

# SCALE

Smart Charging Alignment for Europe

15-06-2022

# Why is SCALE needed? Fit for 55 package

***SCALE***

**SCALE will increase the necessary growth of renewable energy production**



**SCALE will reduce the need and costs for grid reinforcements**



**SCALE will unlock the rapidly growing battery potential of BEVs to provide flexibility and balance the grid**



# Goals of SCALE

## 2Zero - Mass deployment conditions

***SCALE***

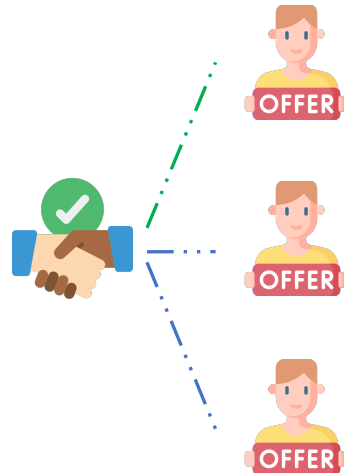
**Maximize the plug-in rate and participation via a user-centric charging eco-system**



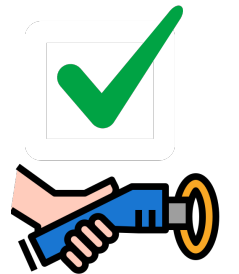
**Prepare the mass-market uptake of V2X**



**Users and fleet operators have complete flexibility to choose suppliers**



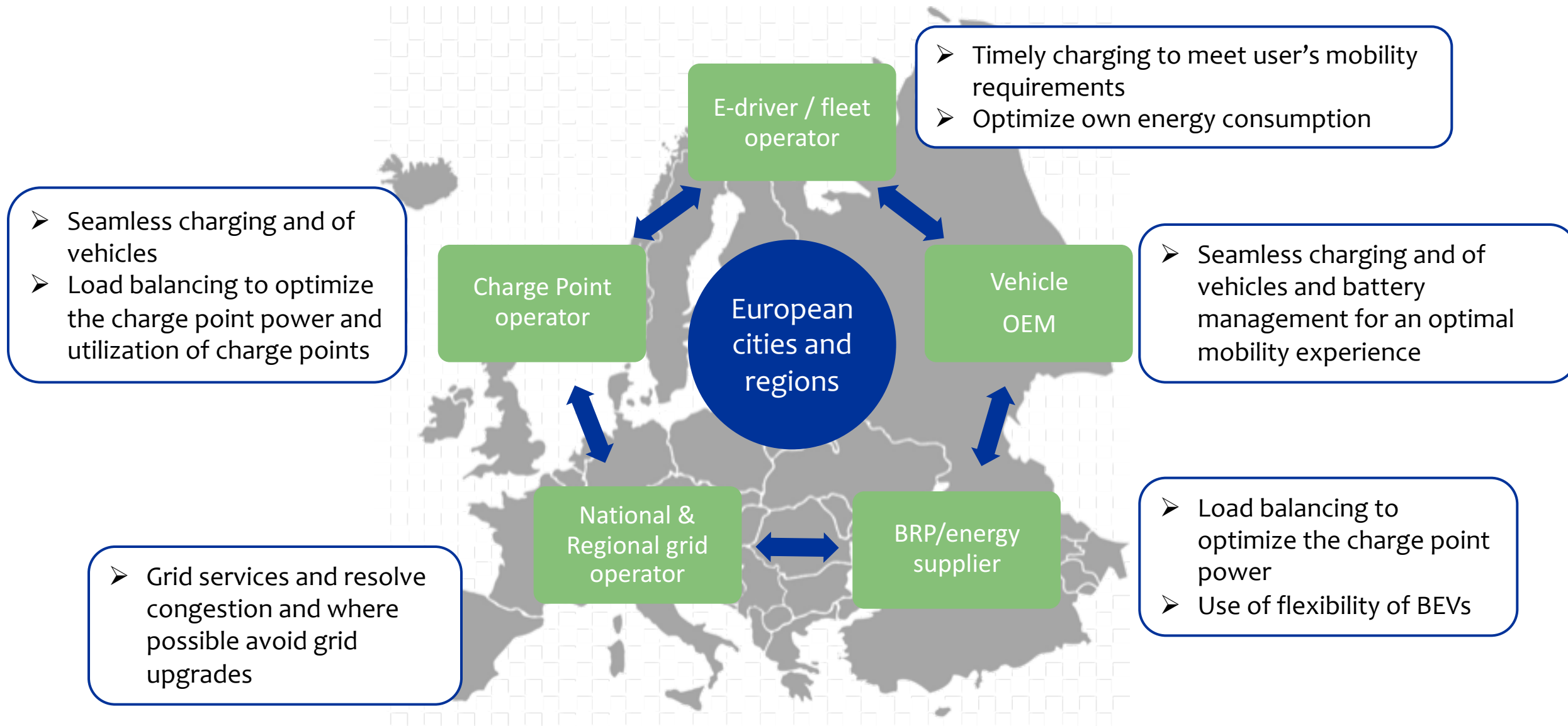
**Making sure that everyone with every vehicle, can smart V2G charge EU wide**



