 charging stations installed worldwide and over 3.000.000 active users. But we are only just beginning and on the eve of a new era. Our mission to realize the reVolution and our vision of a zero-emission world is only just taking off.

## 2010

- EVBox is born and founded.
- 200+ CPs

## 2012

- EVBox starts powering Amsterdam & Rotterdam
- 6.000+ CPs



## EV Charging Global Leader

## 2014

- Glide Equity Management become new shareholder
- International expansion starts
- 15.000+ CPs

## 2016

- EVBox consolidates Netherlands market leader position and expands to the UK, France, BeLux, DACH, Nordics & North America
- 40.000+ CPs

## 2017

- EVBox acquired by ENGIE
- 2<sup>nd</sup> generation of charging solutions (Elvi & Everon) introduced.
- 50.000+ CPs

## 2018

- EVBox enters fast charging market (Acquisition of EVTronic)
- Rollouts 2<sup>nd</sup> generation of products
- 60.000+ CPs

HISTORY

55+

expands to 55+ nations  
10 overseas branches (USA, UK, France, Germany, Spain, Italy, Belgium, Norway, Denmark)

100+

100+ business partners over the world  
Benz, Volvo, Nissan, Tesla, Renault, Groupe PSA, BMW, Volkswagen, NIKE, Macdonalds and etc

100.000+

100.000+ Cumulative Charging Points  
CPs 100.000+

1.500+

1.500+ Fast Charging Points

NOW

## Pioneer

### 2017 BloombergNEF New Energy Pioneer Winner

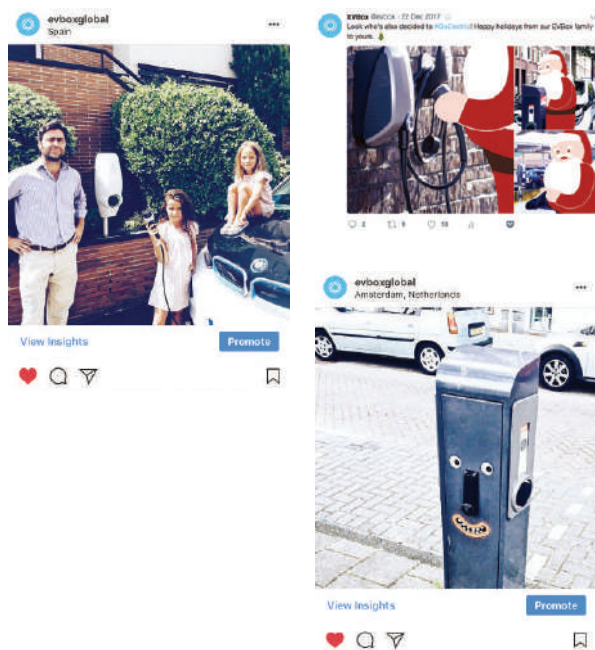
BNEF Pioneers (formerly known as the New Energy Pioneers) identifies game-changing companies globally in energy, transport and sustainability. Winners are chosen by a panel of industry experts from, academia, corporations, utilities, finance and technology incubators.

EVBox provides a full hardware and software solution for EV charging infrastructure. EVBox utilizes open standards to integrate with multiple network providers throughout the world. The combination of lowering barriers to purchase a charger, the flexibility for the end user and a focus on scalability has led to charging stations in 31 countries in over 980 cities by 2017.

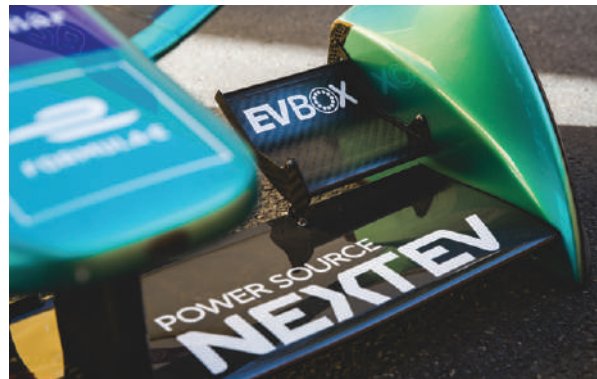


### EV Proud

In 2017, EVBox went global and so did our social media, with a monthly average reach of over 170.000 viewers. Here is a look back at some of our favorite #EVproud moments, featuring charging stations and EVBoxers who are off to conquer the world!



