

# What it takes to run an EV charging business

EV Charging Business Guide



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**Charging services are a must for EV drivers whenever they're on the move. They'll choose businesses based on where they can charge up.**

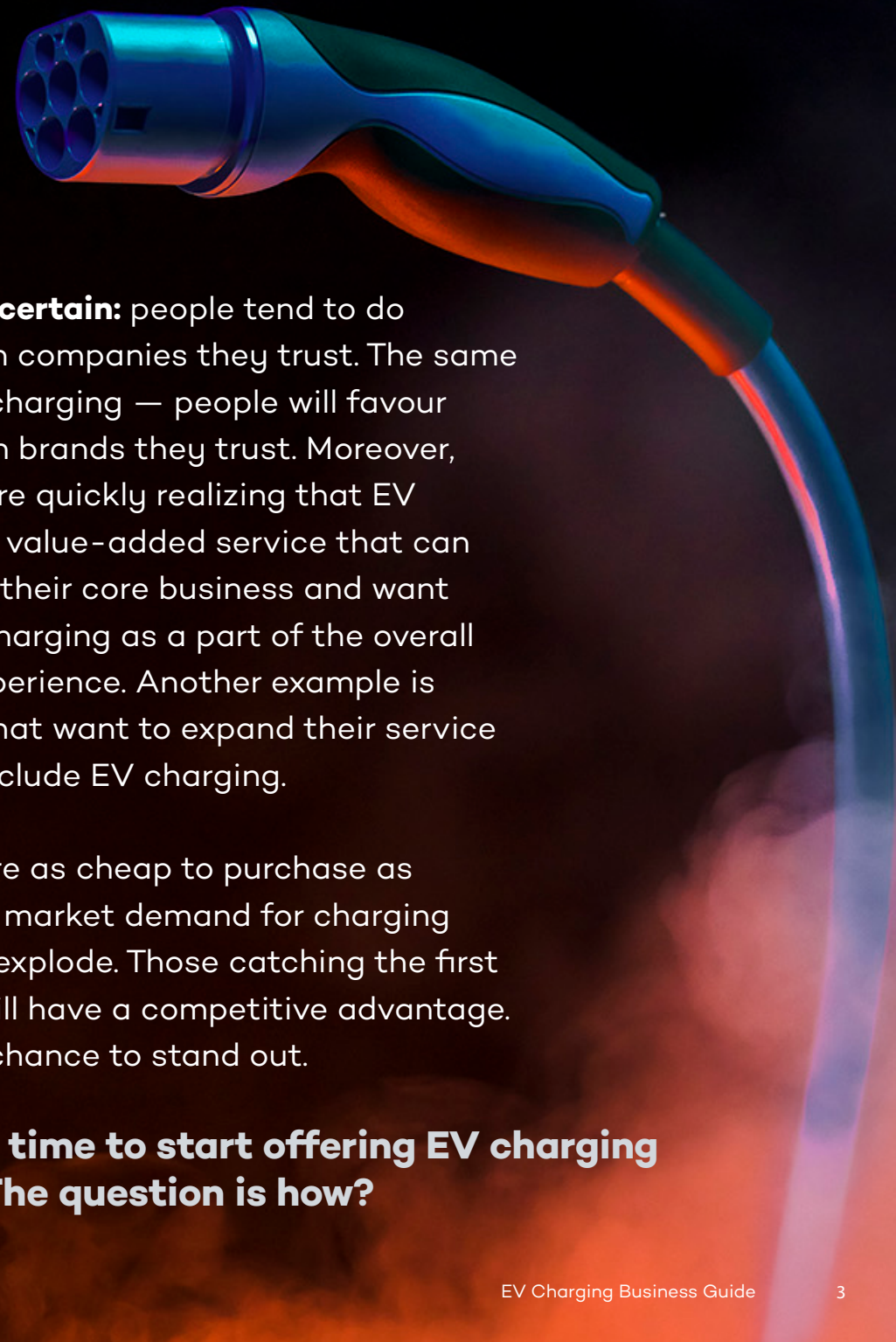
New electric car models are springing up and the price parity between internal combustion engine (ICE) cars and electric vehicles (EVs) is predicted to be reached within the next couple of years (BloombergNEF).