# SCALE charging vision for Europe

*Enable a smart charging eco-system benefitting all relevant actors*

**SCALE**





# Functionalities of SCALE

***SCALE***

**Interoperability &  
standardization throughout the  
charging ecosystem**



**Data (incl. price) transparency  
and availability**

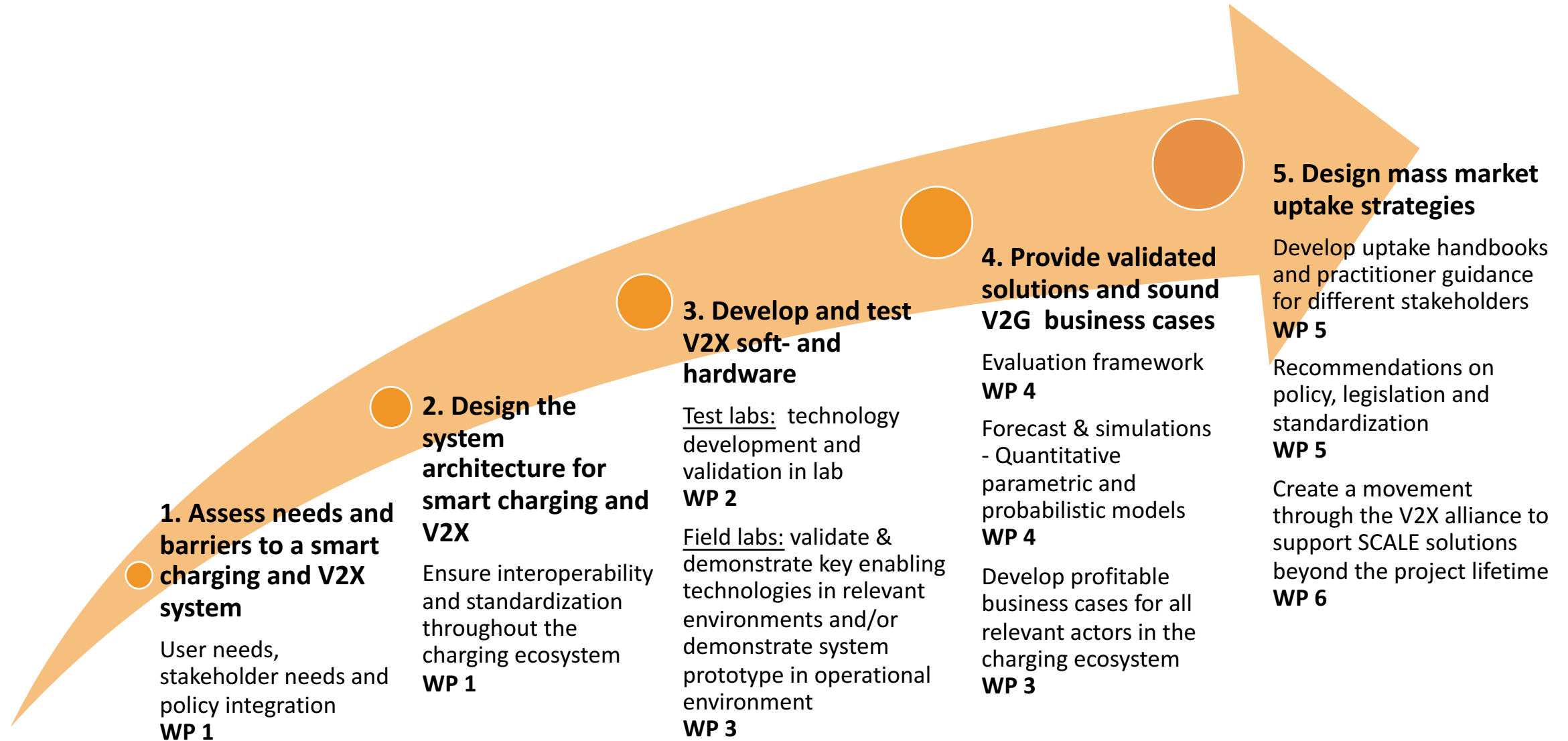


**Frequency control & power  
quality**



**Congestion management**





## Innovation clusters





# Testing

# *SCALE*





# Innovations

*SCALE*



## PRODUCTS

FCR

aFRR

mFRR

Redispatch

Congestion  
Management

## FUNCTIONALITIES

Registration

Bidding

Bid  
Activation

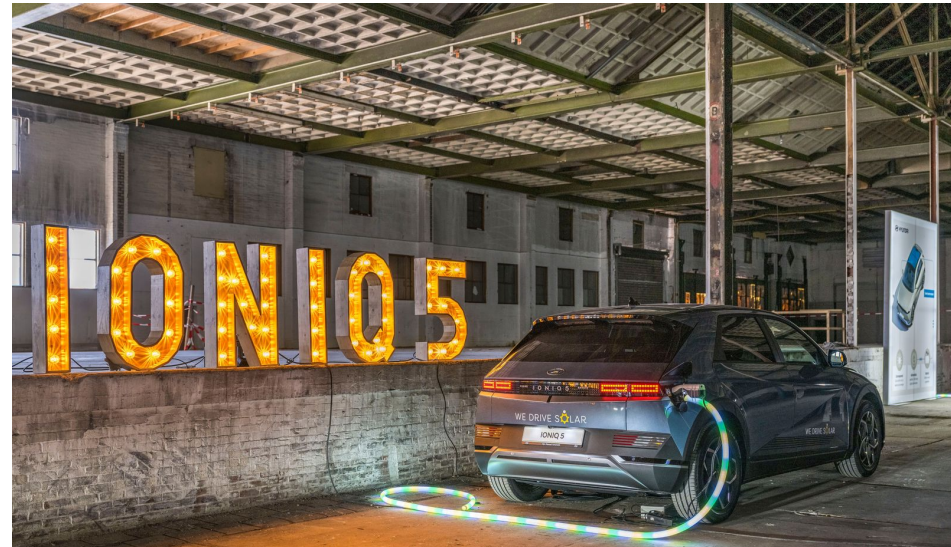
Validation

TSO-DSO  
Coordination

Trusted Data

Standardised European Data Model

Internet Interfaces (APIs)



## OEMs



## E-mobility fleet & software



## Research & knowledge institutes



## Cities & associations



## DSOs & TSOs

