

Case study Europe

What can stop the growth of the EV charging network in the Netherlands?

26-9-2022

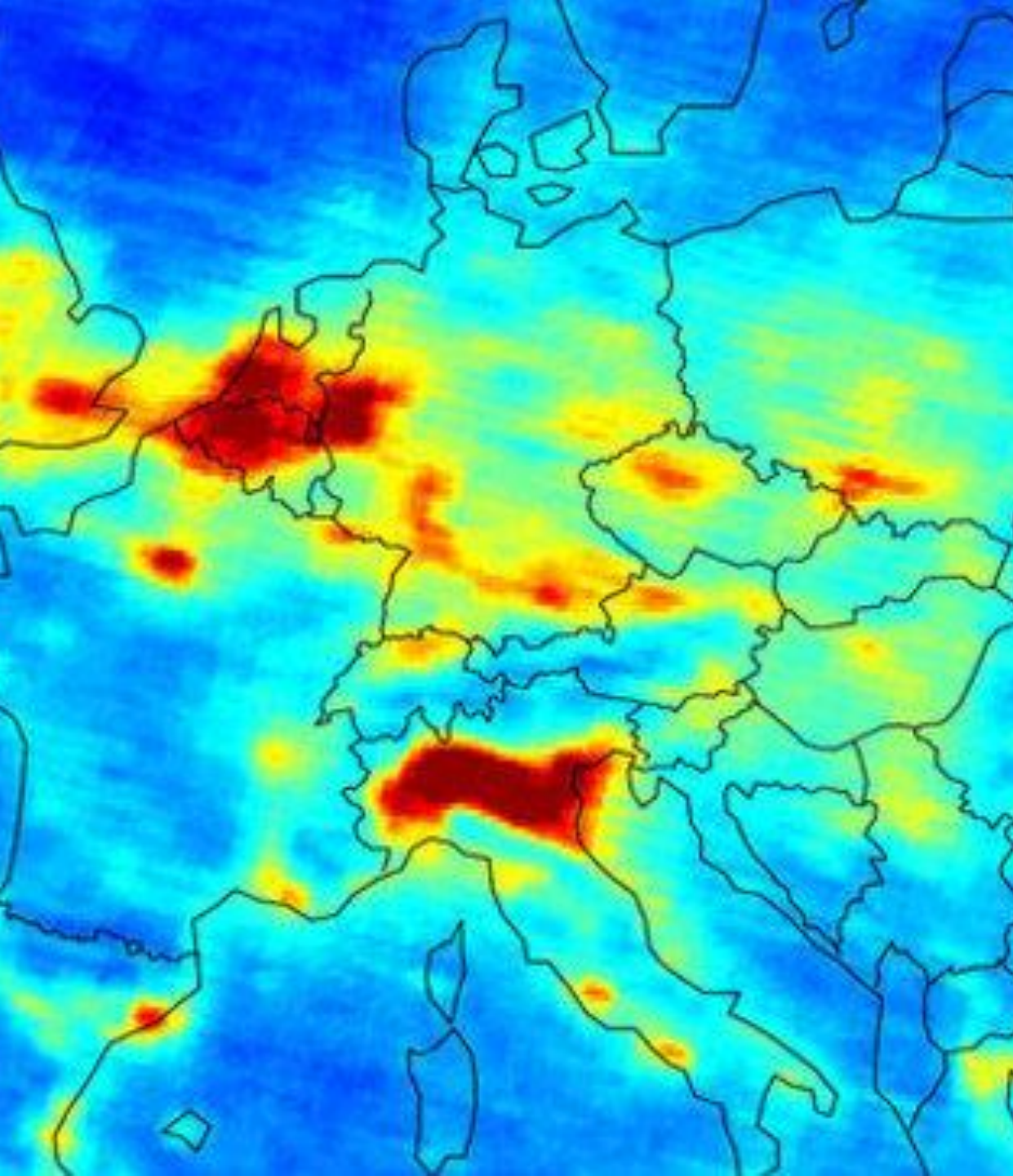
LATAM - Polis

MRA
elektrisch 



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MRA-Electric - goals & approach

Cooperation of local and regional governments

- Including 3 provinces and 70+ local governments

Clean air, prevent climate change, energy transition

Stimulate electromobility

Accessible and affordable charging, competitive market

Network of public charging stations (and more)



MRA-Electric - goals & approach

Governance

- Steering group of regional representatives
- Financial contributions from all government levels
- 5 year work programme + yearly plan



Dedicated regional project team

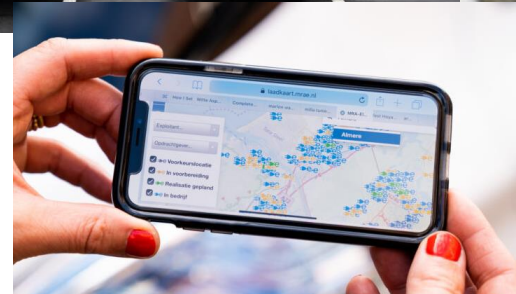
Benefits

- Sharing knowledge, capacity and experience
- Coherent policies and practices
- Charging network
 - Coverage + scale
 - Business cases
 - Roll-out of pilots

Work programme includes..

Action oriented - from idea to project to result

- **Public infrastructure**
 - Planning, procurement, installation, monitoring
- **Vehicles deployment support**
- **Sharing knowledge**
 - Policy advise
 - Meetings, events & online community
 - Reports, brochures, newsletters
- **Innovation**
 - Smart charging
 - Data & software



Policy options

Level of government cooperation

- Central<->Regional<->Local
- Functional
 - Policy
 - Implementation

Government role *per charging solution / modality*

- Contracting
 - Procurement
 - Concessions
 - Licensing
- Other instruments
 - Subsidies
 - Fiscal
 - Promotion
 - Information

Roll-out strategy

- Trigger
- Process

National climate agreement (2019)

- Goal for 2030 - 100% new sales electric
- Fiscal benefits renewed
+ gradually reduced
- Financially supports
regional project organisations
such as MRA-Electric



