

Tarragona  
Smart  
Mediterranean  
City



Sede en Viladecavalls (Barcelona)

# 1a Conferencia BioEconomic® Autoconsumo

“Autogeneración Energética Inyección Cero y Aisladas”

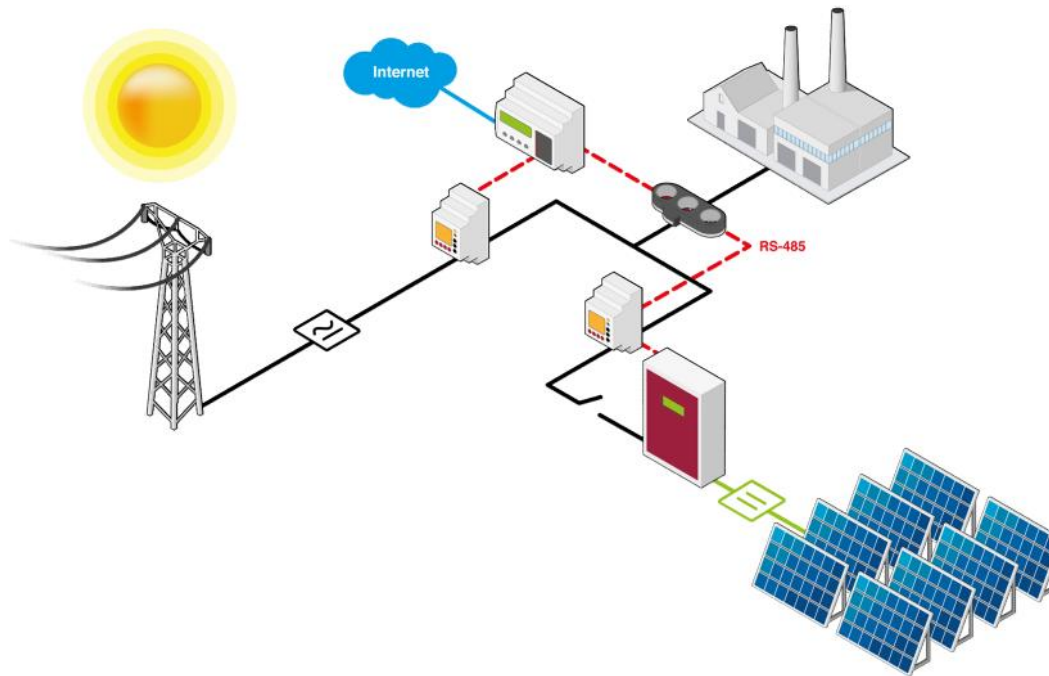
En el marco del 1er Ciclo de Conferencias BioEconomic® 2014 - 2015  
Tarragona Smart City 2017



cr centre de recursos per a l'aprenentatge

# ON-GRID SYSTEMS

## DYNAMIC POWER CONTROL & LOAD MANAGEMENT CDP-0 / CDP-G

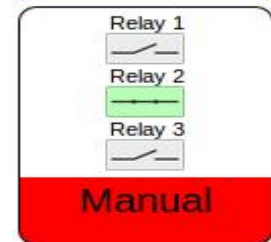
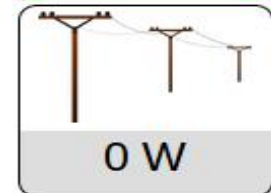