**Electric cars offer a once-in-a-lifetime opportunity for companies seeking new business opportunities.** EV charging is a good example: Charging is a must-have service for EV drivers anywhere they travel. Customers will choose services based on where they can charge. Others will lose revenue and customers. It is no wonder that charging is becoming an integral part of many consumer businesses – from shopping centres and restaurants to hotels and from energy companies to petrol stations.

**One thing is certain:** people tend to do business with companies they trust. The same goes for EV charging — people will favour charging with brands they trust. Moreover, companies are quickly realizing that EV charging is a value-added service that can complement their core business and want to offer EV charging as a part of the overall customer experience. Another example is companies that want to expand their service offering to include EV charging.

When EV's are as cheap to purchase as ICE cars, the market demand for charging services will explode. Those catching the first customers will have a competitive advantage. Now is your chance to stand out.

**Now is the time to start offering EV charging services. The question is how?**



## 1 EV charging market players

Traditionally, the EV charging industry actors have two different roles, with two approaches to the market: The first one is called a charge point operator (CPO) and the second one is called an e-mobility service provider (EMP).

Simply put, a CPO owns the charging infrastructure and an EMP owns the end-users and their services.

These roles can be separate, or one market player can act as both. Let's take a quick look at the lives of traditional EMPs and CPOs.

## What are the roles?

### Electric vehicle charging business roles

#### 1. Charge Point Operator (CPO)

*Manage charging infra – your own or someone else's*

- Operates charging points
- Ensures EV networks run smoothly
- Manages diagnostics and device maintenance
- Determines station pricing and handles invoicing

#### 2. E-Mobility Provider (EMP)

*Engage EV drivers by providing access to charging points*

- Enables access to charging points around a geographic area
- Provides the charging service to EV drivers — drivers are able to locate available charging stations, charge, and pay with various methods.



## EV charging business

### Let's get started.

Traditionally, operating a charging service comes with a heavy load of responsibilities for both EMPs and CPOs: customer support, technical problem solving, payments, customer credit risk, roaming services and charger management to name a few.

Let's take a closer look at what is required to get an EV charging business up & running.



### Get the right hardware – *what you need to know when choosing a charging station*

Naturally, a charging service operator needs a charging station. And when it comes to hardware, there are a lot to choose from. Not all charging devices are equal. Before deciding what charging station is the best one, the e-mobility service provider needs to consider several things such as price, quality, guarantees, smart features, country specific requirements and the logistics process.

**Firstly**, a regular device should always have a Type 2 socket. Fast charging devices should preferably include both CCS Combo and CHAdeMO sockets.

**Secondly**, you need to pick a device that fits the location and the needs of your customers. For instance, for a busy passing point, a fast charger might be the best option. Fast charging devices cost more, but end customers are also ready to pay more for the rapid charging experience.

**Thirdly**, OCPP, Open Charge Point Protocol, is the de facto standard in the EV charging industry, powering a connection

between hardware and software. One of the most important aspects to take into consideration when choosing a charging service is to make sure that your chosen devices and service follow the same version of the OCPP standard. A backend service following the OCPP protocol can be integrated with almost any charging device in the market that follows the OCPP protocol.





### **A cloud-based service** *it's a must have*

A charging station's most important feature is the ability to connect the charging station to a cloud-based service. As your stations are managed in the cloud, new features can be easily updated depending on the needs of today and tomorrow. Smart charging is future-proof, cost-efficient, safe, flexible, sustainable, fast and can be controlled remotely.



### **Smart energy management** *save money, save the environment*

What about grid capacity? Properly installed charging stations do not cause a burden to the electricity system or the local grid. With smart connections, the maximum charging power can be controlled remotely. Cloud-based energy management is future-proof as it is not restricted by the hardware vendor.