## Global Leader



### Official partner of NIO-Formula E team

“We are very proud of becoming the NIO Formula E Team’s first sponsor. Both NIO and EVBox have a profound belief that the automotive industry is on the brink of fundamental change. Both organizations believe that the future of mobility is electric and want to accelerate such transition in all continents, starting with North America, Europe, and Asia. We see this sponsorship as the first step in what I hope and expect will be a very successful partnership between NIO and EVBox. The future may even include partnering on more projects, specifically in regions such as EMEA and the Americas.” *Kristof Vereenooghe, CEO of EVBox*

### EVBox first worldwide company to achieve OCPP

#### 1.6 certification by the Open Charge Alliance

The goal for OCPP is to offer a uniform solution for the method of communication between a Charging Station and Charging Station Management System (CSMS). With this protocol it is possible to connect any CSMS with any Charging Station, regardless of the vendor. “EVBox has been a strong supporter of open standards like OCPP because it increases interoperability and accelerates EV adoption—a great benefit for all of us working in this industry. Our teams are working in close cooperation with the open charge alliance to stay at the forefront of OCPP implementation. We’re super proud to become world’s first company to get certified for OCPP and we will continue helping to push the standard forward!” *Arjan van Rooijen, CTO of EVBox*

### rEvolution

rEvolution is the annual, international networking conference, powered by EVBox, showcasing the latest upcoming developments in e-mobility.

Each year, the sector’s best and brightest gather in Amsterdam for a full day of inspiring presentations and conversations aimed at answering the question: “What can we do to accelerate the race toward a zero-emission future for transportation?” Featuring a variety of keynote speakers that cover everything from global market predictions to best practices for EV adoption amongst consumers and businesses.

# Premium Design & Innovation



“At EVBox we dedicate a lot of resources into our product DNA and design to give our customers the best possible charging experience possible. To not only win the CES Innovation Award, iF Design Award, but also the very prestigious Red Dot Award confirms that we are on the right path. I'm especially proud of our product team and of our design partner VanBerlo for this great success!” *Kristof Vereenoghe, CEO of EVBox*

# Premium Quality & Reliability

Charging stations of EVBox have a record uptime of 99.8%. This is why cities like Amsterdam and Rotterdam have been operating our charging stations for years across the region. Charging stations of EVBox do not require much maintenance thanks to their modular, vandalism-proof, non-flammable and discoloration-proof design. All charging stations allow remote maintenance and software update.

**City of Amsterdam**

Reference: Public charging network City of Amsterdam

- 1000 EV box public charging stations / 2000 public charge points (march 2017)
- 10.000 monthly unique users of the public network (march 2017)
- 70.000 monthly charging sessions (march 2017)

Screenprint: [public charging infrastructure](#)

**1.4 Overzicht bereikbaarheid van laadpunten**

1.4.1 Bereikbaarheid per maand

Maand	Bereikbaarheid
Maart 2016	99,8%
April 2016	99,8%
Mai 2016	99,8%
Juni 2016	99,8%
Juli 2016	99,8%
Augustus 2016	99,8%
September 2016	99,8%
Oktober 2016	99,8%
November 2016	99,8%
December 2016	99,8%
Januari 2017	99,8%
Februari 2017	99,8%
Maart 2017	99,8%

Source: management report City of Amsterdam maart 2017

Site Visit: Project Manager E-Mobility

Signature:

**Reference Letter**

Charging Infrastructure of the City of Rotterdam

Dear customer,

On behalf of the municipality of Rotterdam, we would like to inform you about our satisfaction with the management of the operation of publicly accessible charging stations in Rotterdam.

As part of the assignment, EV-Box and you have been successful in more than 100 charging stations for the provision of the assignment, 4 Process Management Exit (PME) is used to keep track of the entire process from start to finish. From the request of the user to customer satisfaction by the user, planning of the installation, management of the installation.