Policy options – level of government cooperation

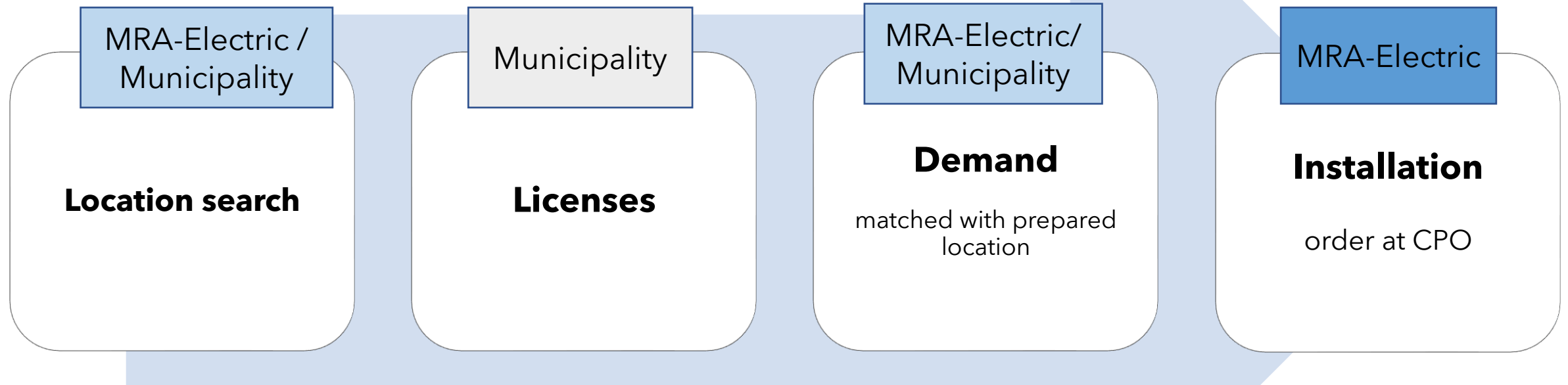


Regional responsibilities

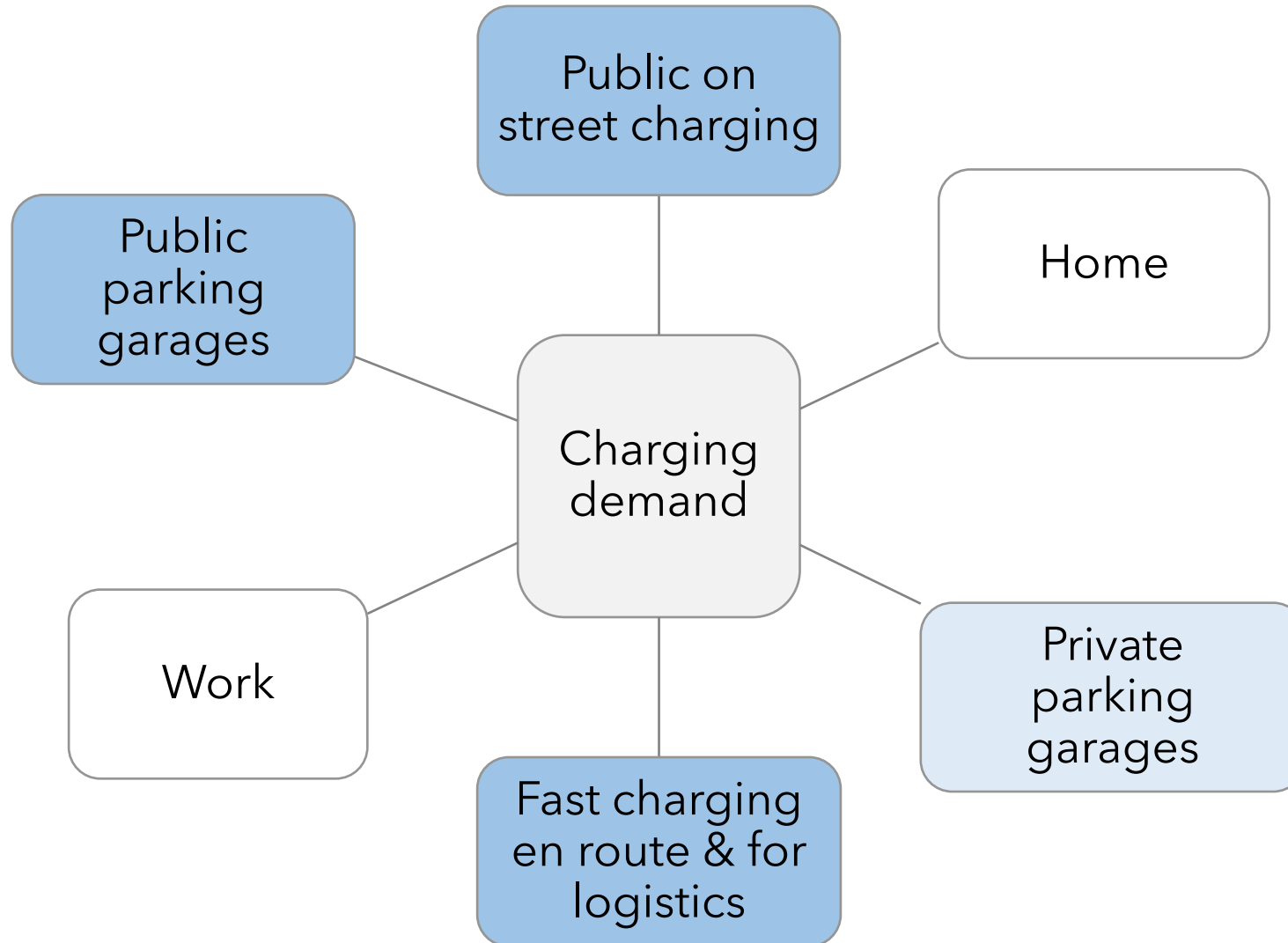
- 1. Organise and finance** public charging infrastructure
- 2. Initiate and manage** pilots
- 3. Policy advise** and practical **guidance**
- 4. Facilitate** sharing knowledge and dissemination

Policy options - level of government cooperation

Regional coordinators, helpdesk & online portal



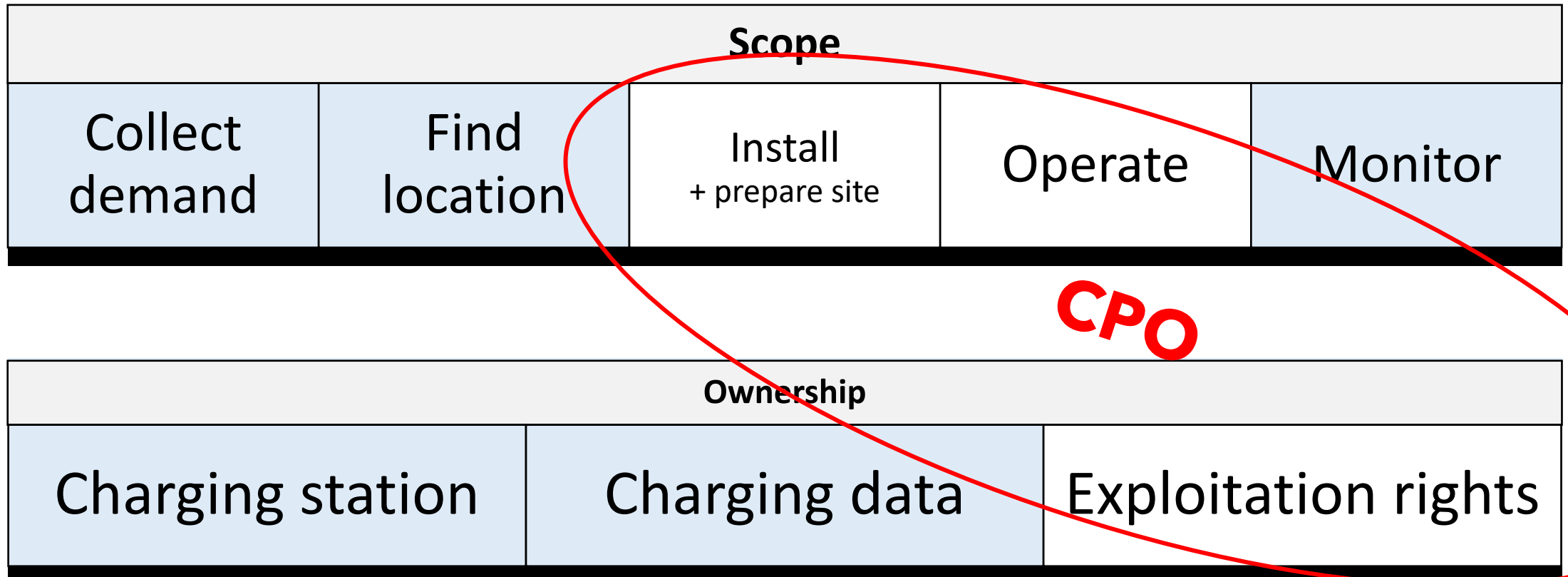
Policy options - Government role per charging solution