Stations can also be controlled as a group with Dynamic Load Management (DLM)

tools. A charging point owner can set a maximum total charging load for a selected group of charging stations. With load management features, charging point owner don't have to worry about the electricity capacity of a building, since the charging power can be controlled depending on how many cars are charging simultaneously.

And about future proofing: did you know that EVs are essentially giant batteries on wheels. EVs make it possible for energy to be stored and used at a later time. This is called vehicle-to-grid technology, or V2G. Charging time can also, for instance, be optimized based on solar or wind power production.

### **[Learn more about V2G technology](#)**

*Smart charging  
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## Day-to-day operations

### Let's run a successful business.

Choosing the right hardware with smart features is of course only the first step. Charging stations need to be set up and managed 24/7.

Let's take a look at some of the most common tasks that an EV charging service operator needs to take care of.



### Device set up & management

First the EV charging station service operator needs to set up the devices, implement station integrations, and install firmware. The bigger the customer, the more charging station models and firmware setups need to be managed.

When the station is up & running, it requires regular digital maintenance, updating, error maintenance and health checks. In addition, both EMPs and CPOs usually need to deal with the entire system management - setting the price schemes, POI data management, diagnostics and monitoring. In a nutshell, an operator needs to define the parameters and make sure everything runs smoothly.



### Telecom integrations & set up

GSM, 2G, 3G, 4G, 5G, and/or (w)LAN modules are embedded in the professional charging stations where certain providers' SIM-cards are installed. This system is connected to a telecom operator, which is configured with provider-specific setups, to the platform's back-end system. Preconfiguring charging stations is essential to avoid costly field work and enables a plug-and-play setup of new charging stations.



### National & company-specific integrations and compliancy

Each country has different information services that companies are obligated to integrate with.

For example, in France, there is requirement to submit CDRs (charging detail records) to a centralized database to get government funding for EV charging infrastructure. Naturally, the EV charging service operator needs to take care of VAT and other national requirements, too. Selling charging in Europe requires local VAT registration. This is crucial when handling cross-border transactions in multiple countries.





## Payments & invoicing processes

An EV charging service operator also needs to take care of the billing and payment system. Selected payment system provider integrations need to be installed, operated and maintained to enable successful payment transactions. There are increasing requirements for transparency, compliancy and efficiency.

Payment transactions often cause unnecessary headaches: the service operator has to deal with unpaid bills, credit risks and dunning. Even a small credit loss affects the profitability of operations.



## Roaming agreements & integrations

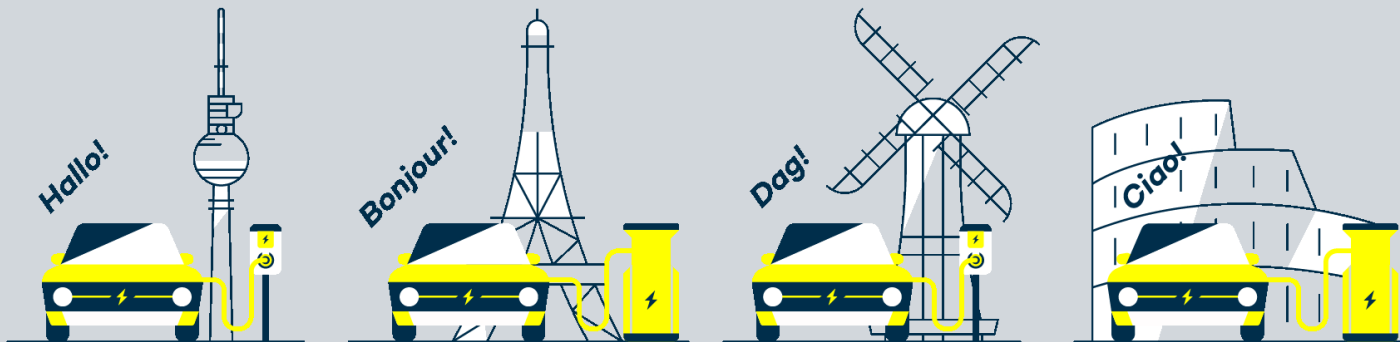
Roaming refers to an EV driver's ability to use various charging stations even if they're only a customer of one service provider.