### CDP-G

*Non injection to the grid  
Load management*



**CIRCUTOR Energy**

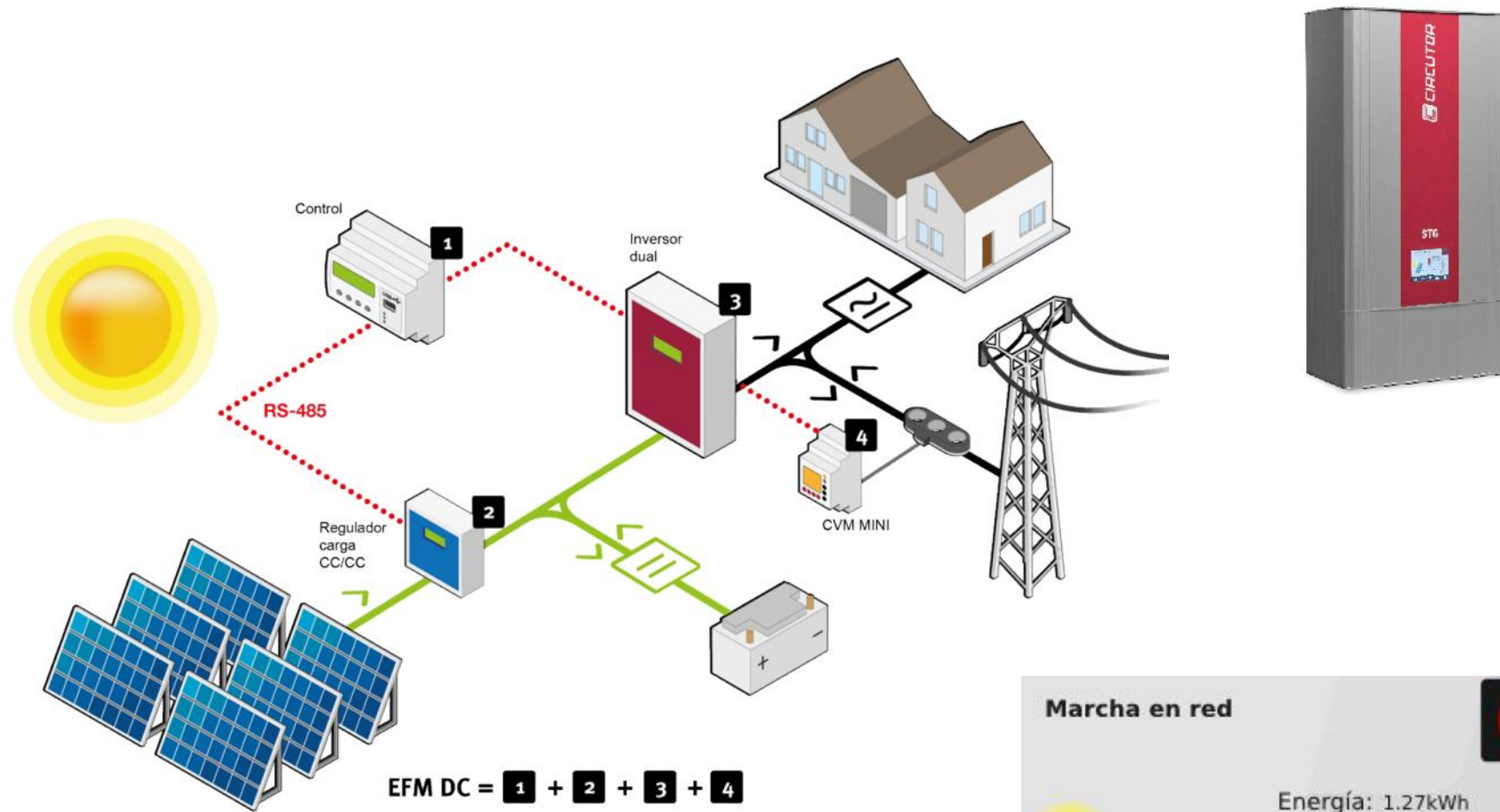


**Self sufficiency  
improvement**

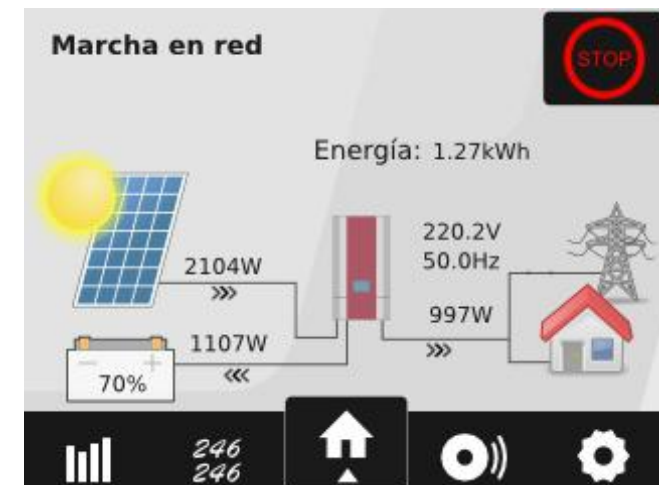


<https://www.youtube.com/watch?v=TcZa1Rk4OMU>

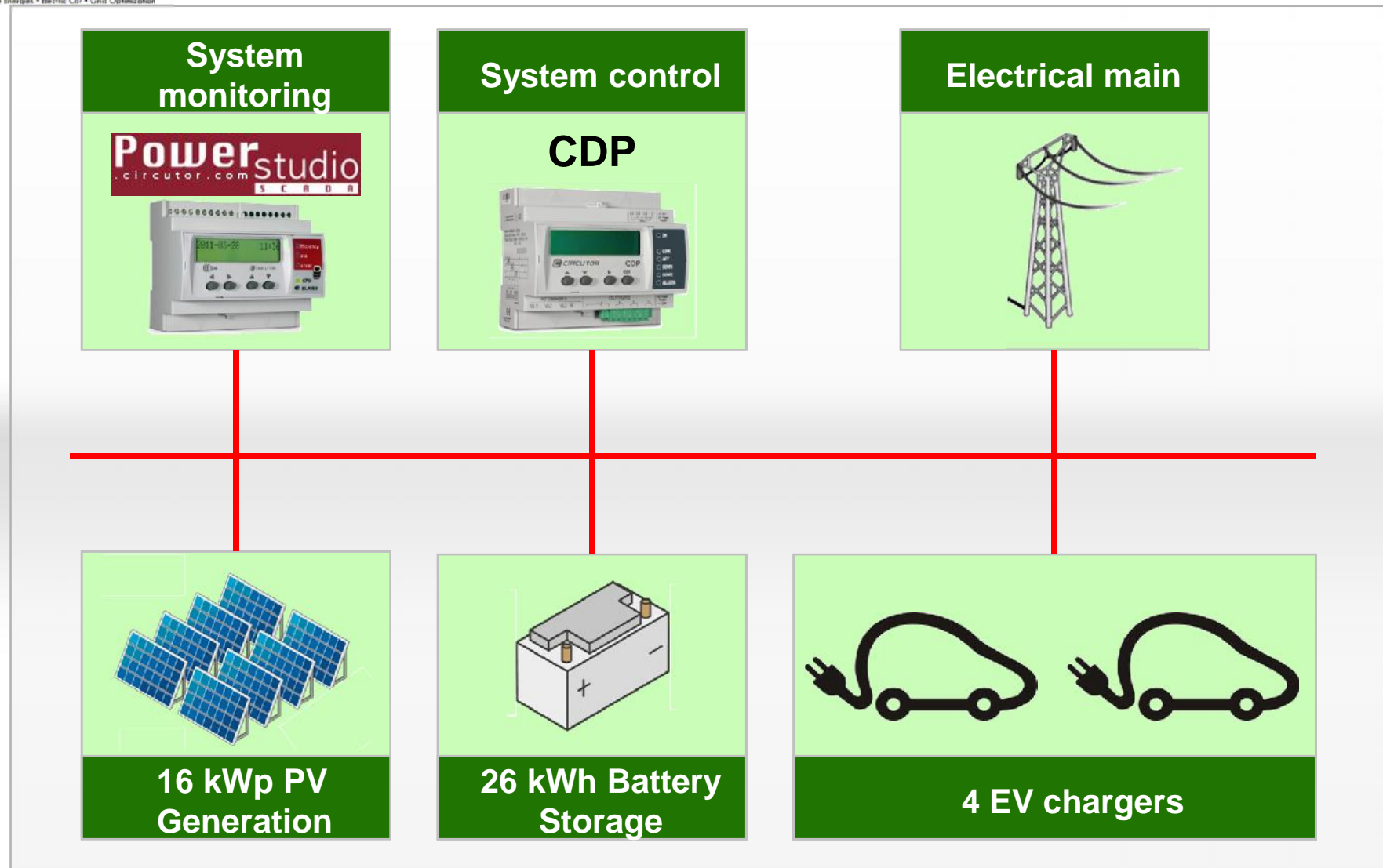
