Electromaps meets Polisnetwork

Javier Julve
Barcelona, November 2020

Electric Mobility Service Provider

We make EV charging easy and believe in worldwide borderless charging.

We improve EV drivers user experience through innovative digital solutions.

🏛 Established

2009

📍 Offices

Barcelona, Spain

Mobile Application
Find, Access and pay over 130.000 charging stations worldwide

Charging Management SaaS
Our charging management solution helps you manage and monetize your EV infrastructure

electromaps
BORDERLESS CHARGING

We are the leading eMobility Service Provider

95%
Our eMobility services are being used by of Spanish EV drivers

100.000
EV drivers

+130.000
Charging Station Locations

Spain

+296.000
Available charging plugs

+120%
EV users anual growth

+200
B2B Clients

Córdoba

Seville

Algiers

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Electromaps EV drivers Survey 2019

Target: Iberian EV drivers
Duration: 24 hours
EV drivers: 1.400
Questions: +100 questions

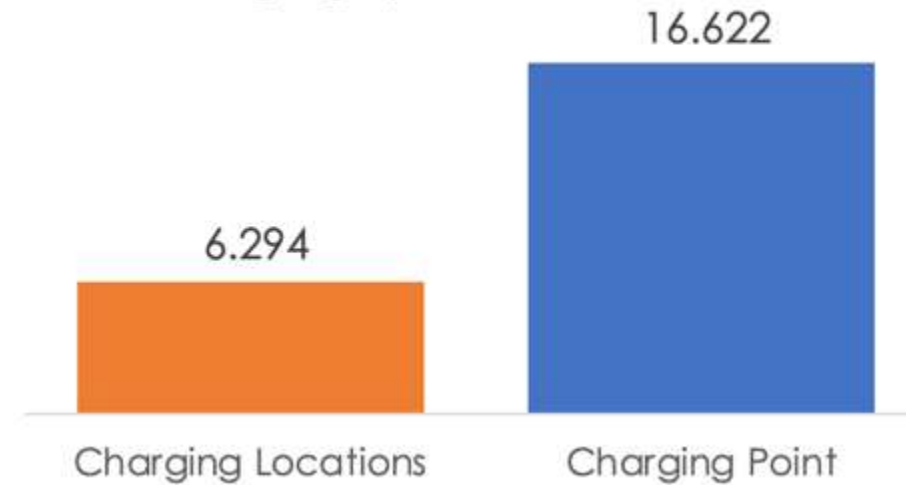☐   45 min

Questions Area Topics:
1. EV driver profile
2. EV buying process
3. EV charging pattern
4. Mobility Profile
5. Public Charging problems
6. EVSE locations request
7. Other

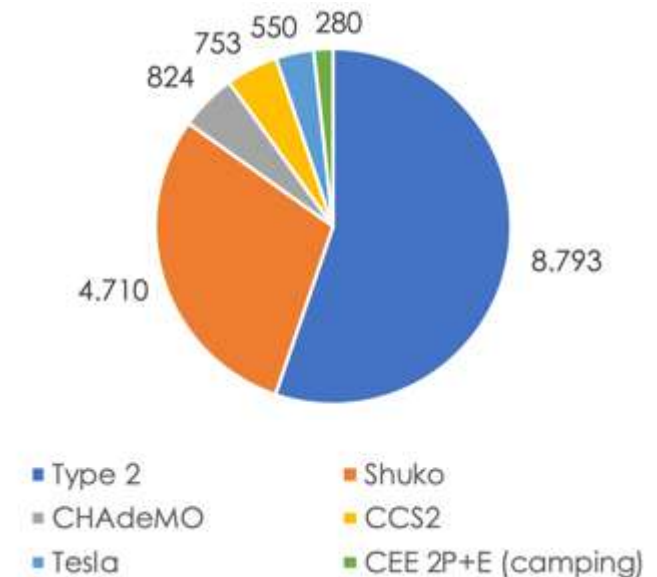# EV Charging Stations in Spain 2020

EV Charging Spain 2020

16.622

6.294

Charging Locations | Charging Point

2%
Sales share of BEV & PHEV in Sept 2020

ROAMING
is **not regulated**

<35%
Charging stations are connected

824 753 550 280

4.710

8.793

- Type 2
- CHAdeMO
- Tesla
- Shuko
- CCS2
- CEE 2P+E (camping)