Through roaming, you'll give your customers access to thousands of stations. Additionally, your stations will be added to the public EV maps, which is visible to thousands of EV drivers, which means more customers for you. There is a general business requirement to enable roaming in charging. This means that the service provider needs to make agreements about the roaming and take care of several integrations to different platforms. There are different roaming solutions with different technical solutions.

## What is roaming in EV charging?

Roaming refers to an EV driver's ability to use various charging stations even if they're only a customer of one service provider. In practice, it means that electric car drivers can use charging stations with just one customer account. Being a customer of one charging network opens up access to thousands of charging stations. This is all thanks to roaming, enabled by service providers coming together in order to provide their customers with the optimal user experience.

[Learn more about roaming](#)





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## Services for end-users - the EV drivers

EV drivers don't just need to charge, but they need to be able to find stations, pay and identify themselves at stations, and view and edit their charging details.

The 21st-century user experience isn't just about fulfilling the obvious needs but bringing something new into the EV charging experience.

**Let's take a look at what is needed to keep your customers happy.**



### Call centre & problem-solving

How do I register? When should I call the incident hotline? Why is my car charging slower than the maximum speed? EV drivers have a lot of questions - and often they expect to have answers right away. They also often require expert level technical support and problem solving. This means that a call centre service is a necessity.



### System & technical support

Operating a charging network also requires deep technical understanding of software and hardware elements. This includes system-level support and a technical understanding of hardware issues. A digital approach to support is important for remote diagnostics, rebooting and firmware updates to mention a few. Clear service-level agreement (SLA) models in turn keep the end-user experience on a high-level.



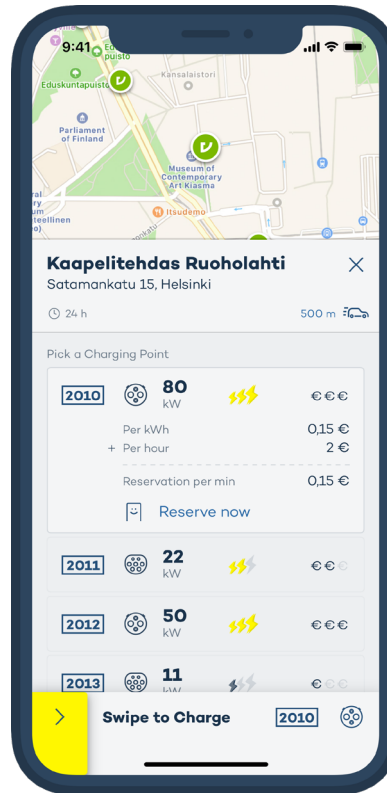


## Mobile application & other digital tools

EV drivers expect an effortless experience and EV charging services involving consumers should always utilize the latest digital consumer platforms. But, a 21st century user experience isn't just about meeting the obvious needs, but it's about bringing something new and valuable to the table. Charging a car probably isn't too fun, but with digital tools it can be a smooth and informative experience — and can even bring a smile to an EV driver's face. Consumers need incentives to take part, but also engaging and trendy services to keep doing so.

The best kind of services offer consumers new tools before they even realize what is needed. For now, this means creating a great user experience with mobile applications at the core. Mobile apps are integrated to the platform and in 3rd party services. Global mobile app platforms (Android, iOS) and mobile phones evolve constantly which means continuous development and support are required for a competitive EMP solution.

As the industry and consumer electronics develop, a seamless user experience is created with the latest gadgets, wearables, mobile devices, the car itself and the charging infrastructure. A cloud-based EV charging service enables constant development - thus today's services can be updated to respond to future needs as well.



## IT infrastructure & information security

EV charging, like any new technology, involves a lot of information flow. Moreover, charging involves many parties and data with high security requirements, especially for data which is used in actively managing the grid.