# Self consumption with storage



Available in October - 2014



# Simplification: Block diagram







# Main components of the system



**16 kWp**



**3 x 5 kWn**

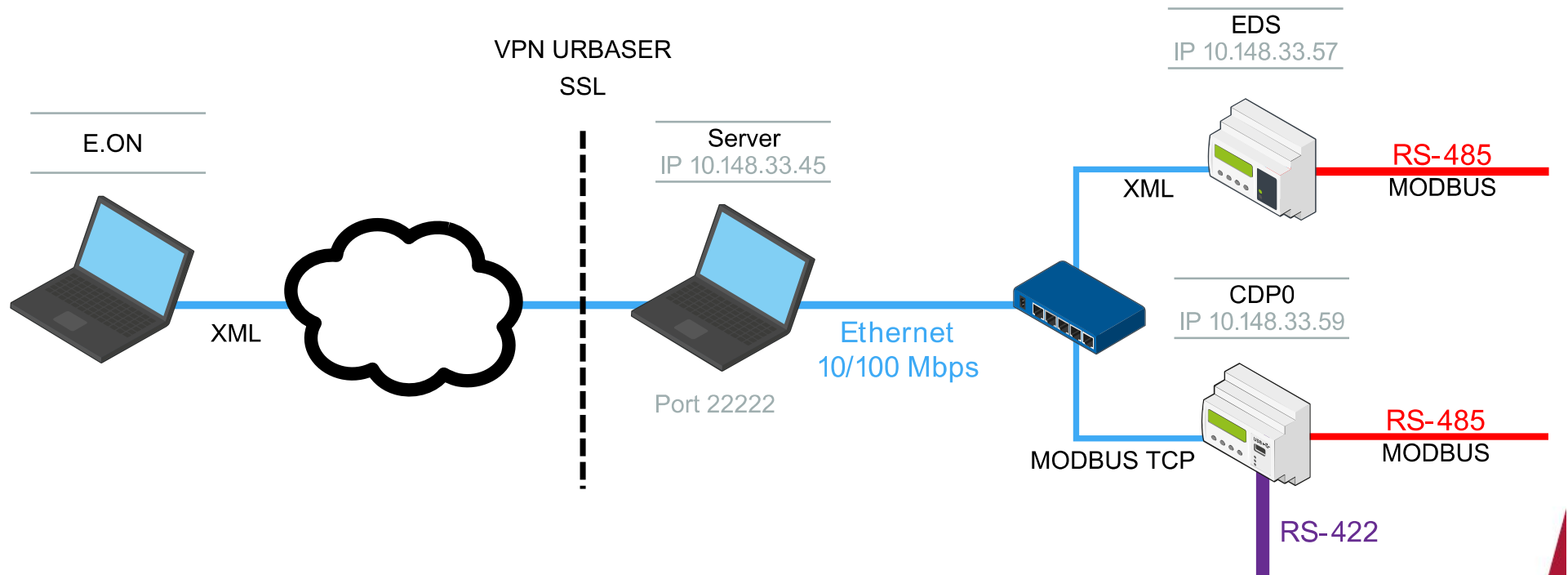


**3 x 3,5 kWn**

**3 x 8,5 kWh**



# System Integration PowerStudio SCADA



## Project's Electric Vehicles





# GENERAL

05 / 11 / 2013  
17 : 07 : 03

Renewable energy EV's Charging  
system management



GENERAL



GENERACIÓN  
FOTOVOLTAICA



BATERÍAS



VEHÍCULOS /  
OFICINA



ESQUEMA  
ELÉCTRICO



ESQUEMA  
COMUNIC.