EV drivers Survey 2019 – EV driver's Profile

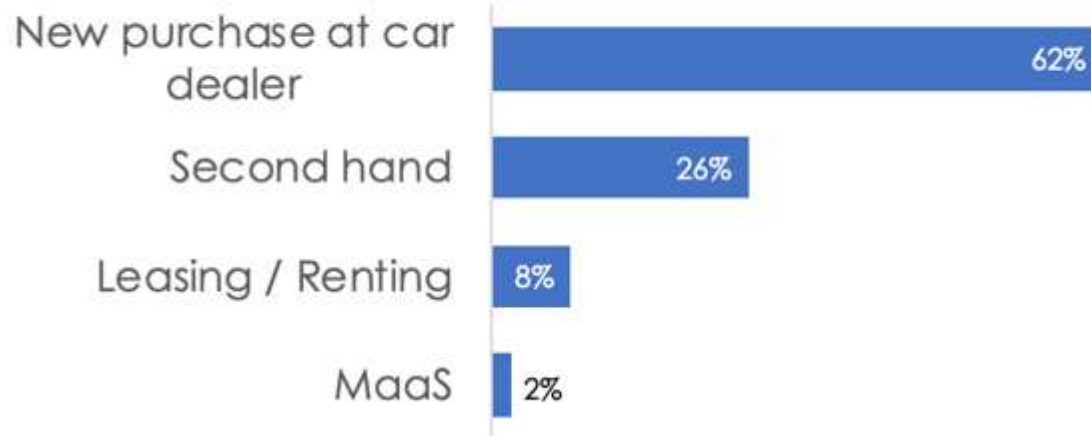## EV driver's