



L'ENERGIA CHE TI ASCOLTA.

# Enel e-mobility project and Enel Info +

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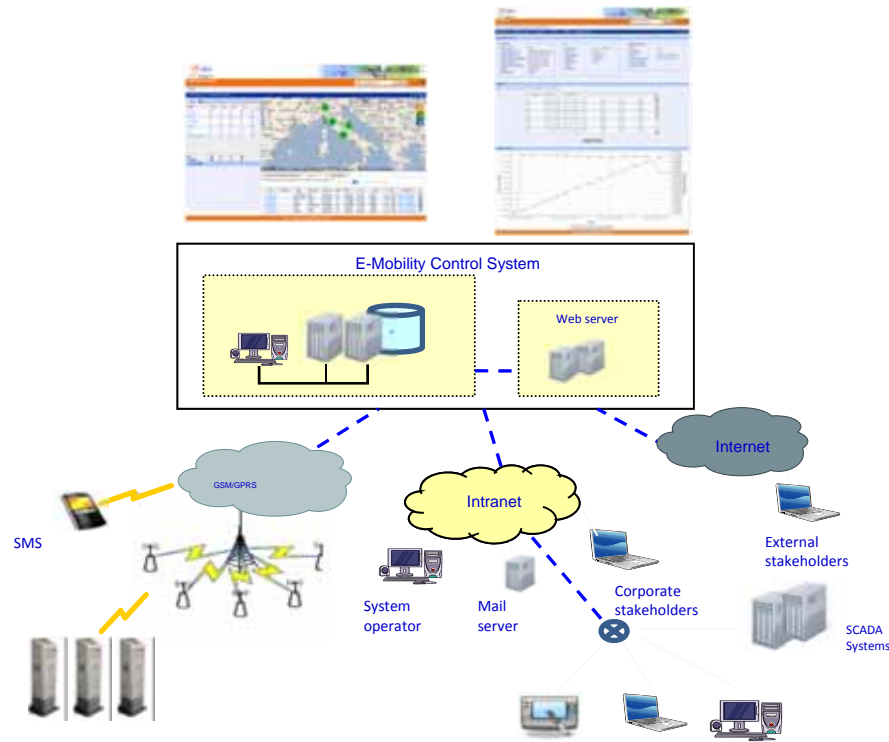


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# Enel Electric Vehicle recharging infrastructure



