



# GIREVE

## Interoperability of EV Charging



**GIREVE, the company**

## Timeline

### 2018-2019 - Development of our activity

Roaming: **+500k drivers** charging on **+75k charge points** in **20 countries** in EU  
ePOI: **+135k charge points description** including 70k with real-time availability

FULL EUROPEAN COVERAGE  
EXTENDED RANGE OF SERVICES



2018  
2019

2017

### 2017 - Roaming services

Launch of our Roaming services  
Interoperability platform for E-mobility operators

2016

### 2016 - EU Development

Development of our services  
throughout Europe

2014

### 2014 - Database creation

Launch of our ePOI services + Creation of an  
aggregated ePOI Database

2013

### 2013 - Creation

Creation of the company by  
5 stakeholders

# The company – Team & Shareholders

## GIREVE's organisation

### EXECUTIVE COMMITTEE



**Bruno  
Lebrun**  
CEO



**Sophie  
Duval**  
COO



**Jean-Marc  
Rives**  
CTO



**Vianney  
Devienne**  
CSO

- 23 employees based in Paris
- GIREVE's experts are dedicated to our core activities: **Innovation, Operations, Marketing**
- Additional flexible outsourced IT team (5 to 15 IT developers based in France)

### SECURED START-UP WITH SOLID SHAREHOLDERS



RENAULT



L'ELECTRICITE EN RESEAU



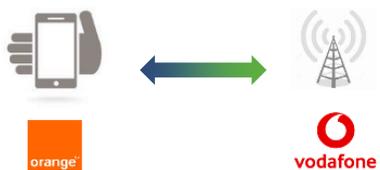
# Introduction to Roaming



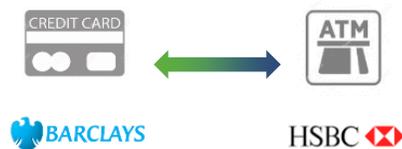
# Introduction to Roaming – Explanation of the concept

**Roaming:** ability for a consumer to use the services of network without dedicated subscription

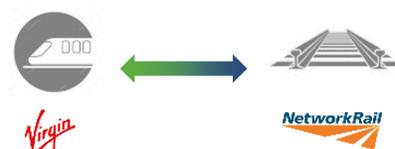
## Telecommunication



## ATM



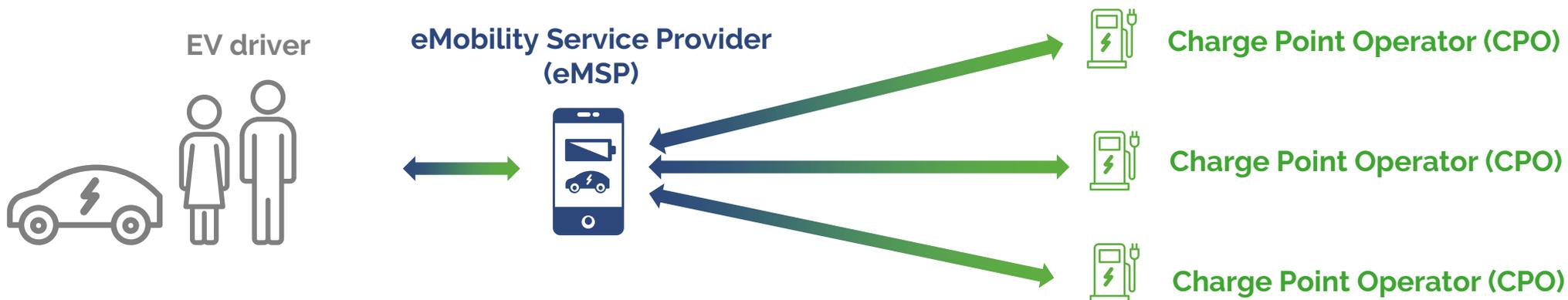
## Railway



## Toll



**Roaming in the e-Mobility sector:** ability for an EV-Driver to charge on charging stations, using only one subscription provided by one operator



# Direct payment brings kWh where an eMSP brings mobility service



## >80% of public charges in EU

- 1 unique subscription
- Aggregated EU coverage
- Connected services (App)
- Comes along with the EV