age distribution
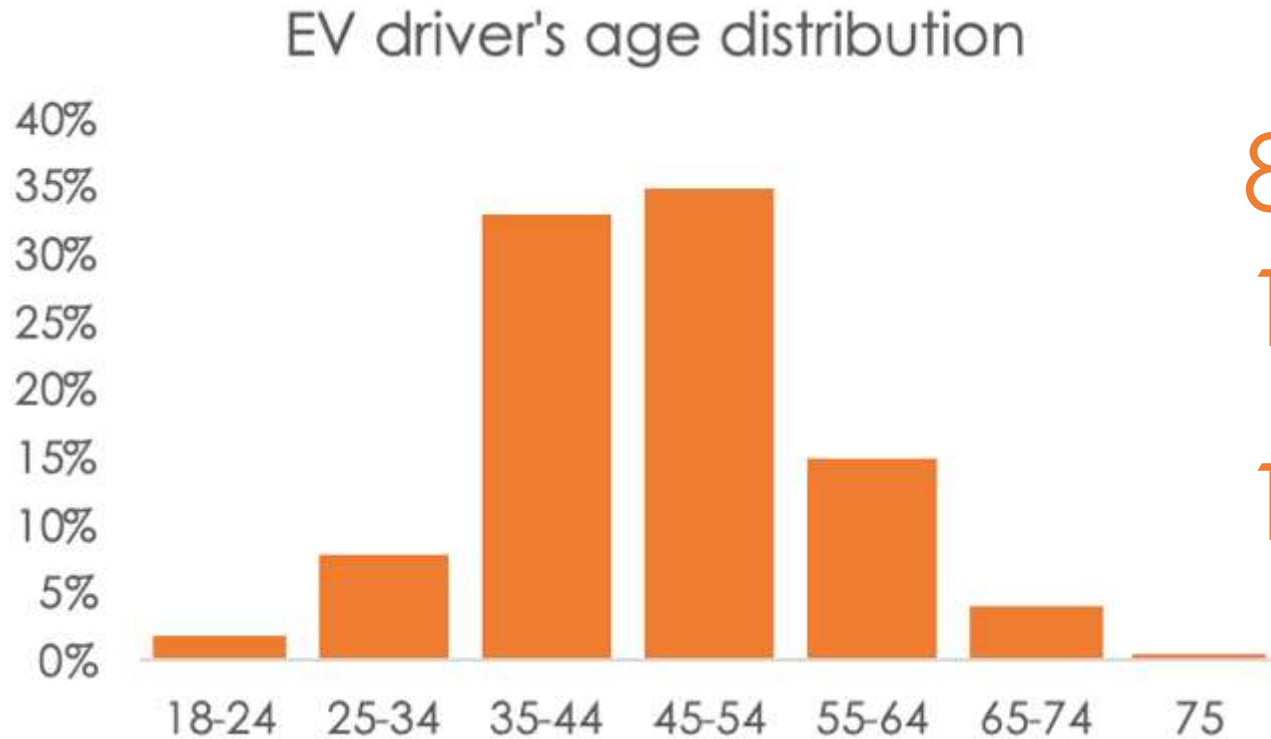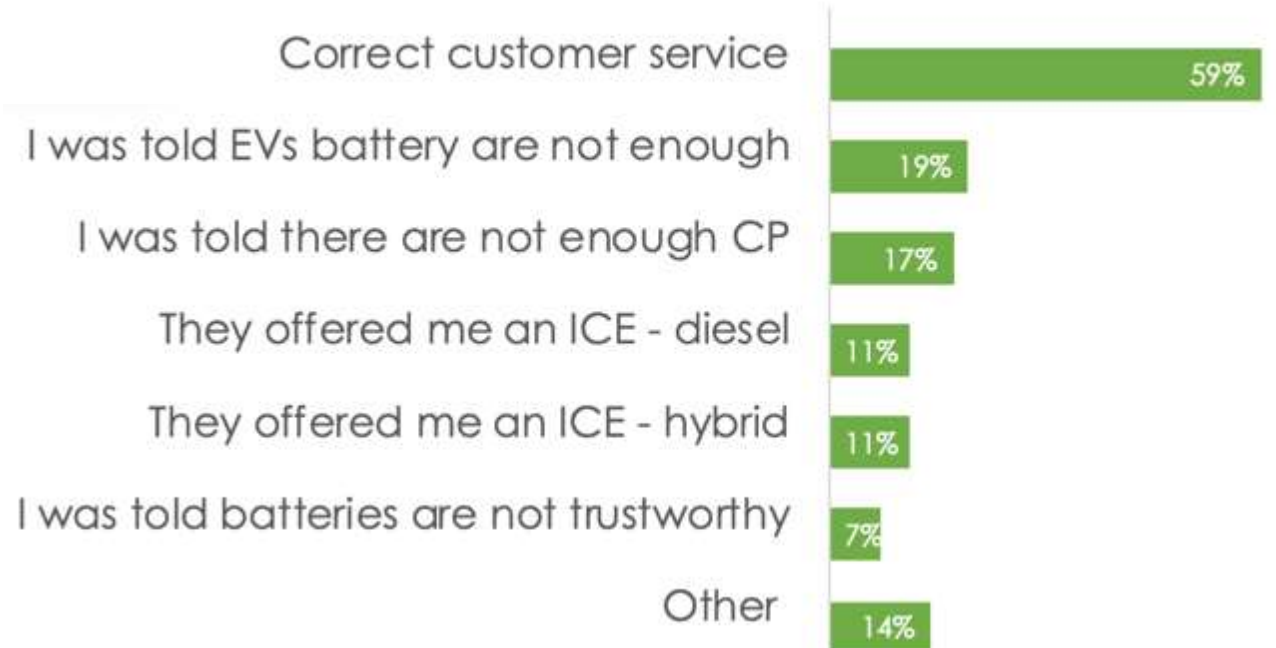