Policy options - Contracting

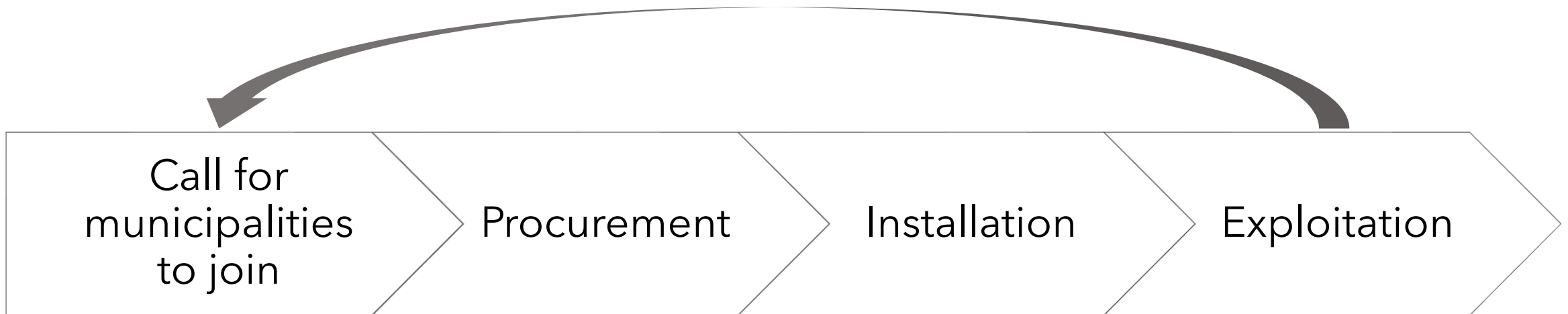
Our aims:

- Accessible and affordable charging
- Competitive market



Policy options - Contracting

Concessions contracts - at first costly, later a government income



- 7 sets of charge points exploited
- by 5 different CPO's

Policy options - Roll-out strategy

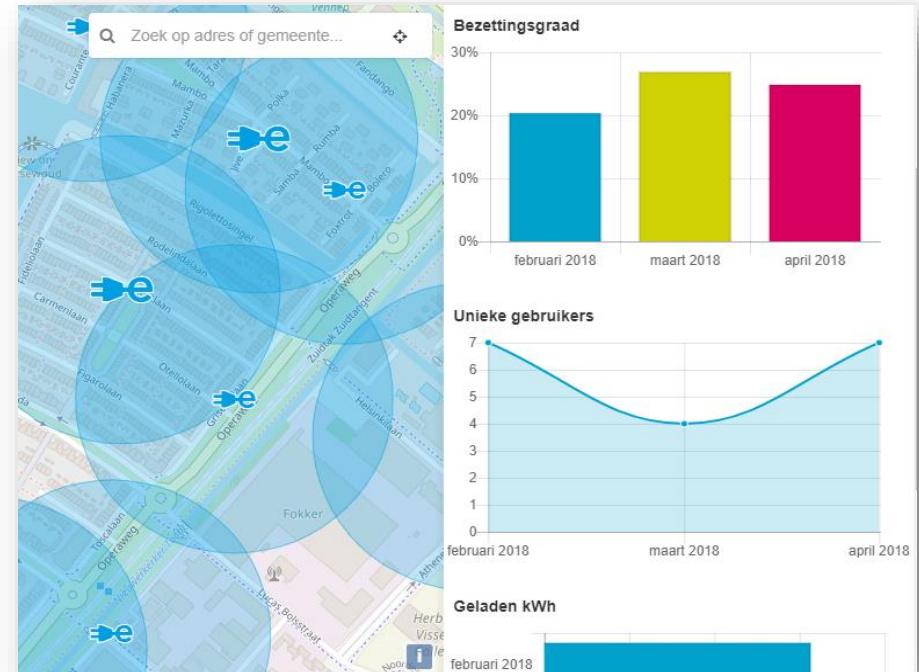
1. Demand-driven installation

- Charging data
- Requests

2. Pro-active preparation

- Location search
- Licensing

Public opinion and an effective use of public resources requires us to carefully plan and select locations



1. Verzoek tot het plaatsen van een publieke laadpaal

MRA-Elektrisch is een project van de samenwerkende overheden in de provincies Noord-Holland, Flevoland en Utrecht. Doel is elektrisch vervoer te stimuleren. Met dit formulier kunt u een verzoek indienen voor het uitbreiden van het netwerk van publieke laadpunten in uw gemeente.

Selecteer eerst hier de gemeente waar u woont of werkt:

Meer informatie over de procedure en andere informatie over publiek laden kunt [hier](#) vinden.