### eMSP Subscription plan



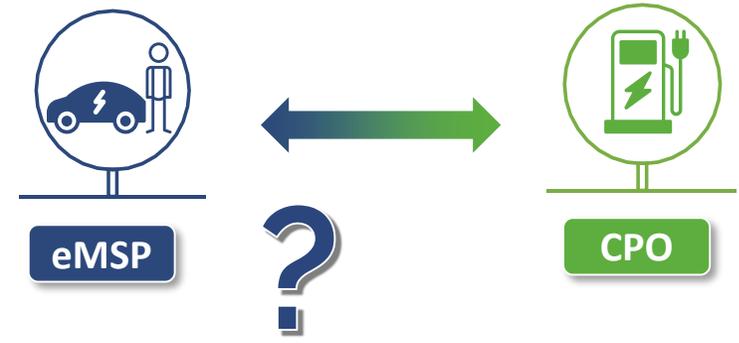
- 1 payment app per network
- No connected service
- Higher price

### Direct payment (anonymous)



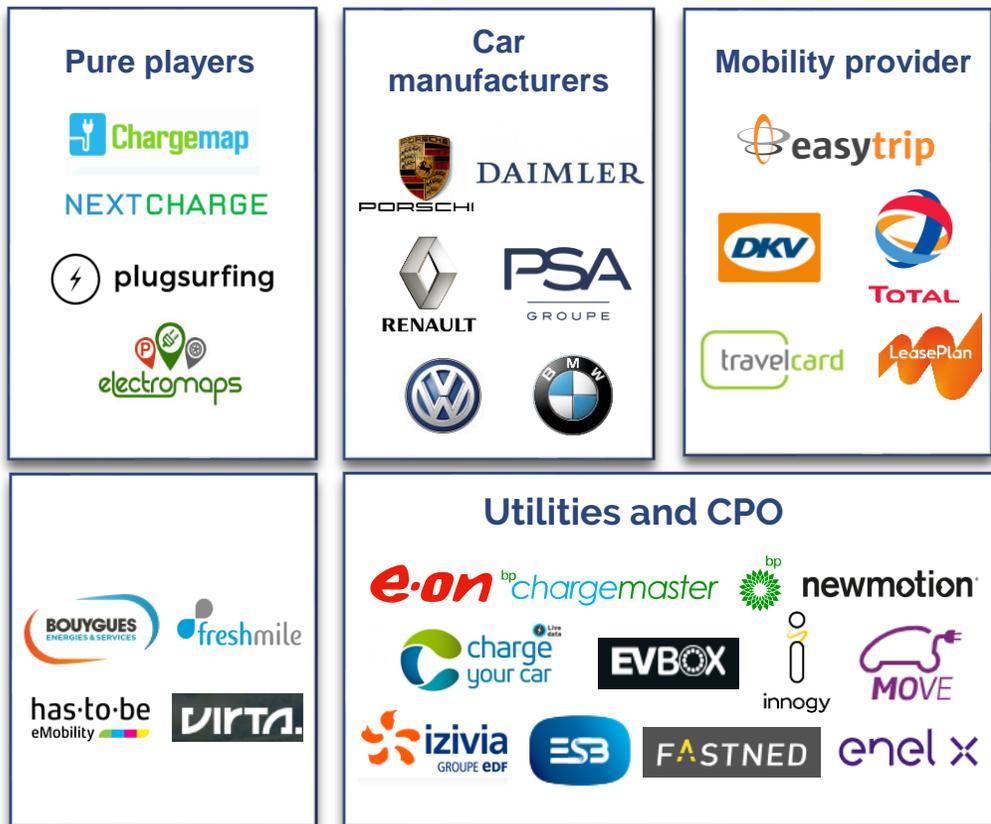
1. EV charging services require connected services delivered by eMSP
2. eMSP services require eRoaming capabilities

# eRoaming implies costly business relationship between eMSP and CPO



1. eRoaming requires complex and costly business relationship between a large number of eMSP and CPO (> 1000)

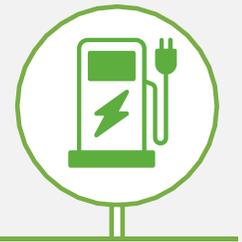
# eRoaming from an eMSP or CPO standpoint: "Make" or "Buy"?