82% Medium or high education

14% Highschool

1.437 EV drivers

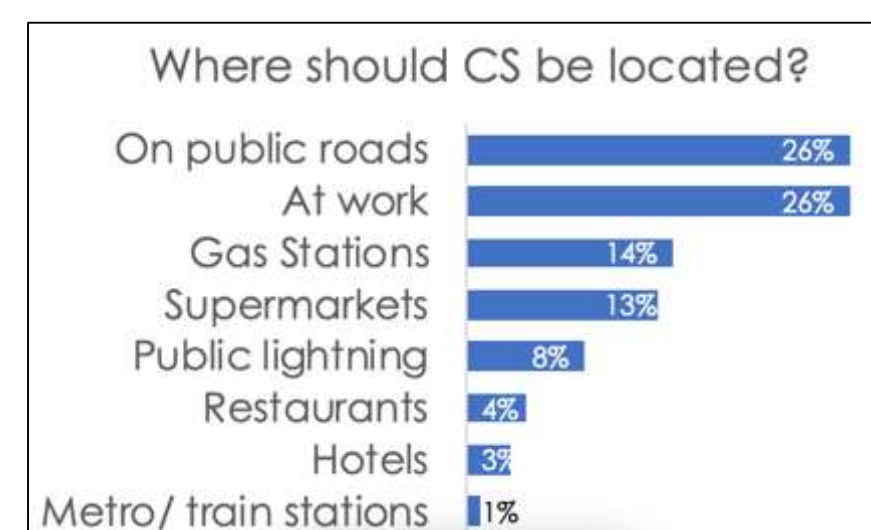# EV drivers Survey 2019 – EV buying process

How did you acquire your EV?