That is why it is best for an EV charging service operator to choose an ISO- and SOC2 certified partner. ISO27001 is an internationally recognized information security standard that ensures that strict security controls are in place to protect customer data and the operation of products and services are secure.

SOC 2 is an internationally recognized auditing standard developed by the American Institute of Certified Public Accountants (AICPA). SOC 2 are examination engagements performed by an external service auditor that thoroughly examine all the controls and processes involved in storing, handling and transmitting data securely.

## EV charging business as a service

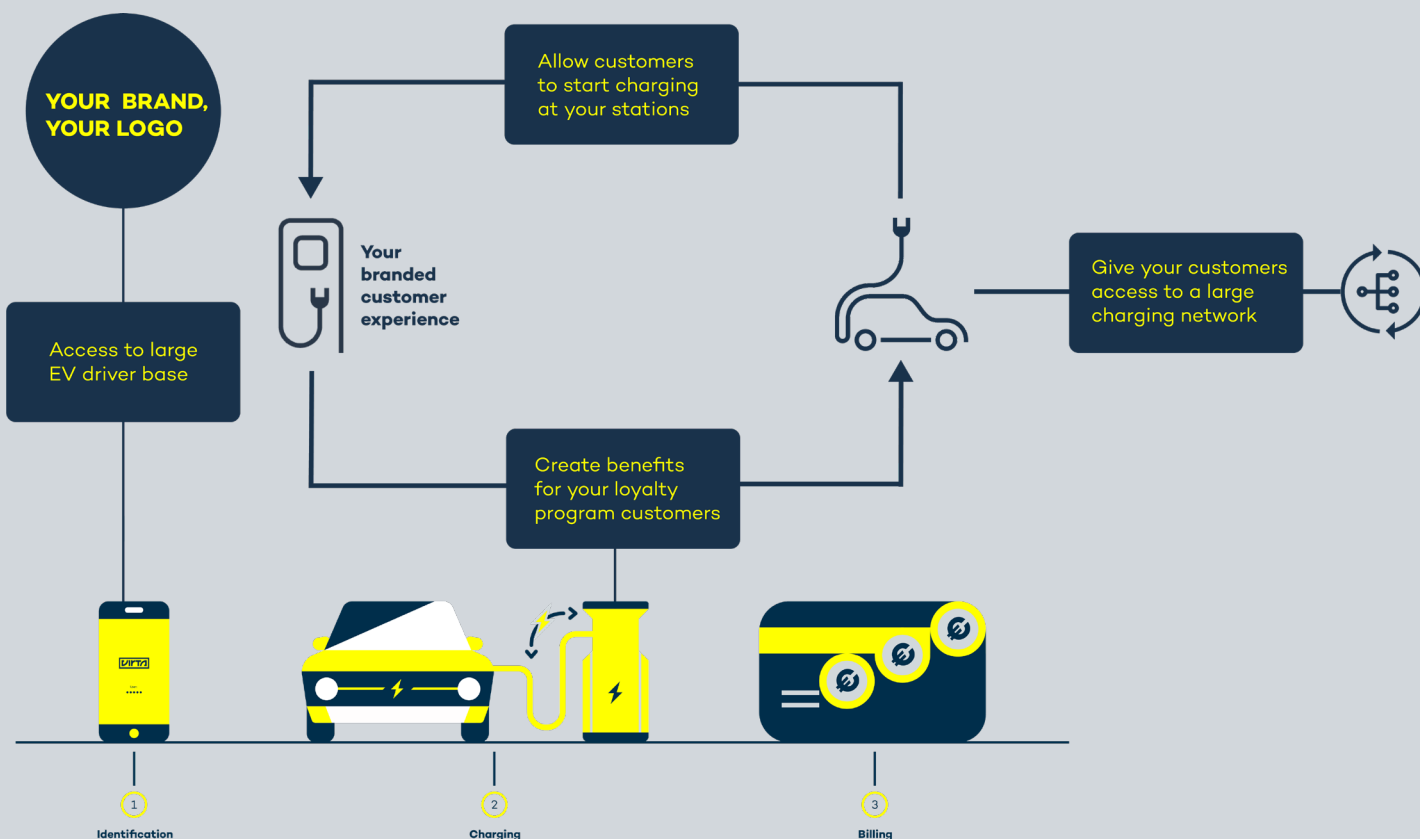
To summarise, a traditional EV charging service provider has a lot of responsibilities. For many these tasks may seem too difficult and too costly to handle. But there is also an alternative: *charging business as a service*.