Volgende >

Public charging network - quick facts

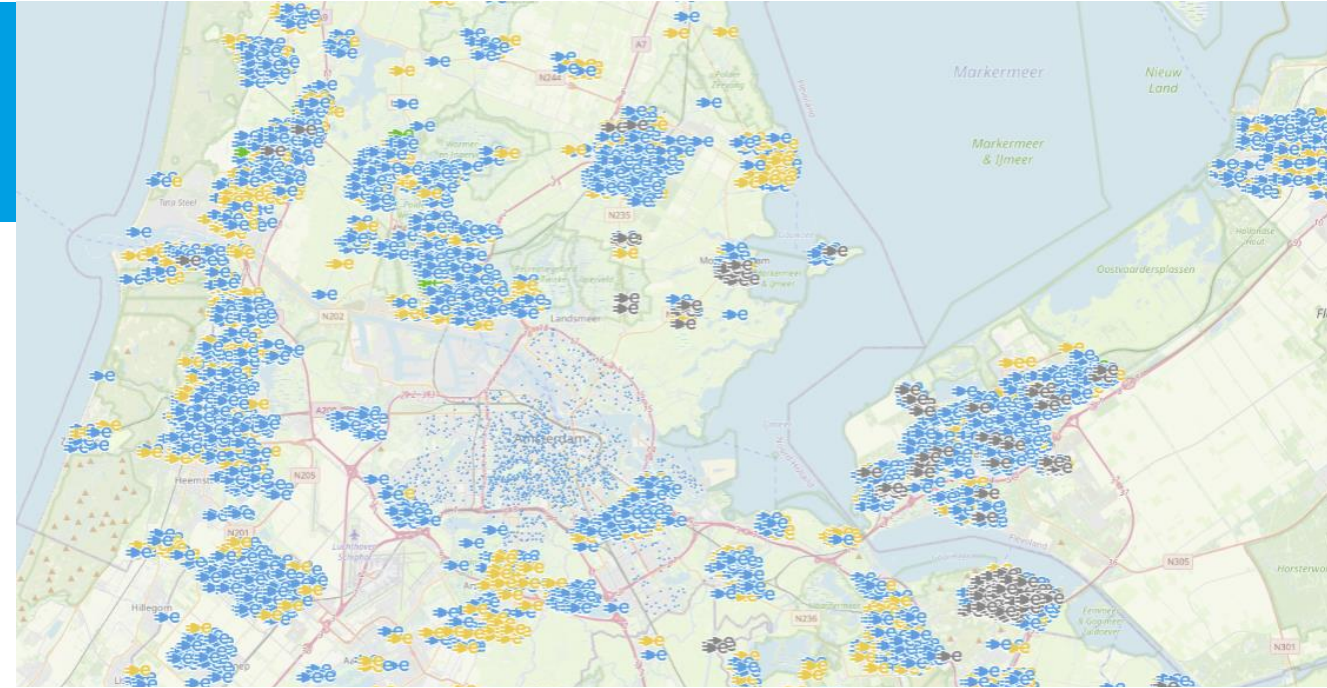
Numbers


- 9.900+ public charge points
- ~200 charge points installed per month

Quality

- Roaming since 2012
- Charging tariff maximised

Well used




 Total kWh charged, **monthly**

Filter period from to

Source: www.evdata.nl



[Download data](#) ▼

 Charged kWh per charging point, **monthly**

Filter period from to

Source: www.evdata.nl

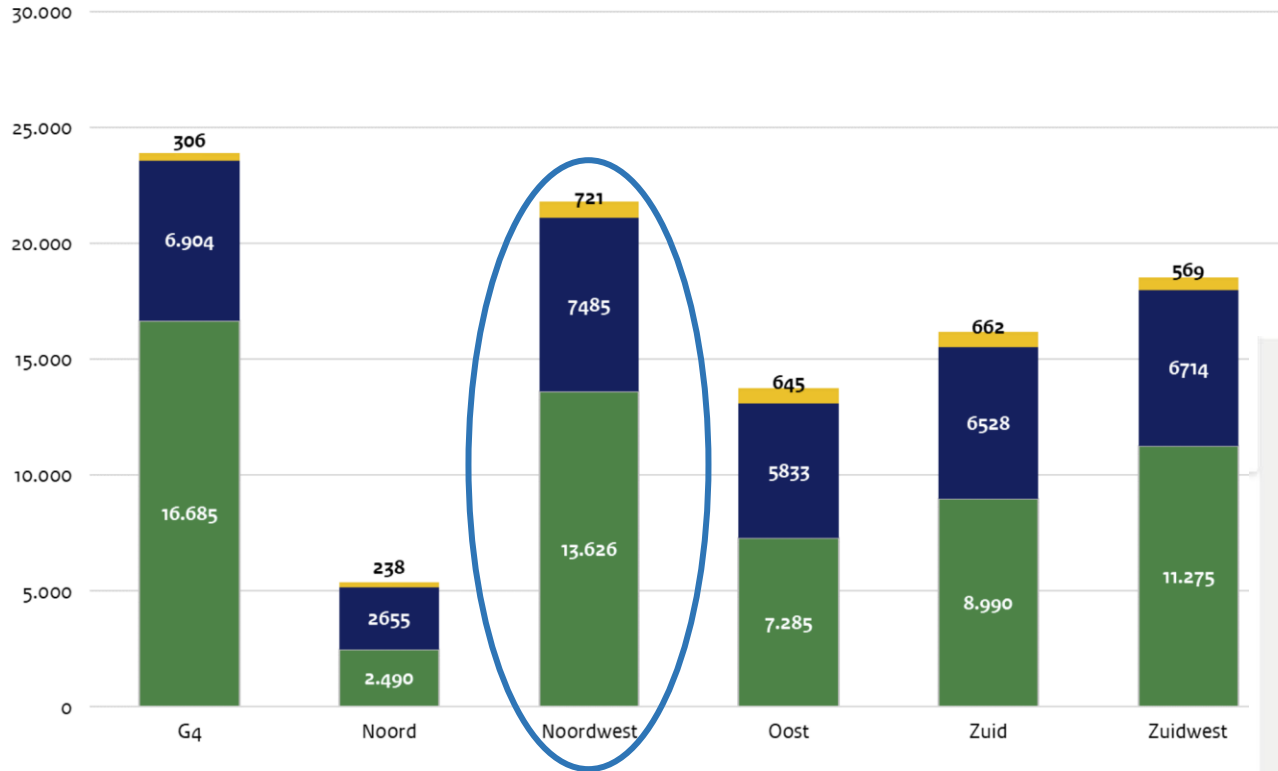


[Download data](#) ▼

EU and NL comparison

Laadinfrastructuur per regio. Peildatum: 30-06-2022

■ Regulier Publiek ■ Regulier Semi-publiek ■ Snelladers Totaal (>22kW)