New purchase at car dealer	62%
Second hand	26%
Leasing / Renting	8%
MaaS	2%

How was your buying experience at the car dealer

Correct customer service	59%
I was told EVs battery are not enough	19%
I was told there are not enough CP	17%
They offered me an ICE - diesel	11%
They offered me an ICE - hybrid	11%
I was told batteries are not trustworthy	7%
Other	14%

Problem 1: CAR DEALERs defer EV procurement.

EV drivers Survey 2019 – EV Charging patterns

Charging @home

Daily	43%
1-2 times at week	23%
3-5 at week	22%
I dont have a CS	9%

Charging @work

Daily	12%
1-2 times at week	7%
3-5 at week	5%
1-2 times at month	3%
I dont have a CS	61%

Public charging

Daily	5%
1-2 times at week	23%
3-5 at week	10%
1-2 times at month	20%
Rarely	30%
Never	9%

Where should CS be located?

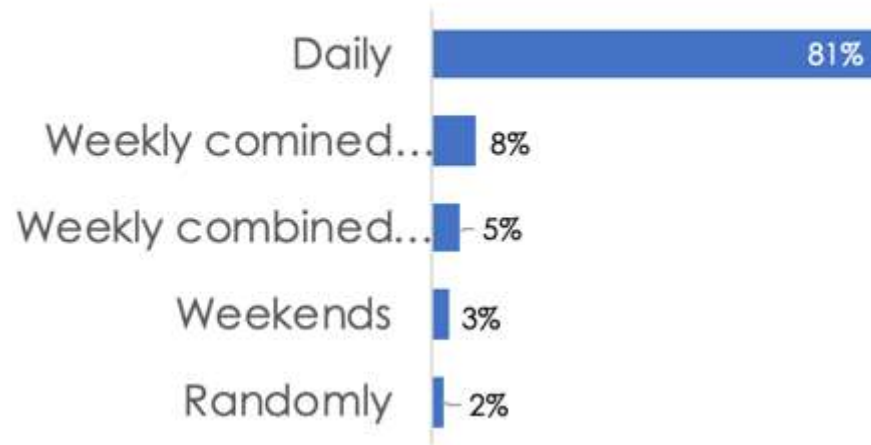|	
On public roads	26%
At work	26%
Gas Stations	14%
Supermarkets	13%
Public lightning	8%
Restaurants	4%
Hotels	3%
Metro/ train stations	1%

Problem 2: Public charging is key for EV Development. EV are filled 20% on public charging on average

EV drivers Survey 2019 – Mobility Profile
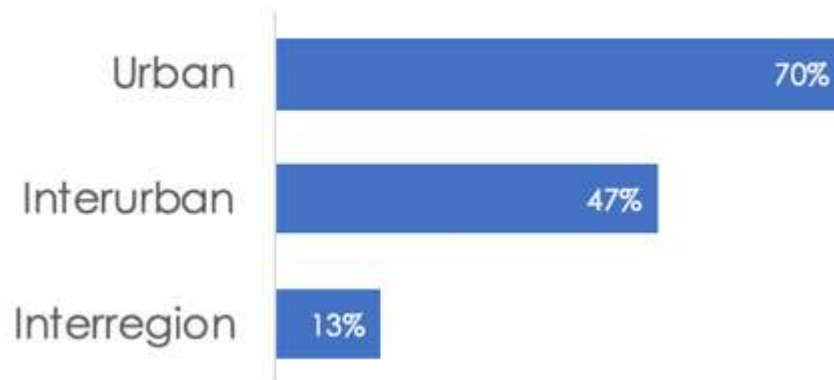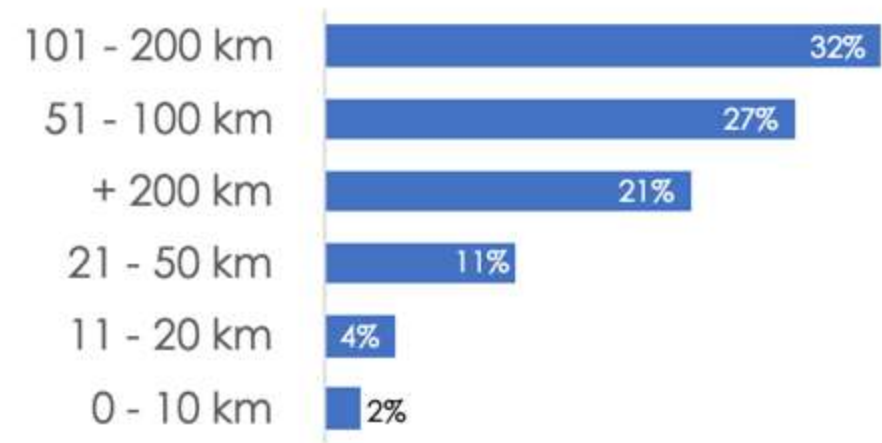
How frequent do you use EV?