Every step of the process can be provided with a formal call for advice and approval.

These charging stations are managed via the EV-Box management system and the software is updated and maintained through an automatic connection and maintenance.

Yours sincerely,

Signature:

Name: Kristof Vereenoghe  
Date: 24-01-2018

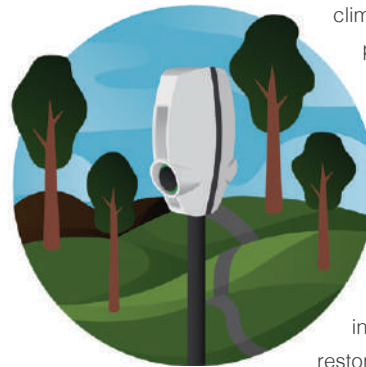
# Sustainability

## Journey to zero emission transport

We have developed a brand-new travel policy at EVBox in accordance with our status as a scale-up. We are encouraging team members to challenge themselves on if flying is really necessary on their business trip. For example, it is mainly replaced by video call unless it is necessary to meet in person. Our staff members are encouraged to use bicycles or public transportation when the business trip is in the same area or short distance, and to use electric carsharing (carpool) when we travel with others. Also, if the total travel time does not increase by more than 25% compared to the airplane, we are traveling by train. Through these efforts, we have saved a total of 5.5 tons of CO<sub>2</sub>.

## 1 Charger, 1 Tree

Trees help clean the air, filter the water, and provides habitat for many animals. Trees also absorb carbon dioxide from the atmosphere, reducing the effects of climate change and cooling the planet. That is why in 2018, we pledged to donate one tree for every charging station we place. To date, we have donated a total of 15.000 diverse trees (native to the region) to California and Portugal to help increase local biodiversity and restore the forests that were heavily affected by wildfires in 2018.



## Chargers to the rescue

In 2018, we installed the world's first AED-equipped charging station in the city of Delft, the Netherlands. Many AEDs are currently still located inside buildings, therefore have limited access, especially outside of business hours. This was why Delft-based City AED took action by equipping EVBox's public charging stations with AEDs, improving national AED coverage and providing first-aid helpers with easier and quicker access.



# Case Study

EVBox offers an optimal EV charging solution for a wide range of customers.



## Charging Network

### EV ultra-fast charging with Allego (Germany)

- one of the largest providers for e-charging solutions in Europe
- 32 ultra-fast charging stations
- Europe's 1st public high-power charging location
- 400 km charged in 15 minutes (350 kW)



## Charging Network

### Charging Network with PG&E for electric cars in California (USA)

- one of the largest combined natural gas and electric energy companies in the USA
- a budget of \$130M
- 7.500 new level 2 charging ports



## Workplace

### Charging electric cars at Nature's Pride (Netherlands)

- 32 dualcharging points
- 35.8% usagecharging points per week
- 40% of company-owned cars are PEVs
- 6.7 kWh av. consumptionper charging point



## Renewable energy / Geothermal Heating

### Charging electric cars at SGHC (UK)

- 6 dual charging points
- 45 energy users both public and private
- 10.000 tones of CO<sub>2</sub> emissions saved each year
- 26 GWh of electricity per annum



## Renewable energy / Solar

### Charging electric cars at LACI (USA)

- 14 dual charging points
- 100+ EVs per week
- 100% solar powered
- 72 portfolio companies supported



## Restaurant

### Charging electric cars at Courtepaille (France)

- 10 charging points
- 195 branches
- 100% renewable energy
- 15.000.000 meals served yearly



## Parking lot

### Charging electric cars at Timmerhuis (Netherlands)

- 20 dual charging points
- 1 large indoor parking lot
- Smart charging as key feature



## City

### Charging electric cars in Amsterdam (Netherlands)

- 2.000 charging points
- 20.000 electric vehicle drivers
- 400 full electric taxis
- 30.000 charging sessions / month