Designed and Certified



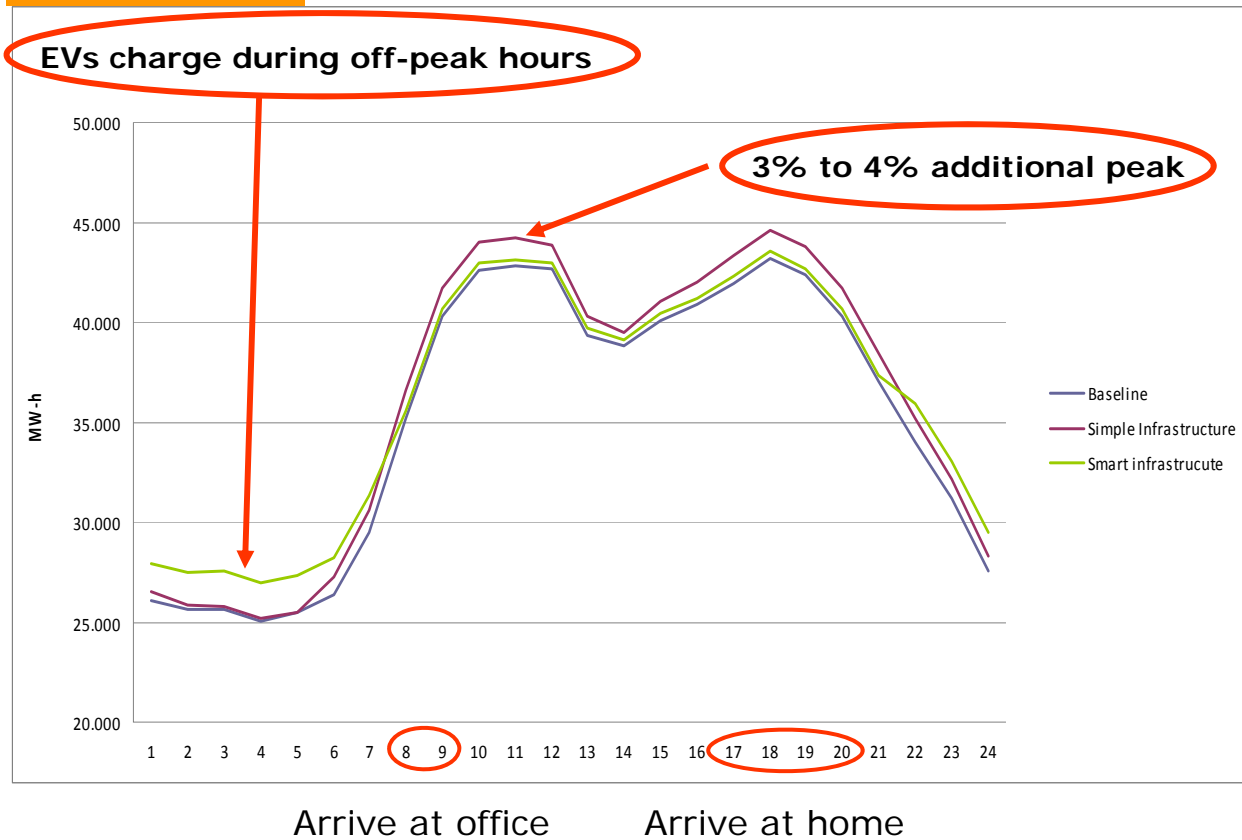
Implemented



Delivered



# EV recharging infrastructure features



- Case study: 4 million EVs will require more than 24 GWh per day
- Clients' usual behaviors implies EVs connection in peak time
- **Smart infrastructure is essential to delay recharge in off-peak times**

- **Using a smart infrastructure, vehicles shall mainly be charged during off-peak hours when there is more energy from renewable sources.**

# Enel EV charging stations

## CHARGING SOLUTIONS

### The Street Pole.

The answer for recharging EVs in public spaces.



- Polyphase.
- Up to 20 kW.
- 2 different EV sockets.
- A charge once a time.

### The Wall Box.

A custom solution for recharging at home.



- Single phase.
- Up to 3,3 kW.
- 2 different EV socket.
- A charge once a time.

### Functionalities

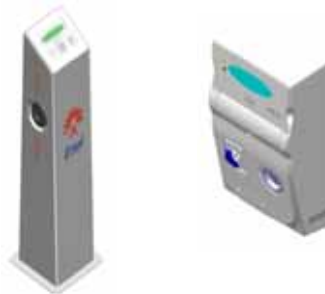
- Network access with RFID ID card.
- Identification and authorization to charge from Clearing House.
- GPRS communication enabled.
- Power line communication enabled.
- Data acquisition and transmission of every single charge procedure.
- Remote monitoring and availability check.
- Recharge process remote control.

All solutions embedded with revenue-grade smart-metering, ready for integration into the upcoming smart grid.

# Enel new EV charging stations



- GPRS - EMM communication.
- Customer identification through RFID.
- Recharges remotely control.
- Customer info through display.
- Smart communication with EV.



- Pole supports 2 recharge at the same time.
- Integrated electronic board
- Mechanical redesign to optimize the manufacturing process.