Most of eMSP and CPO go for a mix of << make >> and << buy >> options

# Introduction to Roaming – GIREVE offers a one stop shop for Roaming

**GIREVE reduces the complexity between operators, to lower the total cost of roaming**



**CPO**

- Monitoring/Maintenance of physical charging points
- Management of user access
- Maintenance of physical network



**eMSP**

- Supplier of charging solutions to its subscribers
- Customer service
- Billing management

## Interest for the CPO

- Simplified contact with multiple eMSP
- Increased traffic without any additional cost
- Quicker ROI on installation fixed costs

## Interest for the EV driver

- Access to a European network with thousands of charging points through only one subscription plan

## Interest for the eMSP

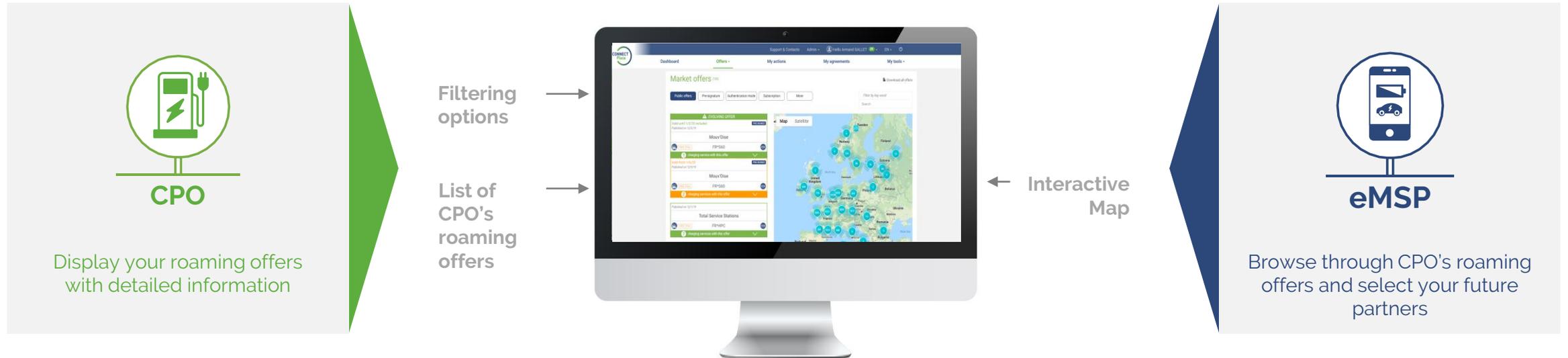
- Simplified contact with multiple CPO
- Access to a great number of charging points, removing the hurdle of mass EV adoption



## Business Services

- Setting up your Connect Place account
- Publishing & Selecting roaming offers
- Signing & Managing roaming agreements
- Messaging