**Minimum effort,  
maximum benefit.**

## Virta's Branded Solution is a comprehensive service package

It gives businesses the benefits of being an e-mobility service provider without the responsibilities. With Branded Solution, customers have the ability to offer EV charging as part of their unique branded customer experience while Virta handles all the complexities of running the service. This alone creates a lot of value through reduced overhead costs.

For a majority of companies, EV charging is not part of their core business. So why not outsource it just like payroll, accounting and other non-core functions? Outsourcing suits anyone who wants to start providing EV charging services and is looking for an effortless, fast and cost-efficient solution that brings together the best of both worlds.





## Your brand, powered by

**With the Branded Solution, customers can combine EV charging offerings with the existing business and brand.**

The off-the-shelf Virta Branded Solution includes a branded registration page, branded one-time payment site and the branded charging stations. Basically, all customer touchpoints are customized based on your brand - languages, currencies, logos, colours.

In addition, the Branded Solution customers have access to the EV driver data of their brand-registered end-users, and they are able to combine the service to their own service offering outside the charging scope. This means that they can offer future campaigns and promotions to their registered EV drivers.

This solution can be tied into your other business lines enabling you to resell charging services to your customers with your brand.

## Effortless and efficient

**The keyword is easy.** We take care of everything. Virta has selected the best charging station suppliers and ensures that you get the best possible devices for your location and needs. We take care of the station management and health checks. Both billing and payments systems are included in the service and run automatically. With Virta's Branded Solution you can set up the pricing for your customers as you wish by using different ready-made tariffs. Virta takes care of the rest. Prices set by the charging station owners are automatically implemented for end-users and visible in the apps, and the revenue is transferred to Virta's customers monthly.

Paying and identification are possible with various methods. The mobile application includes everything an EV driver needs. With roaming, your charging stations are available for all EV drivers in Europe.

In case there are any issues, Virta's team of expert technical support is always ready to help customers. A large database of FAQs and support documentation is also included in the service.



# Peace of mind included

## **The Branded Solution helps your business to grow in a sustainable way.**

Virta markets your stations to Virta's customers, Virta's roaming customers and roaming network's customers. You get more users, more transactions and more income. Simultaneously your end customers enjoy access to over 100,000 charging stations through Virta's large roaming network. We empower you to thrive as members of Virta's leading platform.

Virta's Branded Solution customers don't have to worry about monetisation (VATs, roaming contracts etc.) tasks - they are all included in the service. Virta invoices EMPs for their transactions and manages the collection, dunning and credit risk. Virta carries all financial and legal EV driver service risks involved. Virta is an ISO-certified EV charging platform. In addition, Virta has achieved SOC 2 Type 2 certification for Security and Availability.

Virta is also the leading provider of smart energy management features. [Virta Energy services](#) are advanced solutions for energy utilities and are sold as separate projects.





## Charging Business as a Service: Virta Branded Solution takes care of all the complexities



Back-end  
system



End-user  
management



Call center



Branding



Dynamic Load  
Management



Payment  
services



Price setting



Network &  
updates



Credit risks



IT security



Hardware  
selection



Telecom fees



Error  
management



Charger  
maintenance



VAT &  
roaming



**All the benefits, none of the hassle.**

**Bring your brand to the forefront of EV charging - now easier than ever.**



# What it takes to run an EV charging business

Want to know more about how to run a successful EV charging service in an easy way?

**We provide the service, you make it happen.**

**Contact us**

**[info@virta.global](mailto:info@virta.global)**