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1. Saascharge EV Charging solution

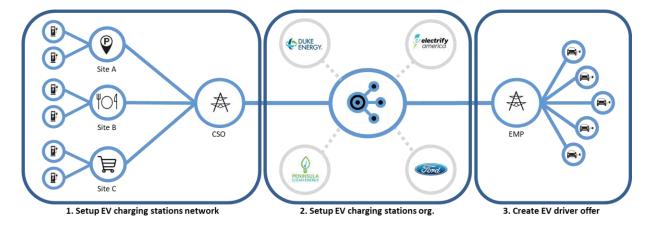
Saascharge is a cloud-based software solution that manages commercial charging networks for electric vehicles. The EV charging solution is composed on a full set of modular services that allows industry actors such as utilities, restaurant chains or carmakers to become charging market players and operate and bill the utilisation of charging stations.

Functionalities:

- Multitenant architecture
- Operational console supporting OCPP functionalities
- Support current and future charging infrastructures
- White-label applications for EV drivers
- EV charging transaction billing
- Open platform which can be interconnected with major EV eRoaming and charging networks
- Geo-advertising solution to promote EV charging station location

1.1 EV charging solution

The Saascharge solution has been founded to support companies willing to become EV charging market players. This is possible thanks to a modular service platform which includes a set of services to create, operate and bill charging transactions. The main differentiator of the platform is the eRoaming solution to interconnect external charging station networks and make EV charging available to any drivers.



The solution is based on 3 modules:

- Charging station operators: Management of EV charging networks
- eRoaming: Interconnection of EV networks
- eMobility providers: Management of EV drivers

1.2 Multitenant access

The platform includes a multitenant solution that can be accessed by multiple types of users and companies.

The solution allows the creation of different user groups:

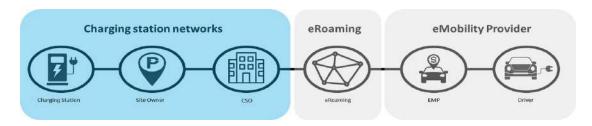
- Manage client contact
- Operate charging stations
- Billing management

2. Charging Station operator module

2.1 Charging station operator solution

This module allows you to create and operate charging station networks independently. You can order any kind of charging station hardware compatible OCPP, install it yourself or mandate a service partner (electrician) and simply register it on the Saascharge CSO (Charging Station Operator interface).

- Solution to create and operate charging station networks
- Management of sub-clients (Site owners/parking owners)
- Financial compensation for Site owners



2.2 Type of chargers

Saascharge does support 3 types of charging stations

Public: Charging stations that can be viewed and used by any EV drivers based on the EV

charging network agreement. E.g. Municipalities, Retailers, Restaurant, Hotels...

Semi-Public: Group of charging stations that can be used by a limited group of EV drivers. E.g.

Companies with employees, Apartment with shared charging stations.

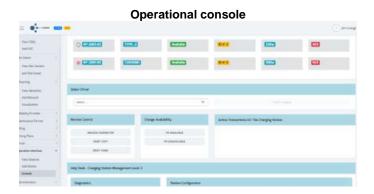
Private: Charging stations that can only be used by one EV Driver. E.g. Tenant or Landlord which

use a shared parking environment with specific parking space.

2.3 Operational console

The operational console enables the management of EV charging stations by different instances:

- 1st level help desk which can be handled by call centre agents
- 2nd level help desk which enables to operate higher functionalities





2.4 Dashboard

The dashboard section gives you an interactive and direct way to see the evolution of your EV charging network.

The solution does include the following statistics:

- Selection per charging station per sites
- Charging transactions per day
- Availability of charger
- Revenue per chargers
- Average Sessions by Time of day



Dashboards are constantly adapted based on our client's feedbacks.

2.5 Supported EV charging stations

Saascharge does support all EV charging stations compatible with the OCPP protocol 1.6 (JSON & SOAP). Further releases of the protocol are foreseen depending on the market. As a principle, the company does support any charging station manufacturers. The connection to 2 charging station manufacturers is included in the standard offering. Any other charging station manufacturers can be added with additional charges.