**Connect Place:** publish, select, sign your roaming agreement in one place



## Key Features

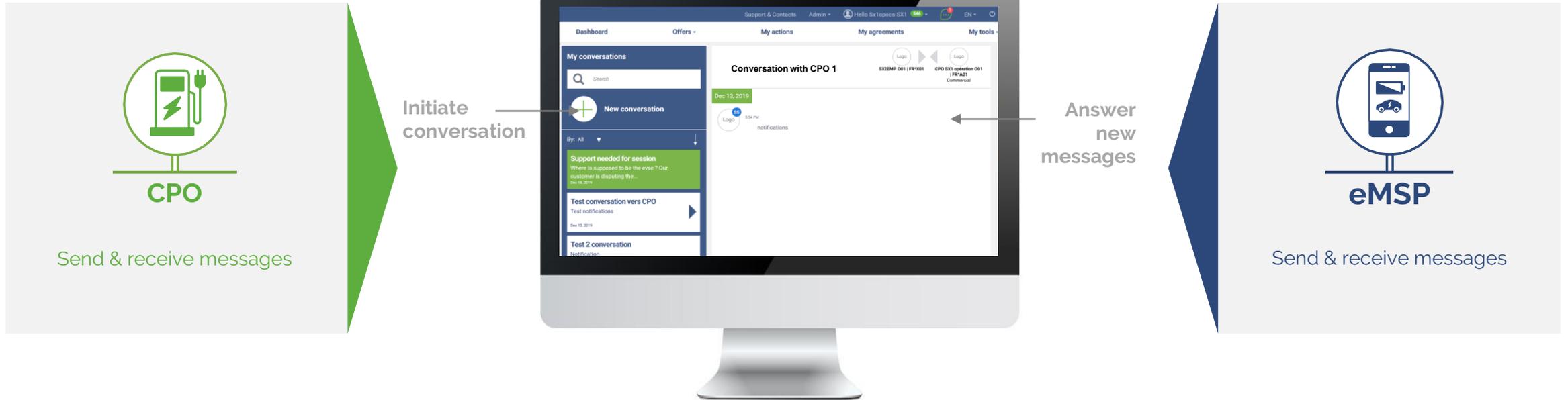
Set Up Your Account

Roaming Offers

Standardized Roaming Agreement Template

Messaging Services

**Messaging:** negotiate & exchange with future partners on the Connect Place



## Messaging

Reply to a discussion

Initiate a discussion to one partner



## Roaming Services

- Location
- Booking
- Charging
- Monitoring
- Messaging

**Charging:** Enable EV drivers to charge everywhere, no matter the network



## Charging services

Local & Remote authentication

Send/Receive Charge Detail Records

Action request (eMSP to CPO during a session)

Event report (CPO to eMSP during a session)

Intermediate CDR (CPO to eMSP during a session)

API for dynamic tariff data upload & reception of tariff change

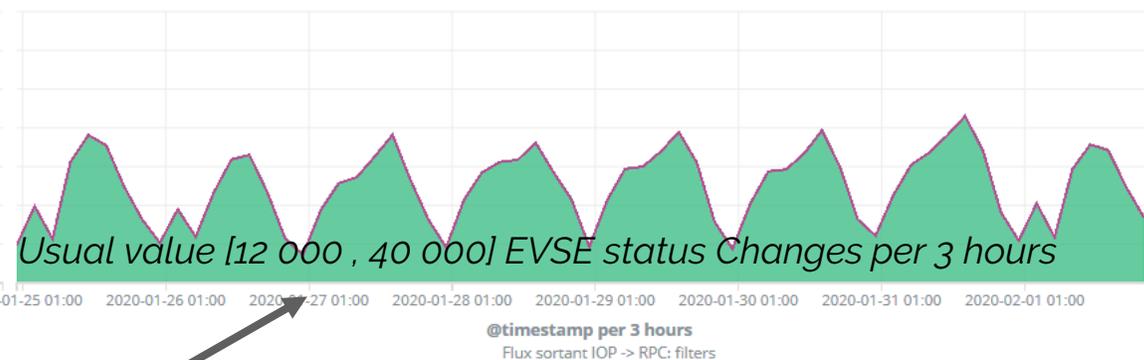
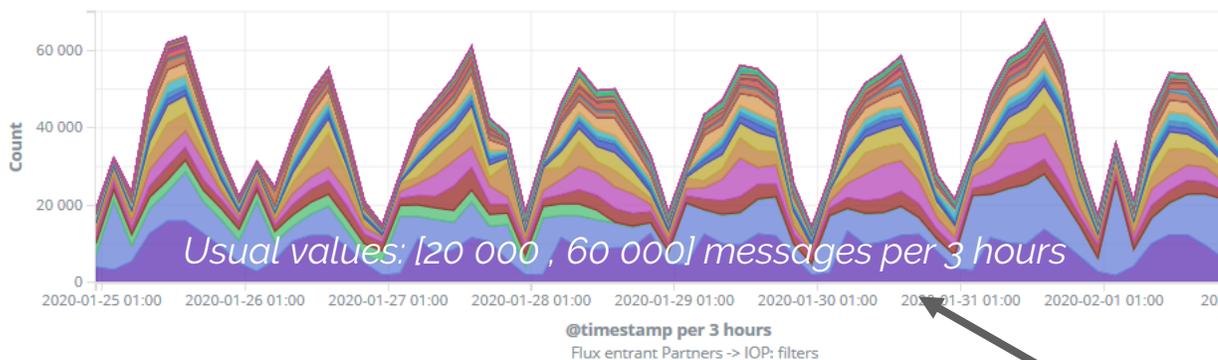
# Roaming Services – smart data flow monitoring