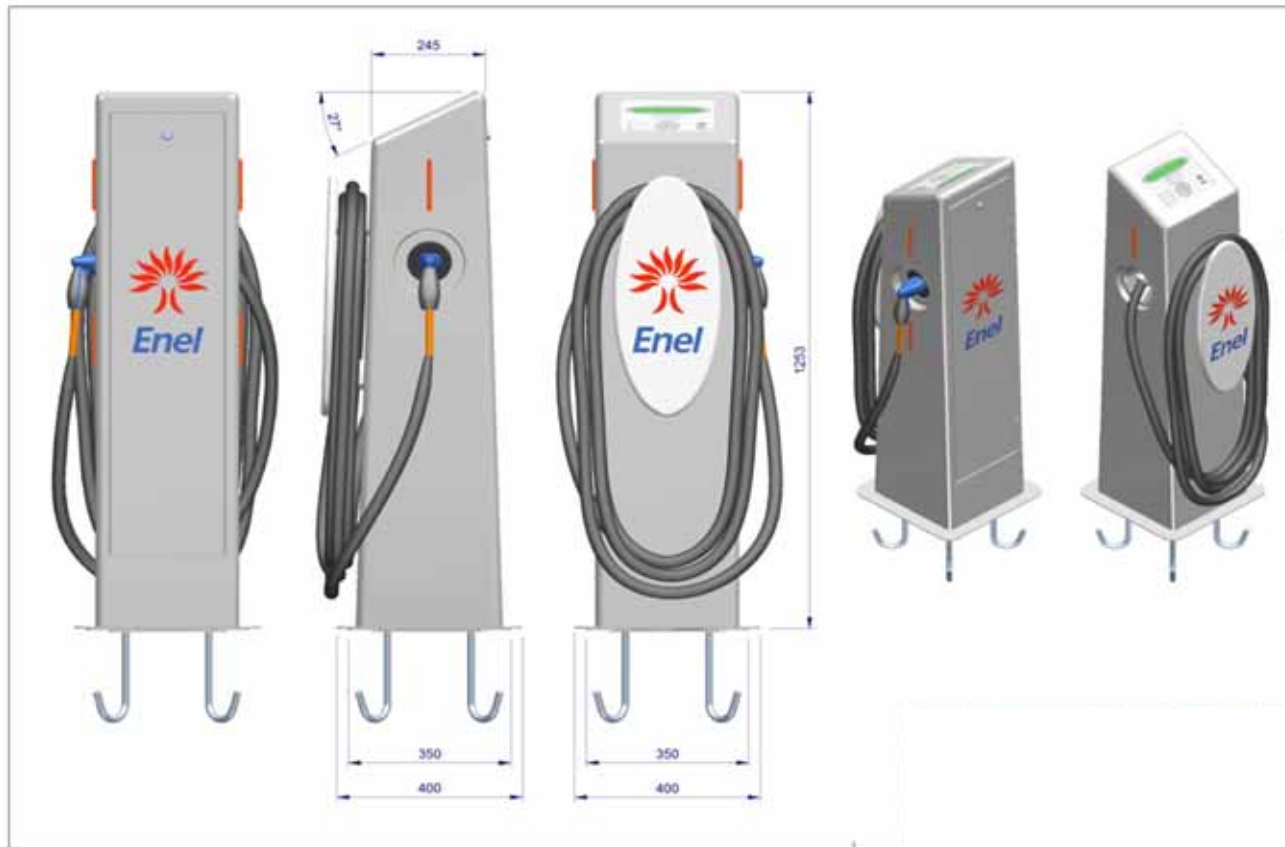
- Master/Slave architecture.
- Recharge cable attached to the station.
- New manufacturing process.



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# Enel EV fast charging stations