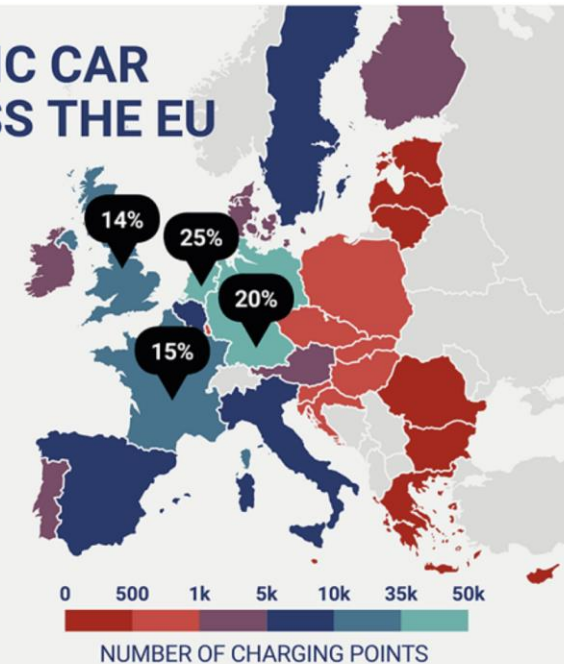
DISTRIBUTION OF ELECTRIC CAR CHARGING POINTS ACROSS THE EU

75% OF ALL CHARGING POINTS ARE LOCATED IN JUST 4 EU COUNTRIES

25.4% NETHERLANDS | 15.2% FRANCE
20.3% GERMANY | 14.3% UNITED KINGDOM

TOP 5: FEWEST CHARGING POINTS

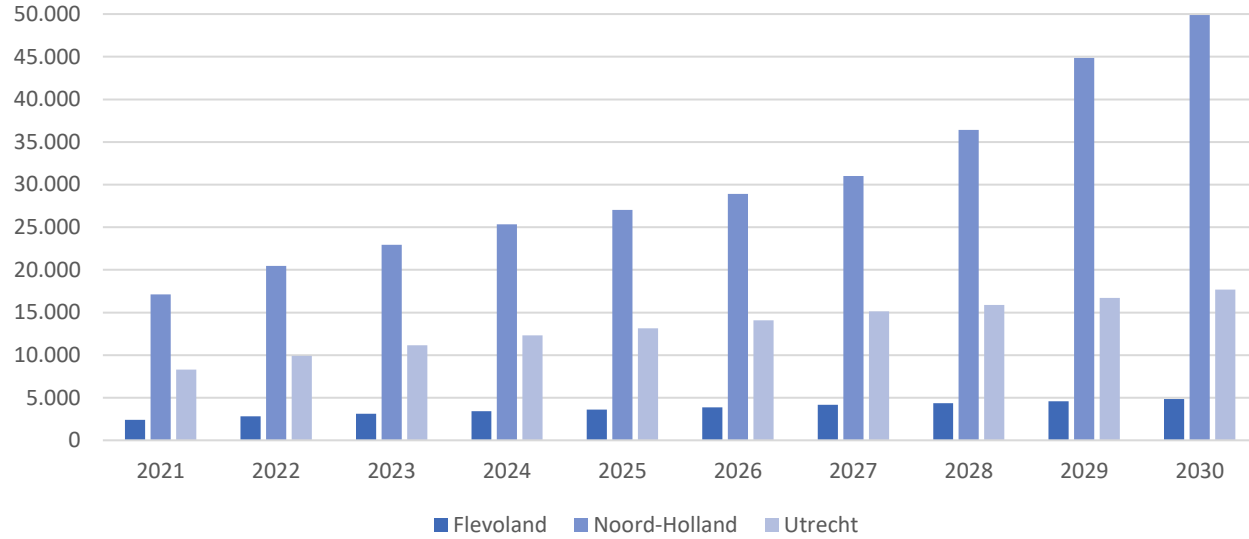
CYPRUS 38 | GREECE 61 | MALTA 102
BULGARIA 135 | LITHUANIA 202



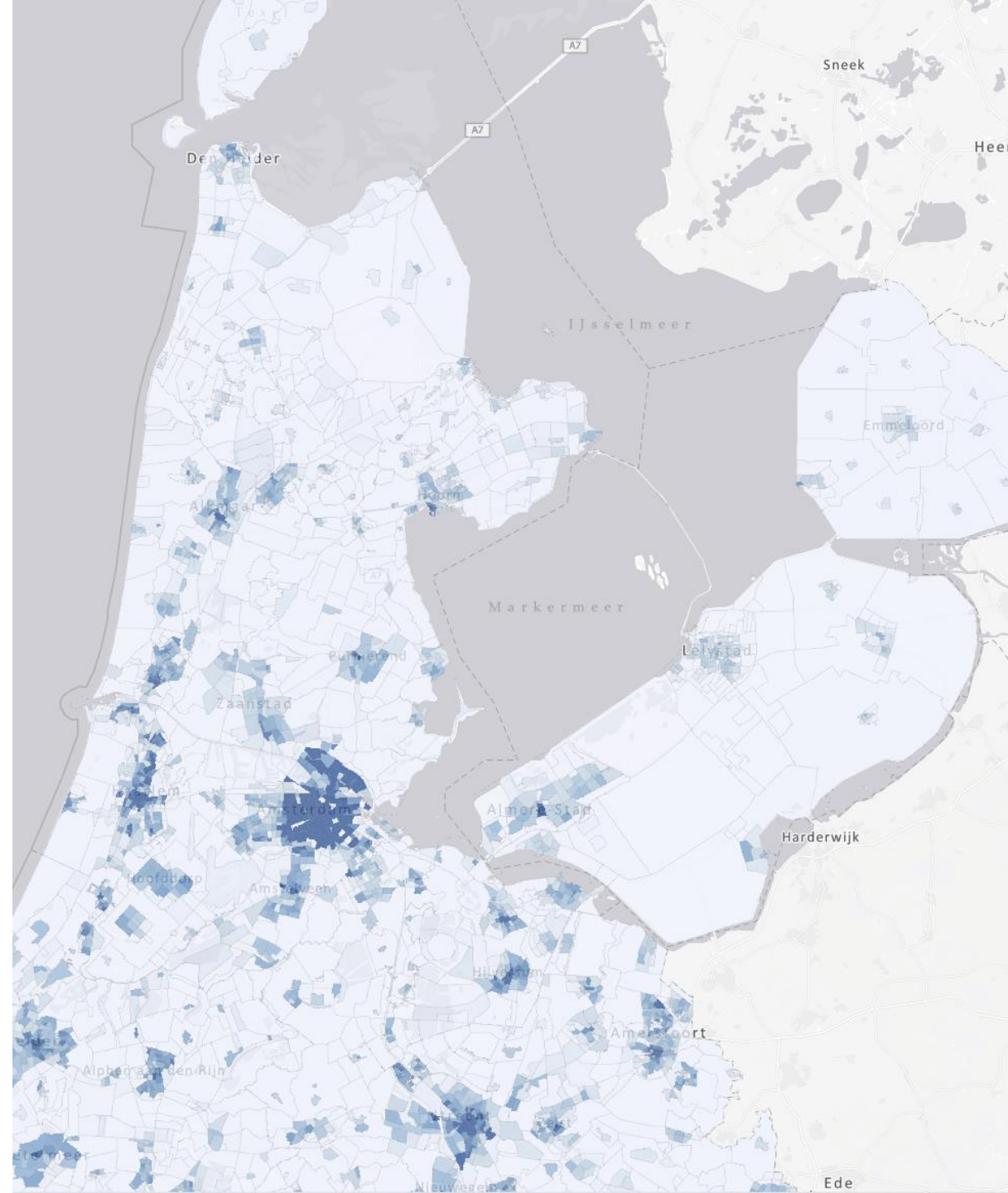
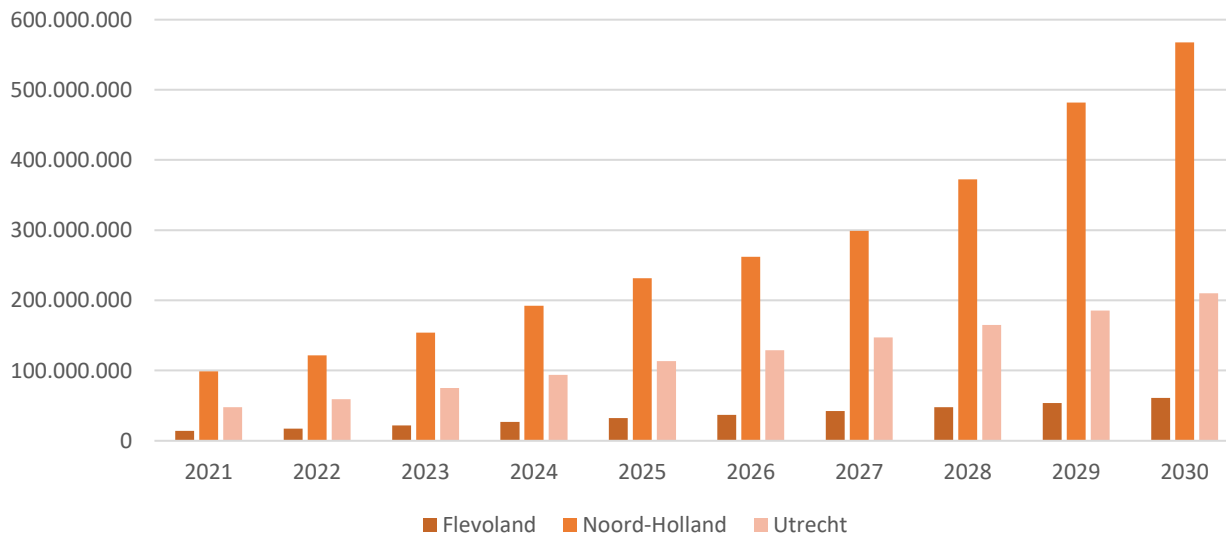
Source: The European Automobile Manufacturers' Association (ACEA)