## Usual situation

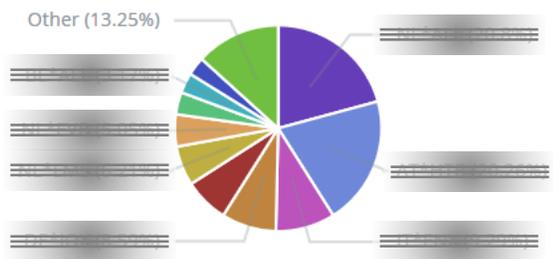


Incoming Flows: Nb of messages (per CPO comm-Partner)

Outgoing Flows: Nb of EVSE Status Charge

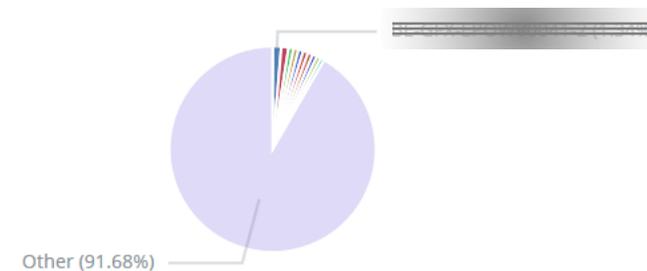


Main CPO comm-Partner



**> 100 000 msg  
filtered each day**

Main EVSE

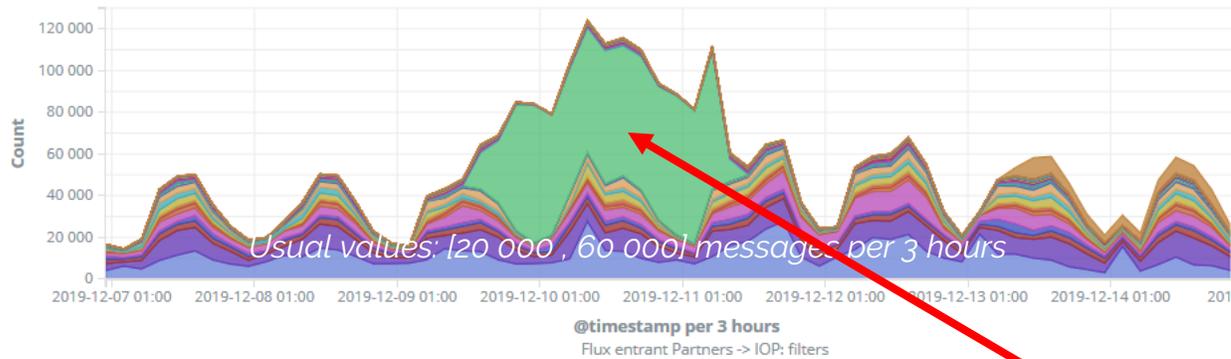


# Roaming Services - smart data flow monitoring

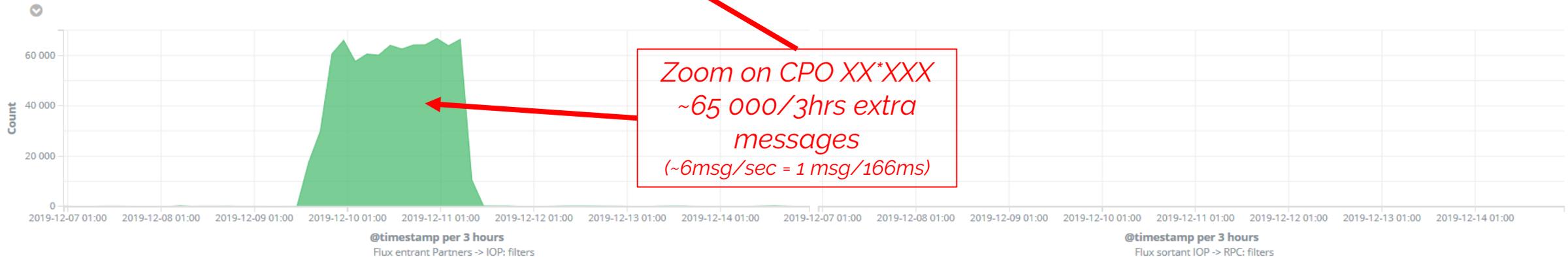
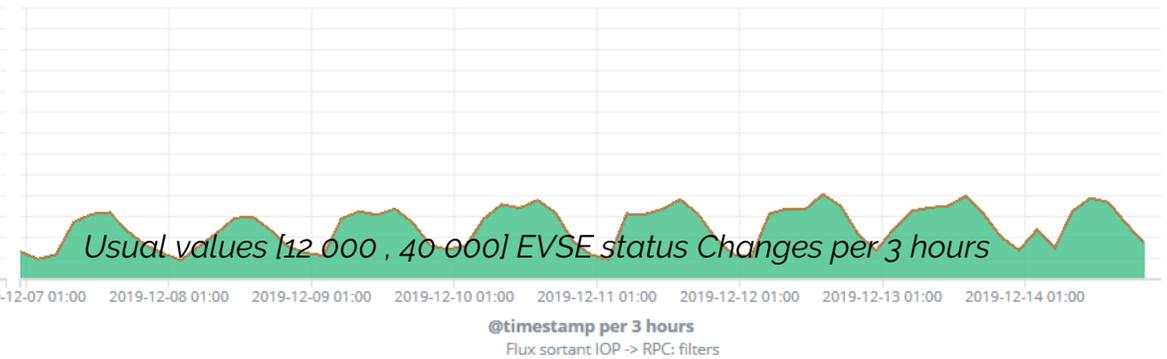
**Abnormal situation**  
(dec 9th 2019)



Incoming Flows: Nb of messages (per CPO comm-Partner)



Outgoing Flows: Nb of EVSE Status Charge





## Clearing Services

- Follow-up & Quality Control
- Billing & Invoicing
- Dispute
- Messaging

## Quality Control : Detect errors before invoicing your customers



### Consumption follow-up

Follow-up of charging sessions on your Connect Place account

### Quality control

Access GIREVE's quality control of CDR

**Invoicing:** bill your CDR automatically and manage your invoicing process



## Billing & Invoicing

Calculate a charging session's final price  
*based on the tariff conditions of your roaming agreement*