Daily	81%
Weekly comined...	8%
Weekly combined...	5%
Weekends	3%
Randomly	2%

Working day traveled distance

21 - 50 km	34%
51 - 100 km	29%
11 - 20 km	14%
101 - 200 km	11%
0 - 10 km	7%
+ 200 km	3%
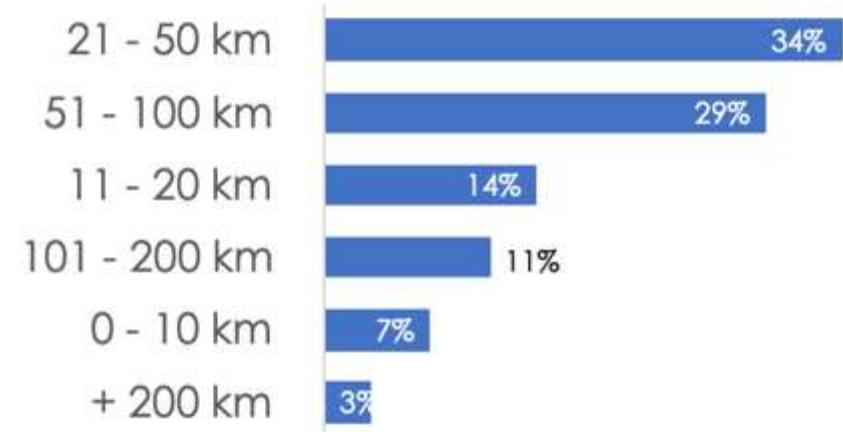
What is your typical mobility pattern?

Urban	70%
Interurban	47%
Interregion	13%

Weekend traveled distance

101 - 200 km	32%
51 - 100 km	27%
+ 200 km	21%
21 - 50 km	11%
11 - 20 km	4%
0 - 10 km	2%

EV drivers Survey 2019 – Public Charging Problems

Problems while public charging

Problem	Percentage
CS not working	66%
CS occupied by ICE	52%
Any communication	29%
CS without power	28%
Missing RFID or APP…	22%
No problem	10%
Vandalism	11%
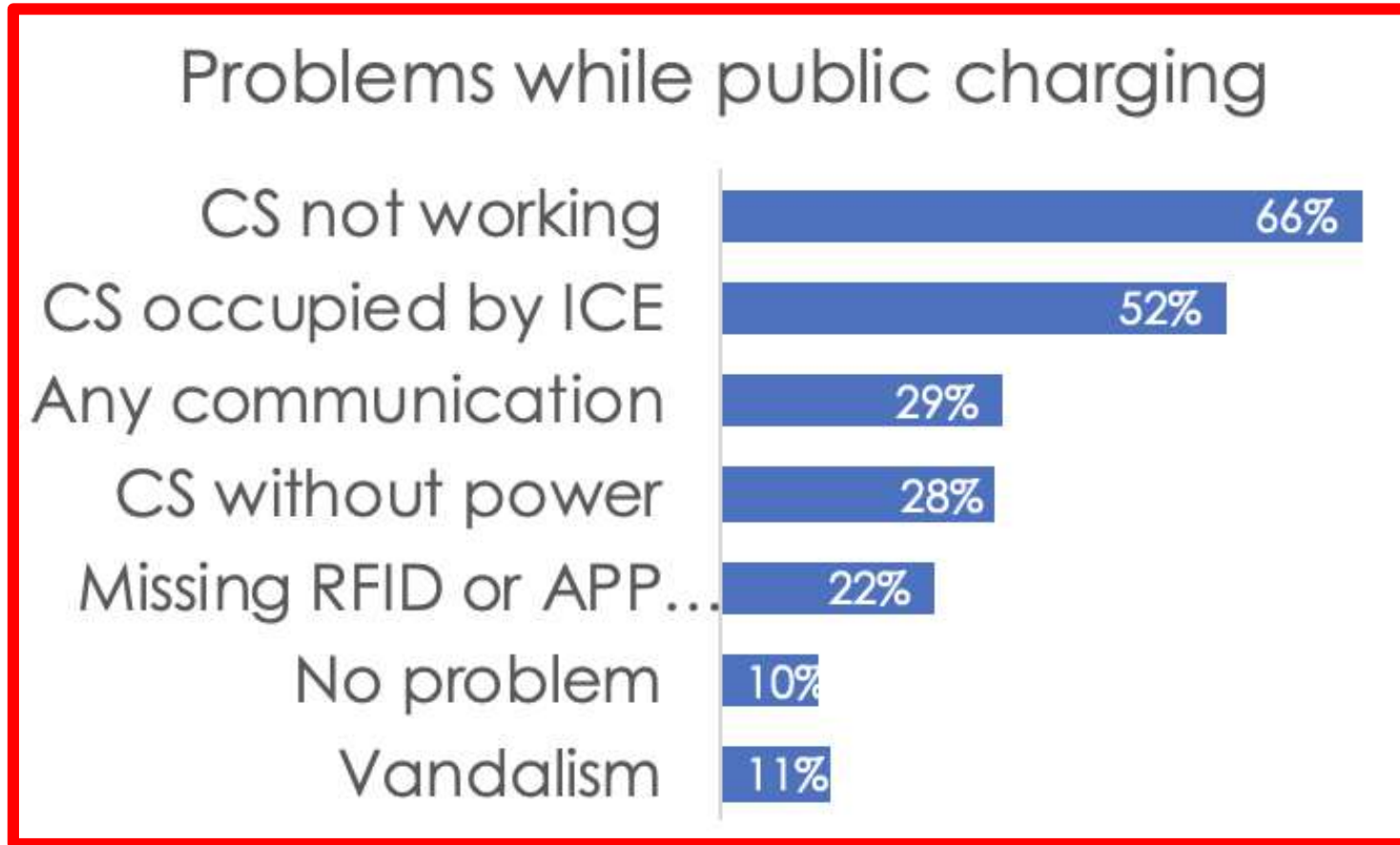
Problem 3:   CS downtime and maintenance take CPO months to repair.