## City

### Charging electric cars in Rotterdam (Netherlands)

- 1.950 charging points
- 1 wireless charging pilot
- 100 Evs for their own fleet
- 10.000.000+kWh charged per year



# Product Portfolio

AC CHARGERS  
DC FAST CHARGERS  
DC HIGH POWER CHARGERS  
GREENCHARGE PLATFORM  
SMART CHARGING SYTEM



### **Upgradeable power output technology**

Electric vehicle batteries are advancing before our eyes, showing higher range capacity and requiring higher charging levels per new model. As a result, many electric vehicle drivers will require a change or upgrade of their local charging infrastructure in the upcoming years. Not with Elvi. Elvi is designed with the next generation of EVs in mind, allowing the station owner to increase power output up to 22kW.

### **Fully connected, interoperable ready and smart**

Elvi embodies all the latest industry trends. It's ready for interoperable charging cards (roaming) and other charging networks. Elvi is connected to a fresh and new cloud-based platform, Greencharge Platform and has all the smart charging technology already featured within the EV-Box product line, such as dynamic load balancing.

### **A modular disruptive design**

Elvi is built up from 3 different components: the wall dock, the charging station and the charging cable. The wall dock can be pre-installed by electricians prior to the arrival of the charging station module, after which the EV driver can easily click on the charger and attach the charging cable. This allows for easier and more timely installation at home as well as in condominiums.










# Elvi

“Designed to charge any new electric car coming into the market for the next 10 years. Elvi delivers a new charging experience, its breakthrough upgradeable technology is a unique feature in the e- mobility industry.”

## AC Charger








### Elvi

HomeLine

-  3.7 to 22 kW
-  1 connector
-  Socket & Fixed cable
-  WiFi - BLE - UMTS - LTE
-  OCPP Protocol
-  RFID Reader
-  Wall & Pole mount










### BusinessLine

-  3.7 to 22 kW
-  1 - 2 Connectors
-  Socket & Fixed cable
-  UMTS / GSM - LTE
-  OCPP Protocol
-  RFID Reader
-  Wall & Pole mount










### PublicLine

-  11 - 22 kW
-  2 Connectors
-  Socket
-  UMTS / GSM
-  OCPP Protocol
-  RFID Reader
-  Free standing



### Iqon

-  7 - 22 kW
-  2 Connectors
-  Fixed cable
-  WiFi - BLE - LTE
-  OCPP Protocol
-  RFID Reader / QR / NFC
-  Free standing



## DC Charger

### Troniq 50

- ⚡ 50kW fast charging capacity
- ↕ Flexible architecture
- 💰 Tariff settings
- ✓ Universally compatible
- 🌐 Roaming
- 🔌 Utility power cabinet
- 🔌 Auto-retractable cables
- 🛠️ Easy transportation, installation and maintenance
- 🌡️ Advanced cooling and heating system
- 📞 Remote maintenance
- 📱 Smart queuing
- 🔋 Optional battery storage



### Troniq 100

New Arrival

- ⚡ 100kW fast charging capacity
- ↕ Flexible architecture
- 💰 Tariff settings
- ✓ Universally compatible
- 🌐 Roaming
- 🔌 Utility power cabinet
- 🔌 Auto-retractable cables
- 🛠️ Easy transportation, installation and maintenance
- 🌡️ Advanced cooling and heating system
- 📞 Remote maintenance
- 🔋 Smart charging capable



## DC High Power Charger

### Ultroniq

- ⚡ 175-350kW fast charging capacity Flexible
- ↕ architecture
- 💰 Tariff settings
- ✓ Universally compatible
- 🌐 Roaming
- 🔌 Auto-retractable cables
- 🔌 Liquid cooled cable
- 🛠️ Easy transportation, installation and maintenance
- 🌡️ Advanced cooling and heating system
- 📞 Remote maintenance
- 🔋 Smart charging capable









### Ultroniq

New Arrival

- ⚡ 175-350kW fast charging capacity Flexible
- ↕ architecture
- 💰 Tariff settings
- ✓ Universally compatible
- 🌐 Roaming
- 🔌 Auto-retractable cables
- 🔌 Liquid cooled cable
- 🛠️ Easy transportation, installation and maintenance
- 🌡️ Advanced cooling and heating system
- 📞 Remote maintenance
- 🔋 Smart charging capable



- Tenant / white labeling options for both mobile and desktop 
- Proposition configuration 
- User & account management 
- Integration with any CPO 
- API platform and integrations 
- Billing, invoicing & handling of charging transaction 



# Greencharge Platform

Easy, efficient, and insightful Greencharge Platform is a widely customizable platform that helps every charging point operator to easily manage and control all charging sessions, costs, and power consumption.