Send invoices to your eMSP / Receive invoices on your Connect Place account

**Dispute:** your workflow tool to reduce cost before invoicing



## Dispute

Inform your eMSP partners of your invoicing intention for each charging session

Send invoicing intentions to your eMSP / Receive invoicing intentions of CPO

Receive & Reply to disputes / dispute a CDR to your CPO partner

UK, IE - 3,000 charging points



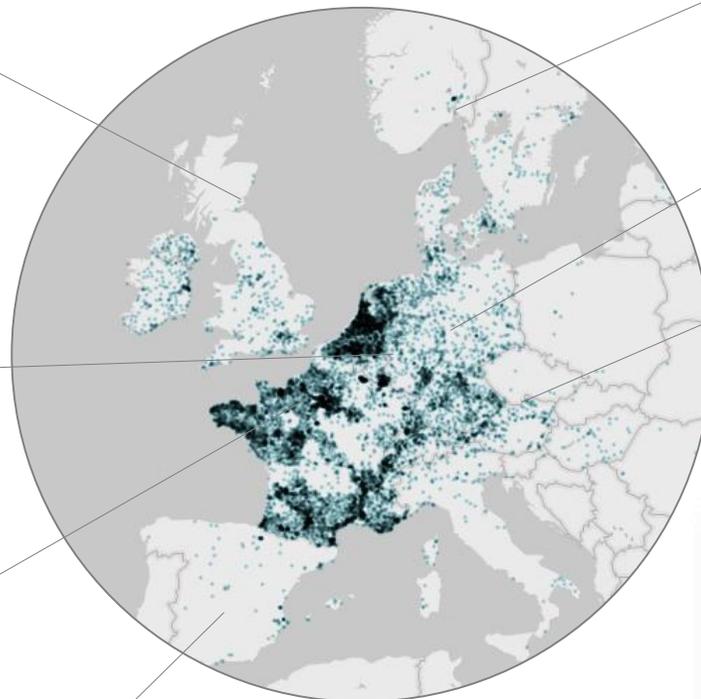
BE, NE, LU - 42,000 charging points



FR - 20,000 charging points



ES - 250 charging points



FI, SE, DK, LV,LT, NO – 1,400 charging points



AT, DE CH, IT – 11,700 charging points



PL, RO, CZ, RU, SK, SV, HU, HR – 172 charging points



**75,000**

charging points open through GIREVE in Europe

**>80%**

coverage in 5 countries\*

**2,000**

roaming agreements signed on GIREVE

List of all our partners available at : <https://www.gireve.com/en/nos-partenaires>

\*EAF0 statistics from 11,2019, Note that they include non roaming compatible EVSE.

# Our eMSP Partners

	Bosch
	Blue Corner
	Bouygues Energies et Services
	Chargemap
	ChargePoint Network
	CLEM', SAS MOPEASY
	Digital Charging Solutions GmbH (DCS)
	Duferco Energia S.p.A.
	E TOTEM
	Electromaps S.L.
	Eneco eMobility B.V.
	EVBox B.V.
	Freshmile Services
	Go Electric Stations SRLS

	GreenFlux Assets B.V.
	Has.to.be GmbH
	Izivia (ex-Sodetrel)
	Justplugin
	Kiwhi Pass Solutions SAS
	Kuwait Petroleum N.V.
	Liikennevirta Oy (VIRTA)
	Mairie de Paris
	Mobilygreen
	MOVE Mobility SA
	Plugsurfing GmbH
	Porsche AG
	Route220 S.R.L.
	ServiceHouse B.V.
	Spark Horizon SAS

	The New Motion B.V.
	Threeforce B.V.
	Total Marketing & Services
	Travelcard B.V.
	Vandebrom Energie B.V.
	Wirelane GmbH
	ZEborne
	ZE-WATT
	Tank & Rast*
	Get Charge*
	ChargeHub*

\* : available soon

## Car Manufacturers



# Our Backend Provider Partners

	Allego
	Atomelec
	Blue Corner
	Robert Bosch
	Bouygues Energies et Services
	Chargecloud*
	ChargeHub*
	ChargeIT mobility GmbH
	Chargemap
	ChargePoint Network
	Chargepoint Services Limited
	CLEM', SAS MOPEASY
	Cogelum IDF

	Connect Groupe E
	Digital Charging Solutions
	DKV Euro Service
	Driivz Ltd.
	DRIVECO
	Duferco Energia
	Easytrip
	Electric 55 Charging
	Electromaps
	ETREL*
	Enio*
	EV-Box
	Fortum Charge & Drive B.V.
	Freshmile Services

	Go Electric Stations
	GreenFlux Assets
	Grønn Kontakt
	Has.to.be
	Ineo Tinea
	Izivia (ex-Sodetrel)
	Lafon
	Liikennevirta Oy (VIRTA)
	Mobilygreen
	PARKNPLUG*
	NewMotion
	Optimile*
	Plugsurfing

	Porsche AG
	Powerdale
	Route220
	SAP Labs France*
	SGA Automation*
	ServiceHouse
	SPIE CityNetworks
	Tank & Rast*
	Total EV Charge
	Threeforce
	Vandebron
	Wirelane
	ZE-WATT

“Operational excellence at the lowest costs”

Eric Feunteun, EV & New Business Director, Groupe Renault



“Connecting to GIREVE's platform was essential for Chargemap to achieve its mission”

Yoann Nussbaumer, Chairman of the Board, Chargemap



“Partnerships like the one we are implementing with GIREVE will serve to [...] expand Allego's market position.”

Anja Van Niersen, CEO, Allego



“We are very satisfied with the technical platform's stability and reliability, the Connect Place's simplicity and the client service's reactivity.”

Sabrina Labiadh, Market Manager, Digital Charging Solutions



“Excellent roaming service”

Robert Byrne, Founder & Managing Director, Franklin Energy



“I found GIREVE to be very professional, supportive and innovative. They offer open technology such as OCPI and many opportunities for network expansion”

Francesco Barrile, CEO, Go Electric Stations



# Thank you for your attention