2.6 Site owner view (Client view)

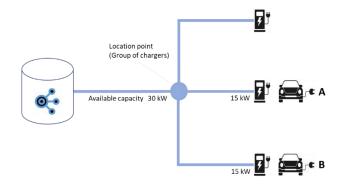
Site owner (also called site host) is a profile that you can create for your charging station clients. This profile allows your clients to see the status and consumption of their charging stations.

2.7 Smart load distribution*

The smart load distribution channel provides a capability to group chargers and manage the load per charging stations.

This solution provides the following competences:

- Determine a maximum power output per charger or group of chargers.
- Load balancing: Distribute power across a group of chargers dynamically depending of the usage
- Managing maximum output with automatic limits depending on the overall usage.
 Safe mode usage



The solution enables the connection of multiple APIs to connect with EMS (energy management systems) to provide demand response solutions and other microgrid integration for V2G (Vehicle to grid).

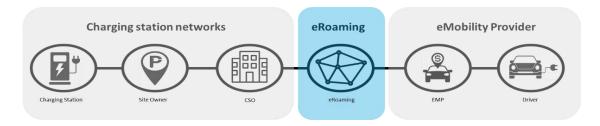
2.8 Charging station Operator supported functionalities

Product	Functionalities	
Client interface	Creation of Charging station operator roles	
	Creation of Site owners	
	Creation of Charging stations	
OCPP functionalities	Start transaction/Stop transaction	
	Unlock connector	
	Remote start transaction/Remote Stop transaction	
	Diagnostics Status Notification	
	Firmware Status Notification	
	Change Availability	
	Change Configuration	
	Clear Cache	
	Get Configuration	
	Get Diagnostics	
	Reset	
	Meter Value	
Load management	Power output setting	
	Safe mode setting	
	Load balancing	
	Smart energy distribution	

3. eRoaming

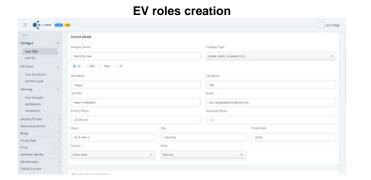
3.1 eRoaming solution

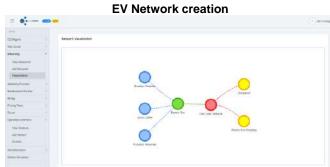
Saascharge eRoaming allows the interconnection of charging station operators/networks (CSO) with eMobility providers (EMP) selling services to EV drivers. The EV service platform does manage the authorization protocol and financial clearing between charging station operators (CSO) and eMobility providers (EMP). This open solution will be open to any other charging station networks (CSO) or any EV driver eMobility providers (EMP).



3.2 EV network creation

The solution allows to create any kind of charging station setups.





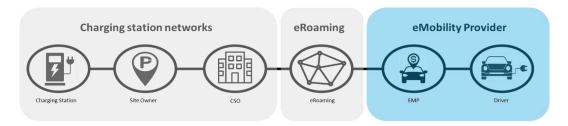
3.3 eRoaming supported functionalities

Product	Functionalities	
Private network creation	Creation of multiple networks for (e.g. Cities, County network)	
	Private networks (Corporate)	
Contracting	Interface to negotiate contracts between CSOs & EMPs	
Data exchange protocol	Protocols of communication between backends	
Billing	Transaction management (Validation, valorisation)	
Invoicing	Cash management	

4. eMobility Provider

Saascharge eMobility provider module allows you to create your charging service for EV Drivers. It means that you can become a service provider, commercialise your EV services and benefit from charging revenue directly. The solution is a full set of customisable white-label applications such as Smartphone application for EV Drivers that you can customise (Whitelabel with your logo and fonts).

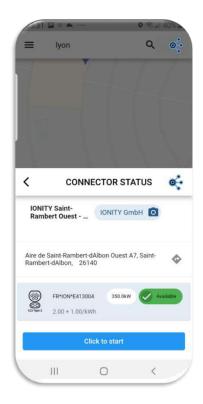
- Smartphone (Whitelabel) interface for drivers
- EV driver customer portal
- Charging transaction billing

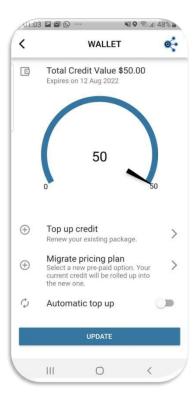


4.1 Whitelabel Smartphone application

Logo and fonts of the applications can be adapted according to clients wishes. The structure of the application can be discussed in Product Roadmap meetings or adapted individually on a project basis.