Prognosis (public) charging demand 2030

Required public AC charging points



Energy demand public AC charging per year in kWh

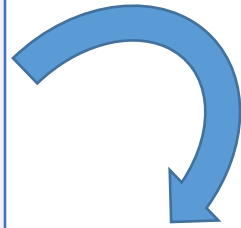


Our challenge in numbers

Prognosis public AC
charging demand in
region (excl. G4) for **2030**

72.419

charge points



In operation **2022**

9.500

charge points



To be installed

7.000

charge points **per year**

Challenges

1. EV-uptake (demand)

User information

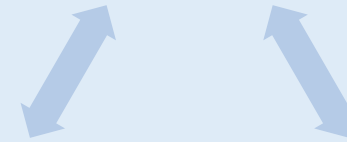
(+harmonising
dataflows)

Charge points (offer)

Spatial

2. Grid
capacity

Personnel



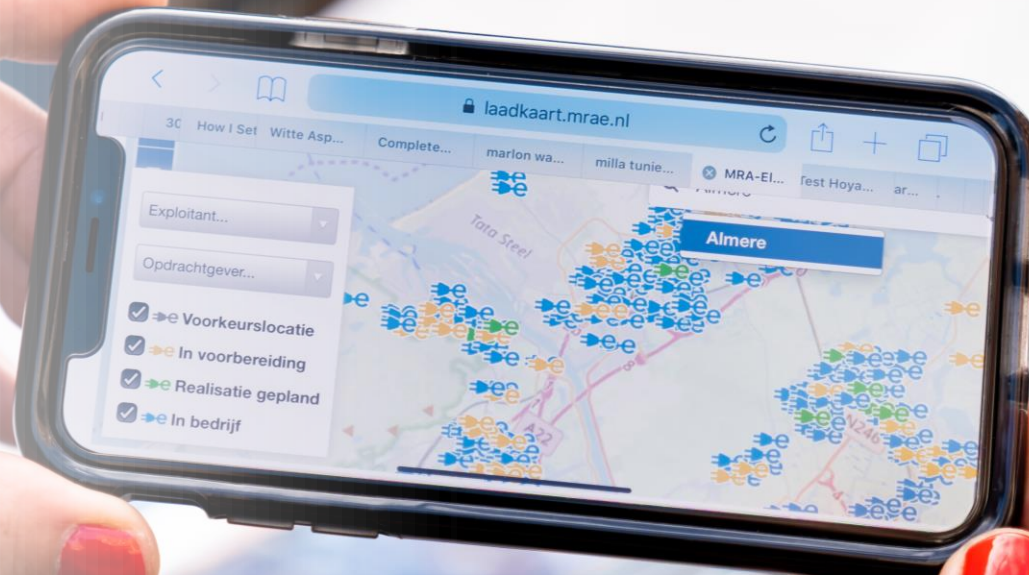
User information on charging stations

- **Information on public facilities is only available commercially and from one source**

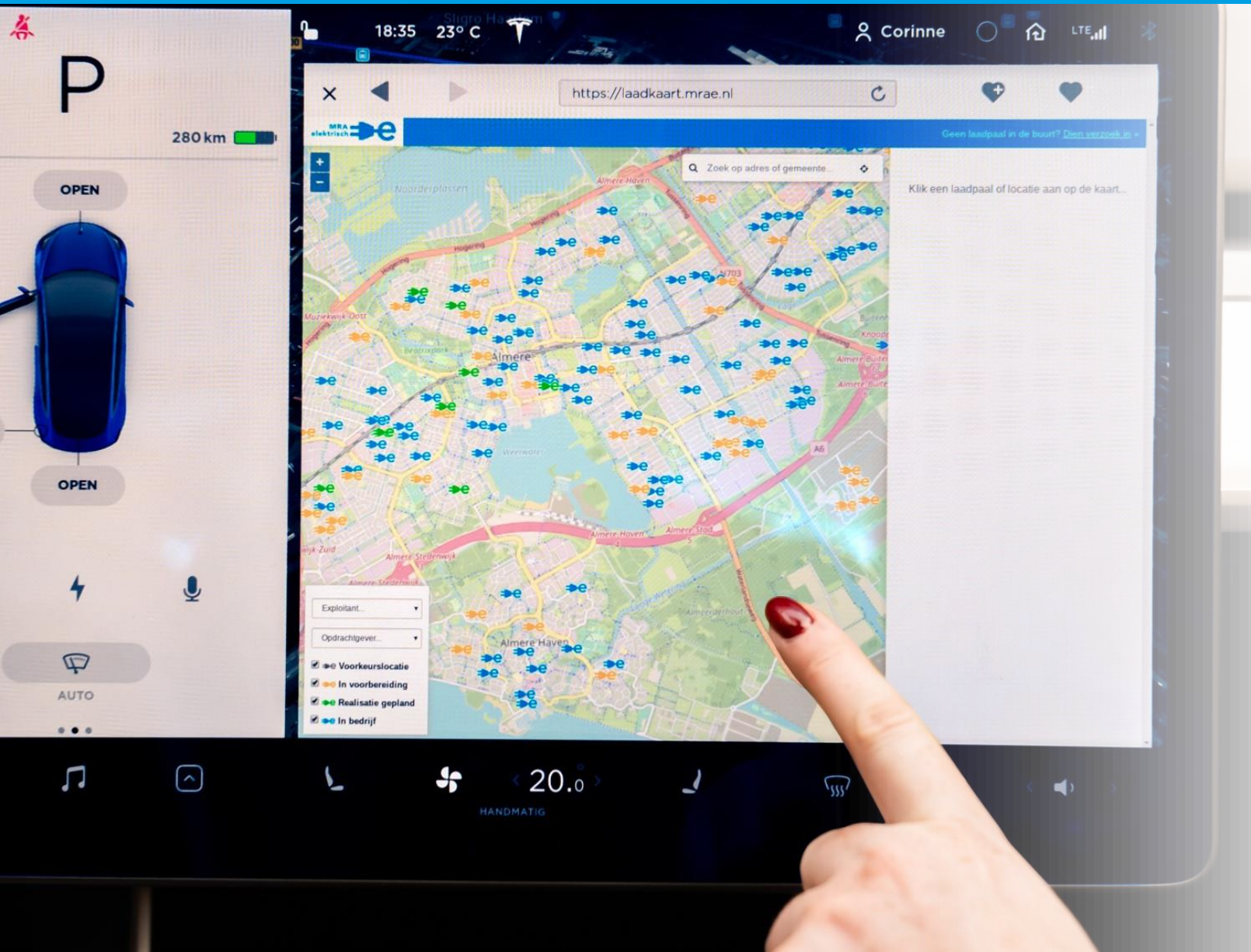
- Also slowing down the development of new or improved services

- **Information is too often**

- Incomplete
- Inaccurate
- Outdated



Examples of inaccurate data



- **Location**
 - Based on address rather than exact coordinates
 - Showing removed CPs
 - New CPs only shown after months
- **Pricing**
 - Exact price not known beforehand
- **Availability**
 - Technical availability not shown
 - Occupancy outdated
- **Operator**
 - Wrong operator displayed