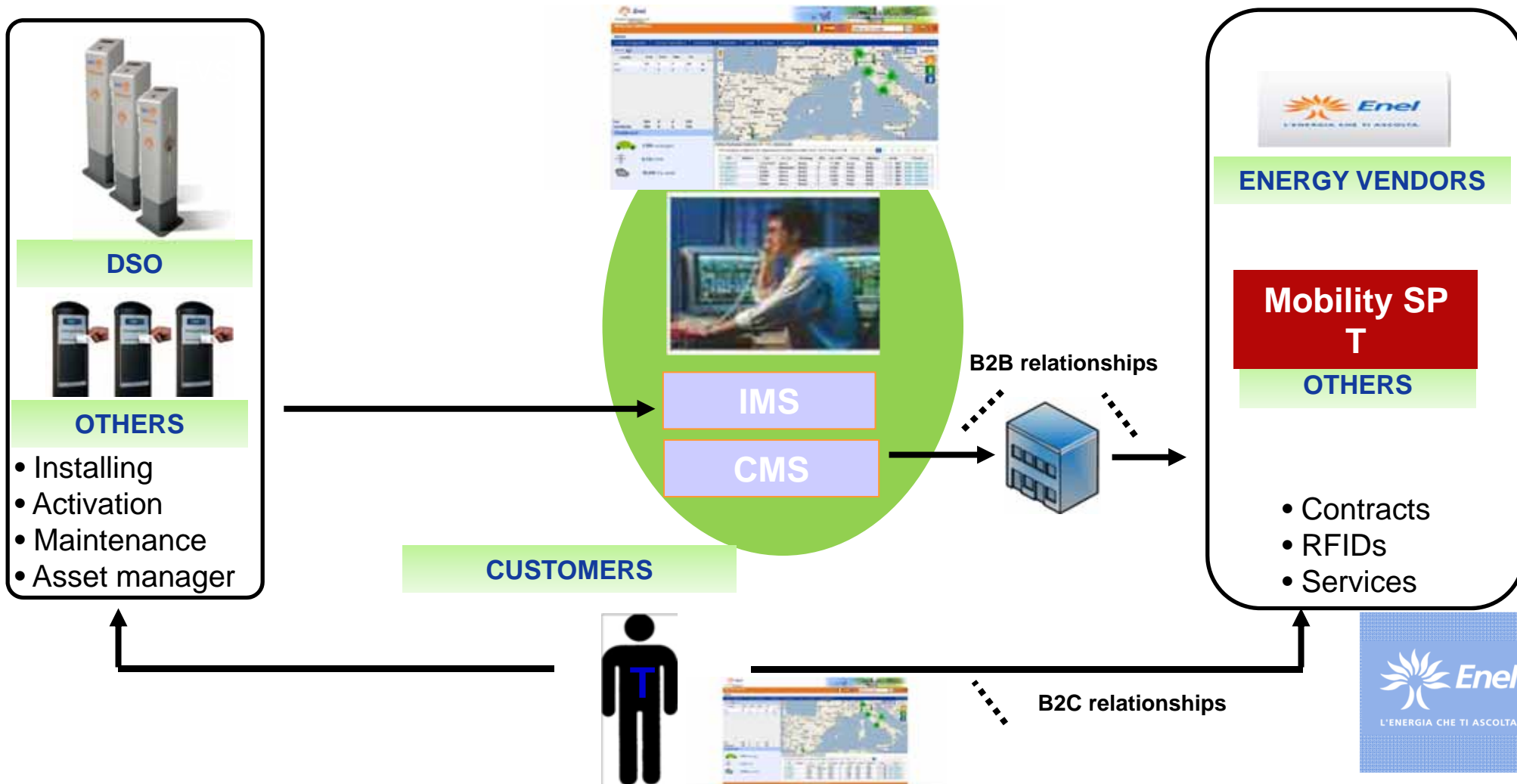
## AC 43 kW fast charging station



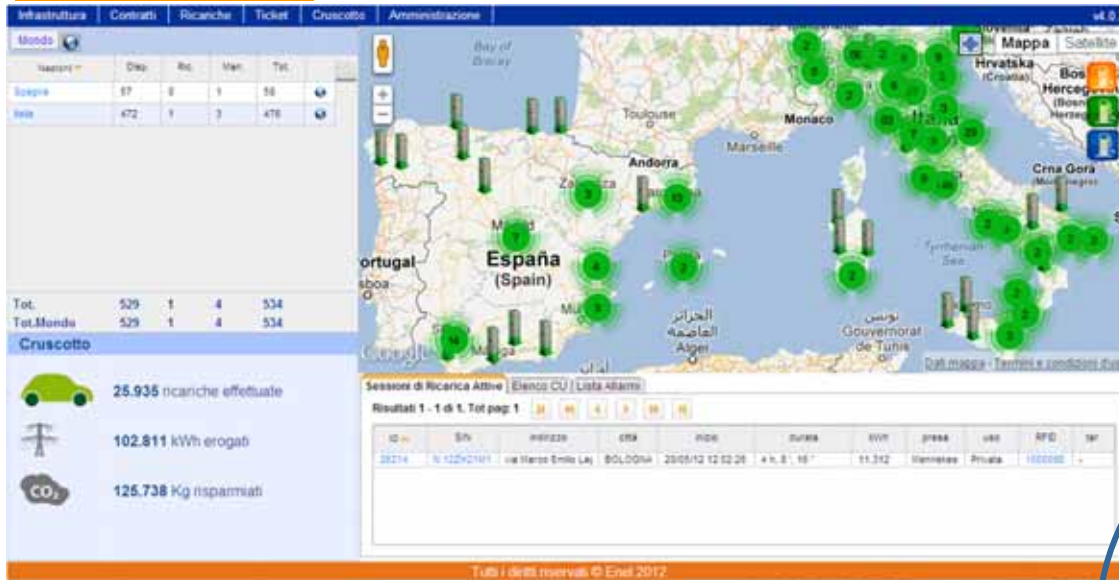
Full recharge in less than  
30 minutes

First prototype tested successfully with new Renault Zoe

# EV recharging infrastructure central system - EMM



# The EMM core functionalities



## The “Brain” for E-Mobility

### Power Grid Control

- Grid integration
- Multi DSO

### Infrastructure Management

- Activation
- Configuration
- Localization

### Contracts and services

- Customers
- Contracts
- Recharging services





# EMM new services

iPad, iPhone, Android Apps



Web portal and start/end recharge sms



Charging stations booking



EMM - Electro-Mobility Management



Car manufacturers Data Centre communication



Smart-Grid integration



## Accessibilità ai dati di misura

### Enel smart info



*Utilizzabile in qualsiasi presa di corrente domestica*

*Associato univocamente ad un Contatore Elettronico*

*Rende disponibili dati relativi ai consumi e/o alla produzione*