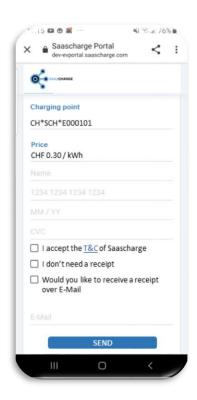




4.2 QR Direct solution

The QR solution is an alternative for EV drivers to charge without having to download a smartphone application. Client to only have to scan a QR code and pay for the transaction.

The QR code is a webpage for smartphone to enable a direct charging experience. Client can simply pay the transaction over credit-card to activate the charging point directly.



4.3 eMobility provider supported functionalities

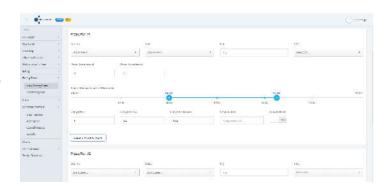
Product	Functionalities	
Access management	 Smartphone access RFID access Plug & Charge support QR – Direct web based solution 	
Smartphone application	 Whitelabel branding solution (Smartphone application) Revenue management (Credit-card link) Smart pricing concepts Pricing (per charging network, type of charging stations) and multiple pricing types (kW, minute and setup) Pre-Pay and voucher solution Interface with external ERP for billing and accounting Geo-marketing solution with self-advertising creation Charging station management (Start / Stop) Client registration Geographical Charging Station coordinates for application and vehicle GPS Management of Favourite (Charging stations) Credit card registration / Payment Transaction reporting (History) Client Wallet Support section 	

5. EV charging Pricing/Billing

5.1 Pricing interface

The Saascharge pricing interface allows you to define EV charging prices for your clients the EV drivers, site owners/site host and among other EV charging networks. It is possible to set up prices with various criteria's (time-based, kW power output, locations) and pricing types (per transactions, per kWh, per minutes...).

It is possible to upload an unlimited list of price parameters which allows to create complex price schemes.

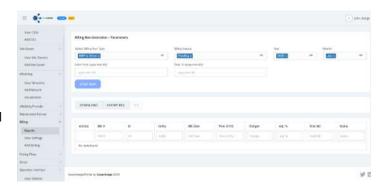


5.2 Billing interface

Saascharge solution manages all financial clearing between EV charging actors within the following billing runs:

- · Retail: EV driver billing by EMP
- Wholesale: EMP billing by CSO for external network billing or internal accounting
- Site owner: Site Owner compensation (credit note) By the CSOs for the consumption made by EV drivers on site owners charging stations

The Solution can be interfaced on a project basis with any type of ERP systems for the invoicing or via a credit card merchant account solution (included in the offer) that enable to bill and invoice EV drivers with credit card directly.



5.3 EV charging pricing & Billing parameters

The Saascharge EV charging platform does support a variety of pricing plans depending on roles and demands.

Types	Details	
Pricing calculation	Per kWh	
	Per minutes	
	Per sessions	
	Session + minutes	
	Session + minutes + kWh	
	 VPN functionality enabling a driver to charge at his own location without any billing (e.g Site owner personal usage) 	
Pricing parameters	 Power output of the charging station (e.g. > 50 – 100 kW) 	
	Per CSO	
	Per EMP	
	Per Site owner	
	Per EVSE	
	Per Area (Area, County, Postcode)	
Pricing applications	Per EV driver	

6. Service Level Agreement (SLA)

Service availability of the Saascharge platform is 99.5%. Saascharge is looking forward to offering the best potential service and would manage any interruption immediately. Saascharge ensures a "Mean Time to Repair" of all tickets opened by our customer with the following compensation scheme.

MTTR	Penalties*
6h	1%
12h	2%
24h	3%

^{*}Penalties are based on all monthly recurring fees (licenses and maintenance costs).