Problem 4:   Not working APP and poor customer service despair many EV drivers.

# EV drivers Survey 2019 – Public Charging Problems

€/ kWh

Charging price differs in different eMPS

Bar chart showing charging prices:
- eMSP 1: ~0,30 € (green)
- eMSP 2: ~0,40 €
- eMSP 3: ~0,48 €
- eMSP 4: ~0,53 €
- eMSP 5: ~0,51 €

Y-axis values: 0,60 €, 0,50 €, 0,40 €, 0,30 €, 0,20 €, 0,10 €, - €
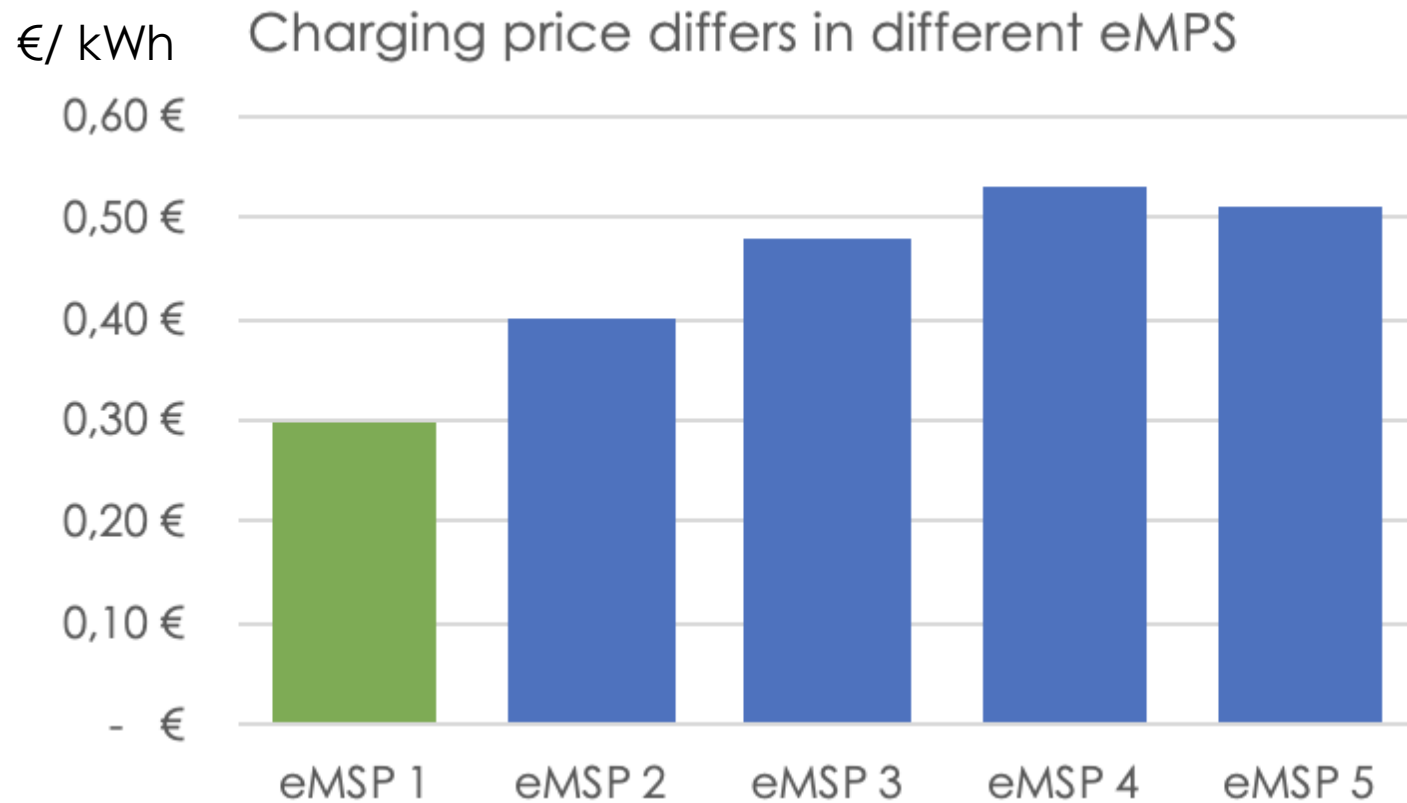
Problem 4: Lack of EV roaming regulation creates up to 73% charging cost differences.