#### Hub/Satellite for cost effective operation

Operate multiple charging stations cost effectively with the Hub / Satellite configuration, which connects up to 20 charging points per location through a single communication device. This will substantially improve and facilitate the management of all charging stations.



#### Load Balancing for smart power distribution

Distribute the available capacity per location proportionally over all charging stations in use with the Load Balancing service. This service ensures that each car is optimally charged within the limits of your charging stations' and facility's capacity.



#### Peak Saving for overcapacity power

Prevent peak usage and avoid overcapacity fees with the Peak Shaving service. This service allows you to set up a maximum capacity for your charging stations during the day. This way, you ensure that you will not exceed the limits of your property's maximum capacity, even during peak hours.



# Smart Charging System

## Cost and energy saving services

Smart Charging defines all intelligent functionalities in our charging stations that help you to optimize the charging process, making it an indispensable feature for operators of multiple charging points.

Smart Charging creates and distributes the available power in an efficient and flexible manner. Thanks to this, you will be able to avoid unnecessary costs such as overcapacity fees charged by grid operators, and you will get the most out of your charging stations in case of limited power capacity, any time, any place.

### Load Balancing

Load Balancing prevents overcapacity, by distributing the available capacity equally over all charging points at a given location. This makes it an indispensable Smart Charging feature for anyone that operates multiple charging points at a location with limited power capacity. If this situation is applicable to you, EVBox and your installer can offer you this service upon request.

### Priority Load Balancing

Priority Load Balancing distributes the available capacity in a more flexible manner than the “traditional” Load Balancing. This means that the 5th car in the infographic above, will now be able to start charging right away, even if the scenario remains exactly the same. For the end-user, Priority Load Balancing influences the way the car’s charging, as well as the LED status indication and any in-app notifications that informs the end-user of his/her charging status.

### Here’s how it works in practice:

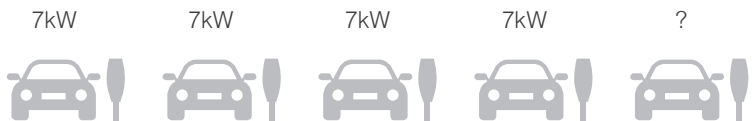
1

here are 5 charging points at this facility. There are 4 cars charging. This facility has 28kW available in total. We always make use of the full capacity. So in this case, 4 cars start charging at 7kW each.



2

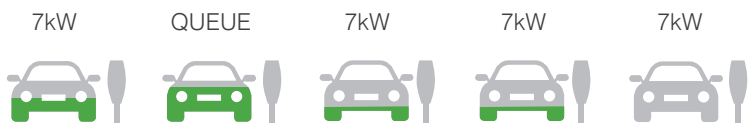
The 5<sup>th</sup> car enters and needs to charge at a minimum of 7kW. This would require an availability of 35kW in total. But we only have an availability of 28kW in total. How do we solve this?



3

We evaluate the charging status of each car within just 2 minutes. Now we see that the 2<sup>nd</sup> car has consumed the most. So we queue the 2<sup>nd</sup> car, to allow the 5<sup>th</sup> car to start charging.

**NOTE:** If your car is queued, the LED ring flashes yellow. Your car app notifies you that your car has stopped charging. Don't be alarmed, your car will start charging again shortly.



4

Once every +/- 15mins, we evaluate the charging status of each car again. This time, we see that the 1<sup>st</sup> car is fully charged. So we release the 2<sup>nd</sup> car from the queue. The 2<sup>nd</sup> car starts charging again.