Support/Maintenance:

Type of maintenance	Time	Communication
Standard software maintenance	5/7 days 8 AM to 5 PM	Email
	Excluded national US holidays	Phone
Extended software maintenance	24h/7 days	Email
	Included national US holidays	Phone

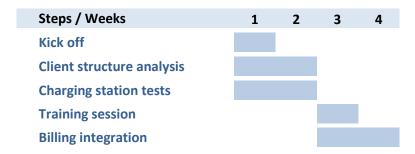
Time zone:

Saascharge supports the following time zone: Greenwich Mean Time (GMT), European Central Time (CET), Central Standard Time (CST), Pacific Time Zone (PT), Malaysia Time (MT), Singapore Standard Time (SST)

7. Project organisation

An onboarding project can take from 2 weeks to 3 months depending on the level of integration required (e.g. ERP integration) or due to integration or migration of infrastructure. The initial project setup shall decide the exact length of such a deployment.

Here is an example of a deployment timeline based on a scenario with 1 charging manufacturer and credit card billing without needed billing integration.



Project planning starts at the contract signature and the billing starts at the delivery of the first successful connected charging station. The testing period is considered until a charging transaction can be operated from the EV user to the backend with the Saascharge Smartphone application.

8. Solution benefits

The main benefits of the Saascharge solution are the open concept enabling to create and integrate any kind of charging station networks. This includes the following advantages:

- Interoperability: eRoaming allows the interconnection of any charging station networks with any EV drivers. The platform is based on open protocols OCPI
- Private network management with innovative pricing management which enables any type of corporate network
- Smart pricing management: Unlimited capability with network-to-network plans without any endless whitelist concepts
- Charging promotional concept: Capability to promote EV charging points with the Geo-advertising feature

The Saascharge solution has been founded with the concept to build up sustainable benefits for any stakeholder of the EV charging platform. It is therefore important to integrate our client in the future development of the company.

Annex: Glossary

Names	Definitions		
CDR	CDR: Charging Detail Records are the charging transaction detail that is produced after every charging process		
Charge Point	The Charge Point is the physical system where an electric vehicle can be charged. A Charge Point will have one or more connectors		
Charging Station	The unit where an electric vehicle is charged. A Charging Station consists of one or more charging spots (EVSE)		
Connector	The term "Connector", as used in OCPP specification, refers to an independently operated and managed electrical outlet on a Charge Point. This usually corresponds to a single physical connector, but in some cases, a single outlet may have multiple physical socket types and/or tethered cable/connector arrangements		
CPMS	Charge Point Management System is the name of the Central System or back office controlling the Charging Points		
CPO or CSO (Operator)	Charge Point Operator: Mobility partner who operates the charging infrastructure. They are sometimes called CSO (Charging Station Operators too)		
CS	Acronym for Charging Station		
EMP or MSP (Provider)	Electric Mobility (eMobility) Provider or Mobility Service provider: Mobility partner who provides eMobility services to customers		
ERP	ERP is the acronym for Enterprise Resource Planning (CRM, accounting system, human resources)		
EV	Acronym for electric vehicle		
EV market players	EV market players represent all market players: Driver, EMP, eRoaming, CSO, Site owner and charging stations		
EVCO	Electric Vehicle Contract: Contract between an EMP and a customer		
EVCOID	Electric Vehicle Contract Identifier		
EVSE	Electric Vehicle Supply Equipment: EVSE is a synonym of Charging Point. EVSEID Electric Vehicle Supply Equipment Identifier		
EVSEID	Electric Vehicle Supply Equipment Identifier. An EVSEID identifies a Charging Point		
M2M	Machine to Machine are specific SIM cards used for data exchange between two machines. We do use these cards between Central System and Charging Stations		
OCPI	Open Charge Point Interface protocol (OCPI) is an open protocol supporting connections between EMP who have EV drivers as customers and CSO who manages Charging station. This protocol enables eRoaming between EV charging networks		
OCPP	Open Charge Point Protocol (OCPP) is an application protocol for communication between EV Charging Stations and a central management system, also known as a Charging Station network		
Site Owner or Site Host	Site Owner/Site Host: Site Owners or Site Hosts are the physical owner of charging stations		