## Il kit utilizzato per il progetto Enel Info+

### Smart Info



Smart Info  
Display

### Smart Info Manager



Smart Info  
Mobile

# Funzionalità dei diversi componenti del kit

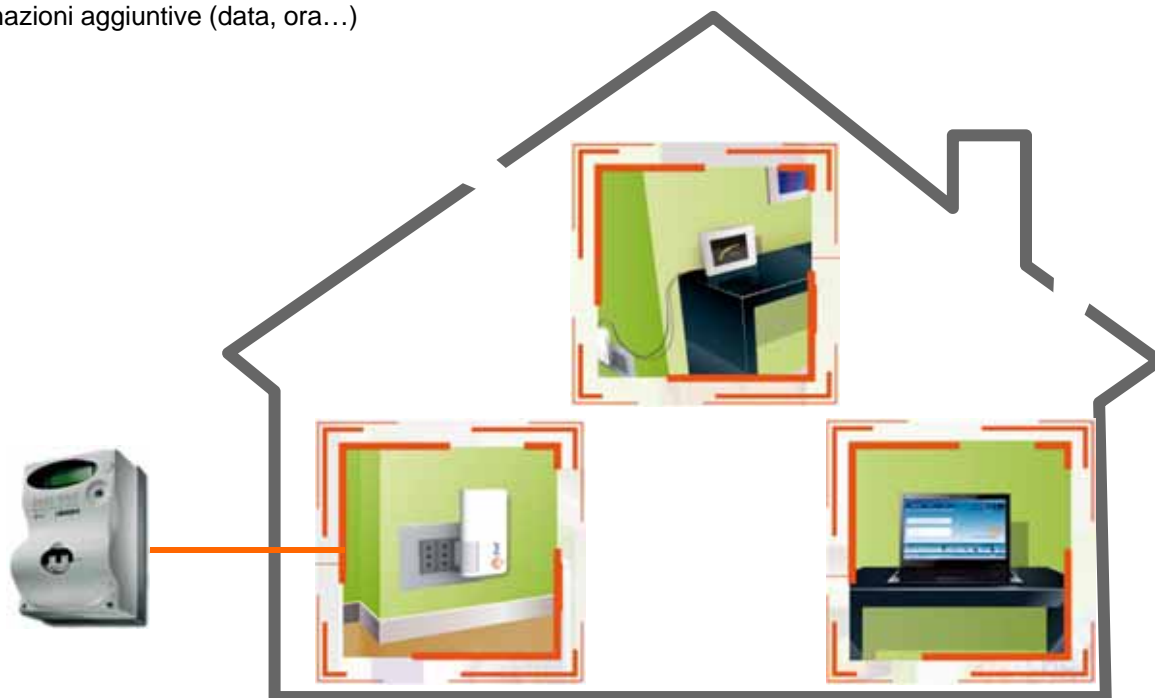
## VEDI: Smart Info Display

- Consumi attuali, storici e trend
- Notifica cambi di fascia tariffaria
- Allarmi per soglie di potenza
- Visualizzazione dati contrattuali
- Messaggi inviati dal centro
- informazioni aggiuntive (data, ora...)

## ANALIZZA: Smart Info Manager

“VEDI” più:

- analisi dettagliata della curva di carico
- confronto trend di consumo
- suggerimenti per l'efficienza energetica



## ESPLORA: Smart Info Mobile

“VEDI” + “ANALIZZA” servizi accessibili da smartphone



# La soluzione che abilita il coinvolgimento attivo dei clienti



Lo smart info rappresenta la soluzione per abilitare tecnicamente il ruolo attivo dei clienti nel mercato dell'energia elettrica



**Thank you for your kind attention**

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