Open data

- **Need for regional, national or EU open datahub on public charge points**
 - Transparent (on sources, quality, errors and corrections)
 - Automated corrections, centrally processed
 - Direct from the source
 - Open to all - at no costs
 - Basic service level, commercial services can reuse and add



Co-financed by the Connecting Europe
Facility of the European Union

- **MRA-Electric cooperates in the Data Cellar project (Horizon) to help us publish open data on the public charging stations**

Smart charging

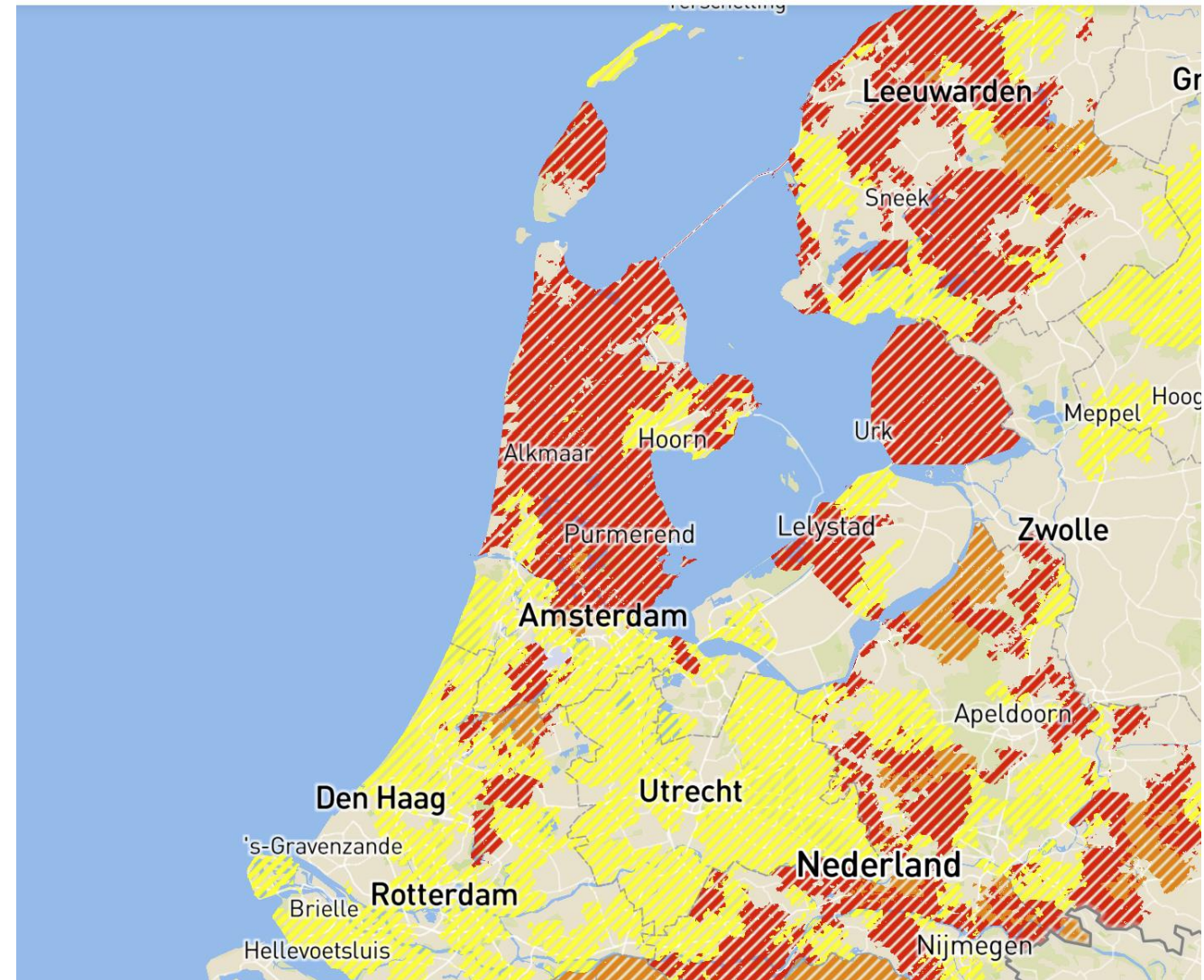


Grid capacity

- All large Dutch grid operators have warned that capacity is being reached (take in)
- AC low power charging points can now still be installed
 - Specific areas are also already have mayor delays for new AC public charging grid connections
- Even for areas with sufficient grid capacity, grid connections are severely slowed down due to personnel capacity and low priority
 - > Process optimisation together with DSOs and CPOs

Capaciteitskaart afname elektriciteitsnet

Bijgewerkt: 09-06-2022 16:01



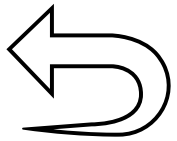
What is smart charging?



Delaying,



changing power output,



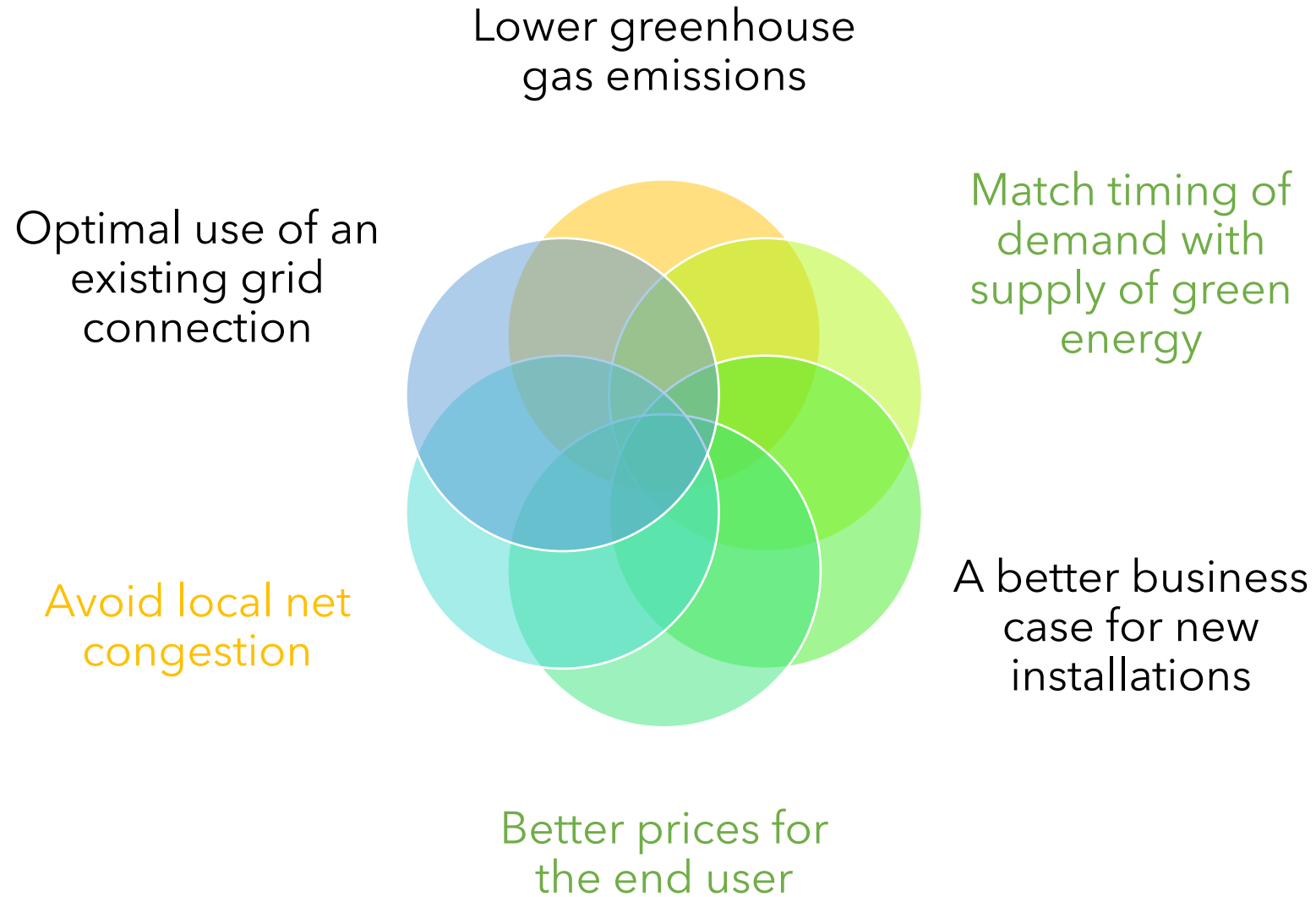
or changing the direction of charging.