Different commissions set by roaming companies and business models induced to large prices differences among eMSP.

EV drivers Survey 2019 – EVSE location request

Heat map of EV drivers CS locations request based on Postal Code

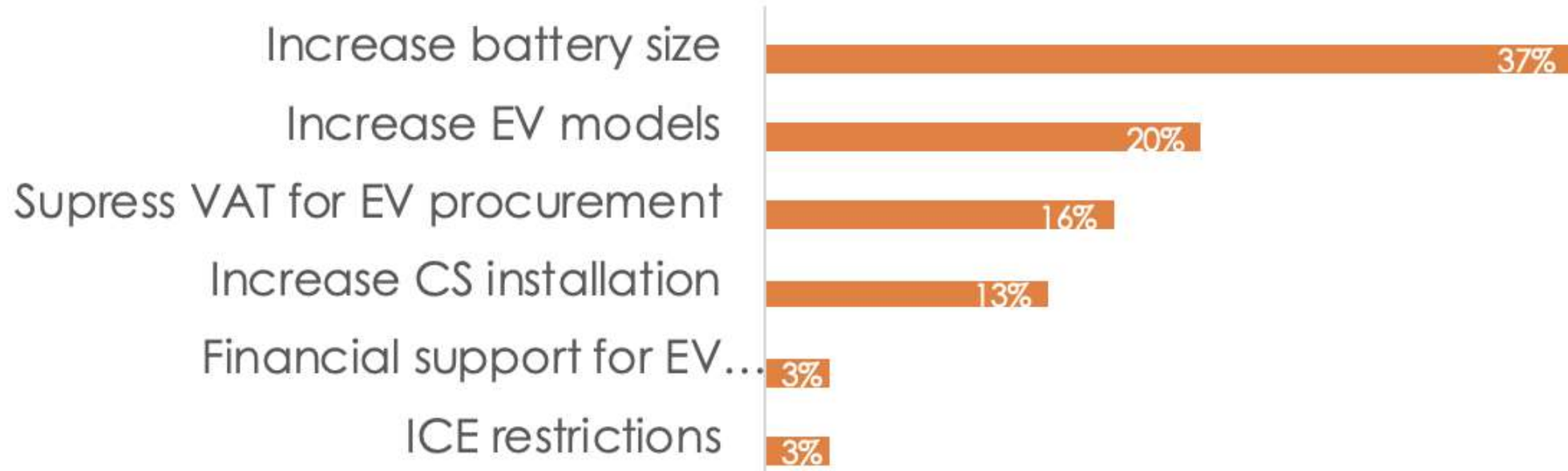|	
	4 - 49
	49 - 103
	103 - 200
	200 - 360
	360 - 582
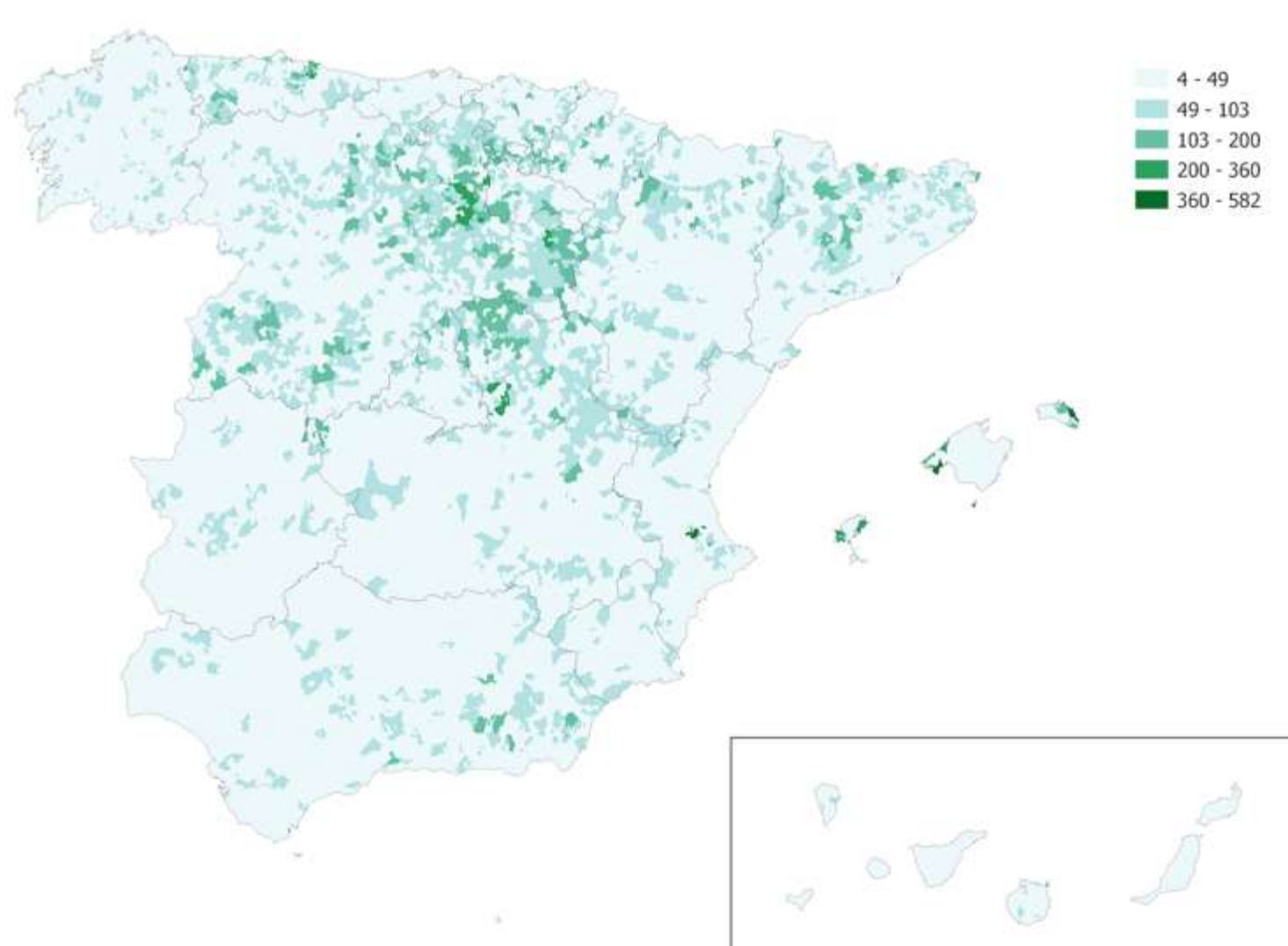
Request EVSE locations are located 200-300km of the EV drivers residence

EV drivers Survey 2019 – Other

Which measurments will increase EV adoption

Measurement	Percentage
Increase battery size	37%
Increase EV models	20%
Supress VAT for EV procurement	16%
Increase CS installation	13%
Financial support for EV…	3%
ICE restrictions	3%

Problem 5:   Lack of available EV models in the market, still and issue in 2020.

ELECTROMAPS VIEW
VALUE PYRAMID for the EV Driver

EV DRIVER'S VALUE PYRAMID

1.- Where are ALL charging stations located?

2.- Are they working? Are they occupied?

3.- How can I use them?

EVSE OWNER VALUE PYRAMID

1.- Visibility and EV drivers attraction

2.- Monitoring & Control & Billing & Roaming

3.- Outsourced EV driver daily operation & hotline

Questions?

Javier Julve

Business Development

javier@electromaps.com

www.electromaps.com