With the aim achieving societal
and/or financial benefits

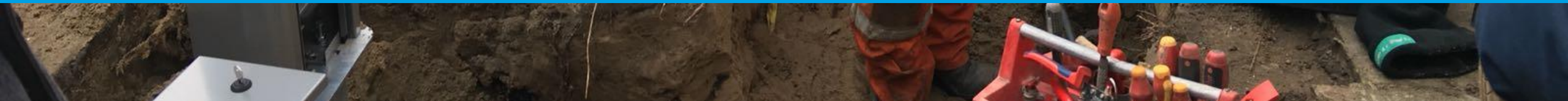


Smart charging goals





Smart charging pilots



Smart charging pilots - overview

	1	2	3	4	5
Aim	Reduce emissions	Postpone energy infrastructure works	Reduce emissions	Postpone energy infrastructure works	Postpone energy infrastructure works
Reliable recharging	Time Amperage restrictions	Amperage Opt-out	Amperage Opt-out	tbd (closed user group)	tbd (closed user group)
Direction(s)	1	1	1	2	2
Steering input	Imbalance market	Simulated netcongestion profiles	EPEX Day ahead market	Building energy production & netcongestion	Netcongestion profiles
CPO	Vattenfall Incharge	TotalEnergies	TotalEnergies	Hilversum energy cooperation	We Drive Solar

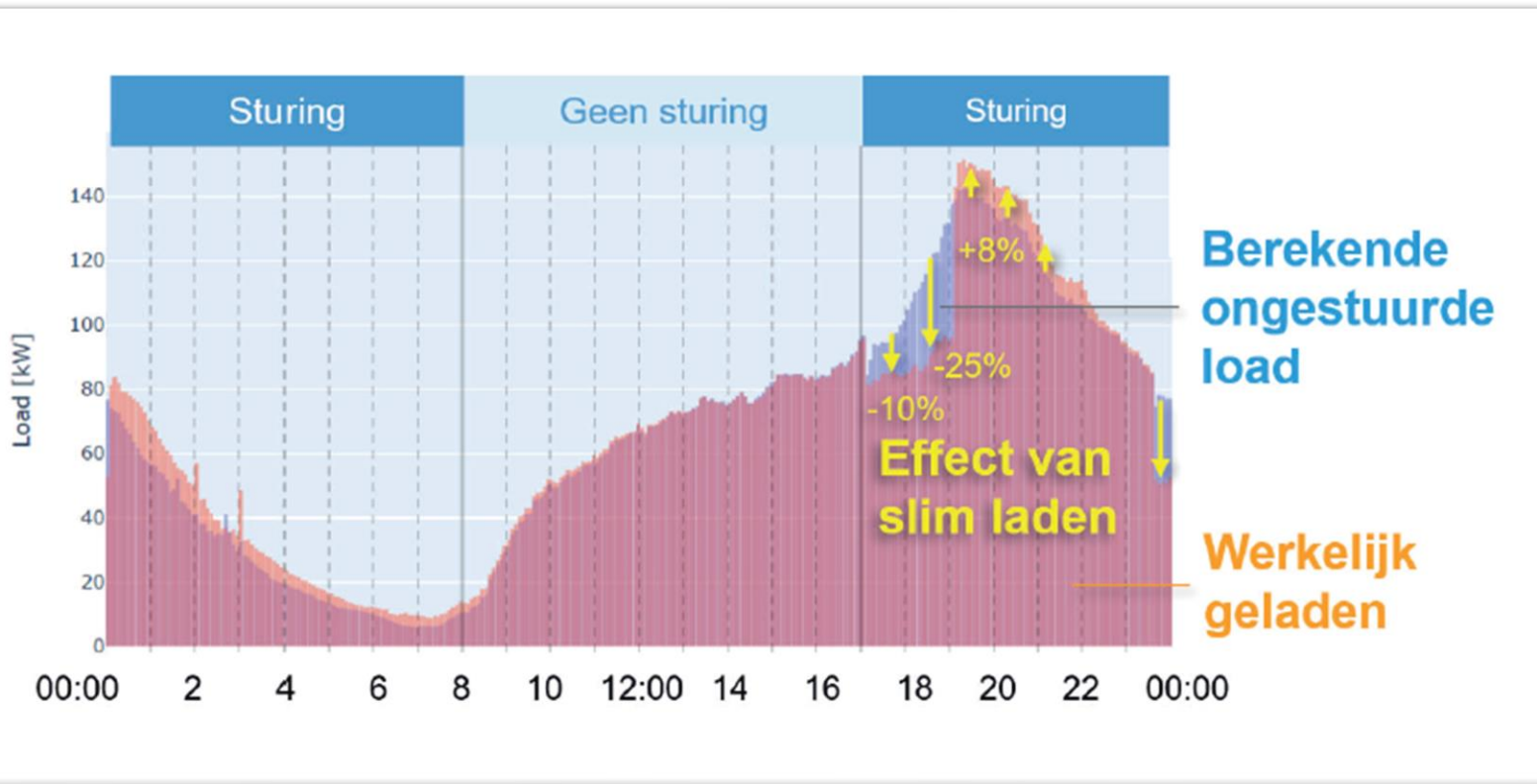
Haarlem smart charging pilot - phase 1

- Pilot in the city of Haarlem with 114 charge points
- Avoid local net congestion
- Steering at cluster level
 - Minor negative effects per sessions
- Experience & data shared in the INCIT-EV project



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 875683.

Phase 1 results



**11% hot unplugs,
equal to average of
unsteered charging**

**Some complaints on
confusing messages from
OEM apps**



Phase 2

- Avoids waterbed effect
- Reduces chances of confusing OEM app messages

Questions, cooperation?

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