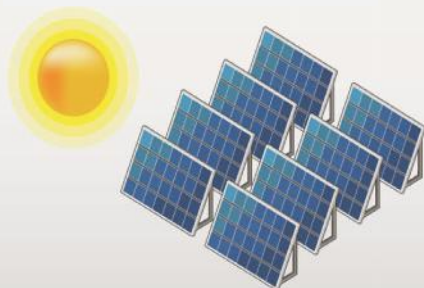


INFORMES



GESTIÓN

## PV POWER



5,80 kW<sub>GEN</sub>

3,80

2,00

## ENERGY STORAGE



2,00 kW<sub>CON</sub>

-0,01 kW<sub>GEN</sub>

## GRID

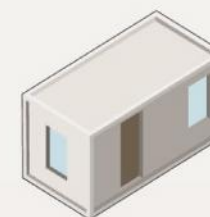


0,00 kW<sub>GEN</sub>

-0,00 kW<sub>EXP</sub>

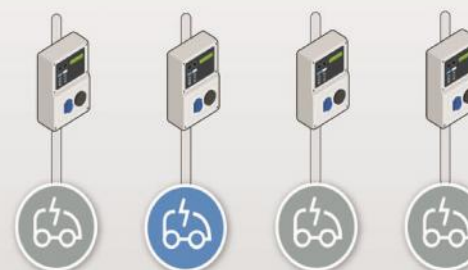
## LOADS

OFFICE



1,80 kW<sub>CON</sub>

## EV CHARGERS

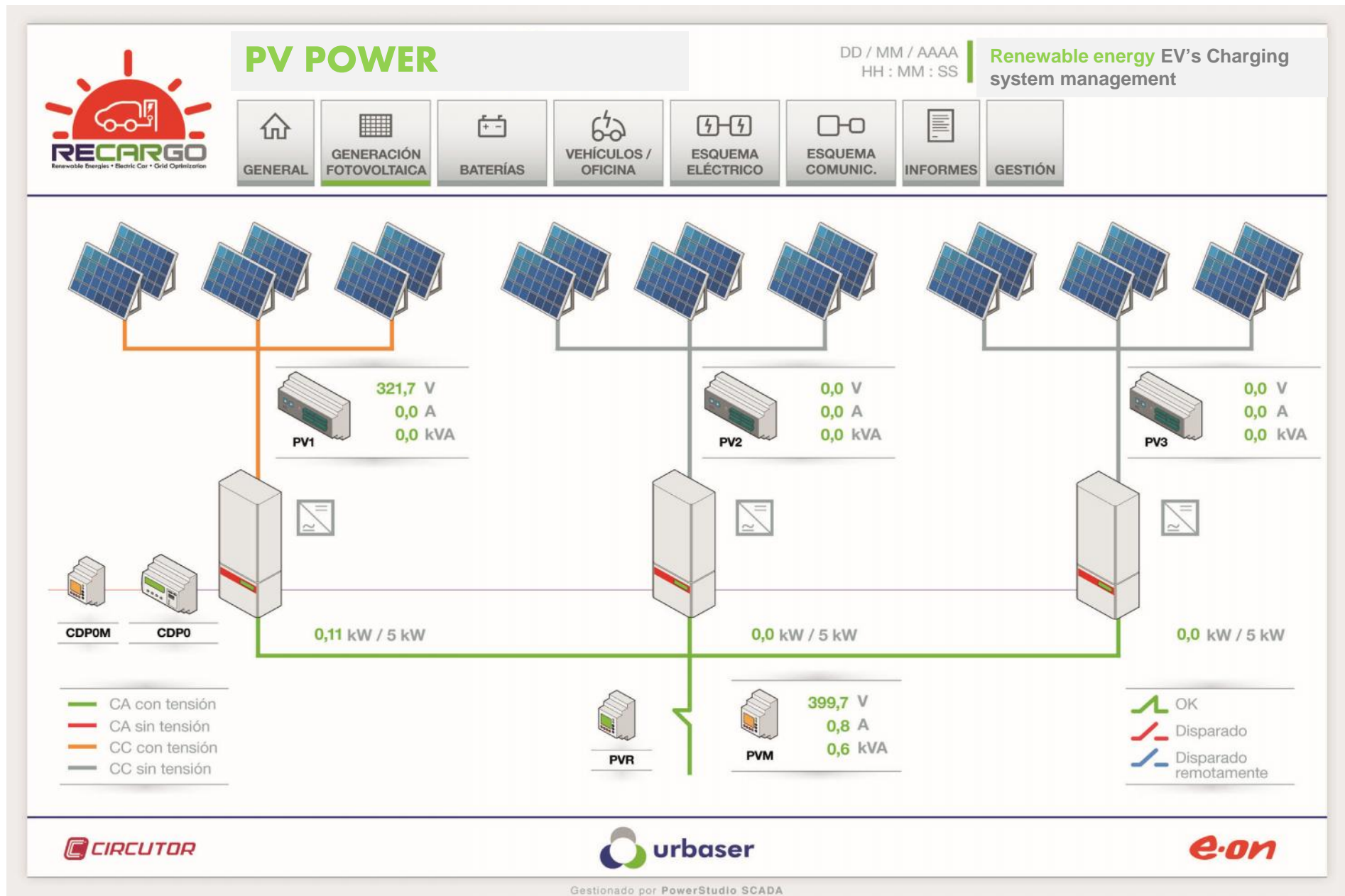


2,00 kW<sub>CON</sub>





# Monitoring by Power Studio SCADA



# Monitoring by Power Studio SCADA



## ENERGY STORAGE

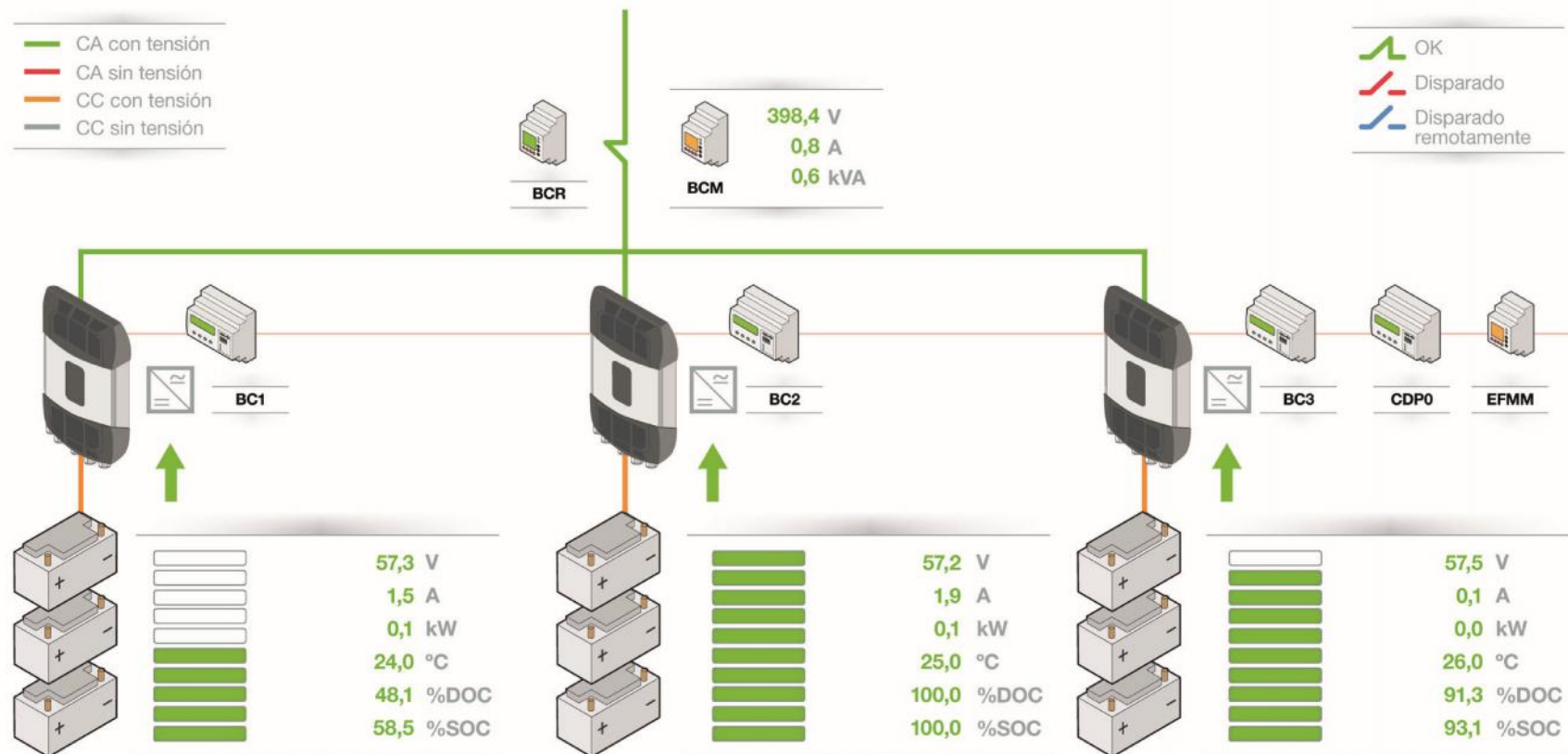
DD / MM / AAAA  
HH : MM : SS

Renewable energy EV's Charging  
system management



- CA con tensión
- CA sin tensión
- CC con tensión
- CC sin tensión

- OK
- Disparado
- Disparado remotamente



## 4 places Carport – Demo system



3 x 3,5 kW  
Single phase  
inverters

Power dynamic  
control CDP-0



Monitoring,  
control and  
protection  
cabinet



6,3 kWp  
PV modules



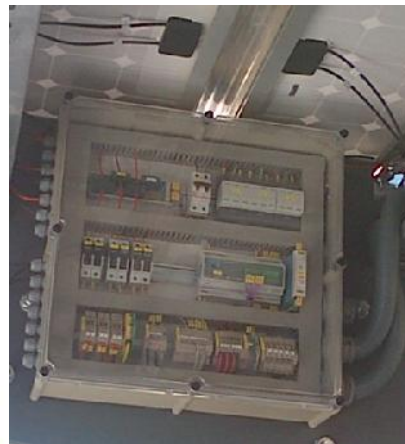
# 4 places Carport – Demo system



L1: 44%  
L2: 58%  
L3: 60%

Monitoring through  
webserver

DC measurement and  
protection cabinet



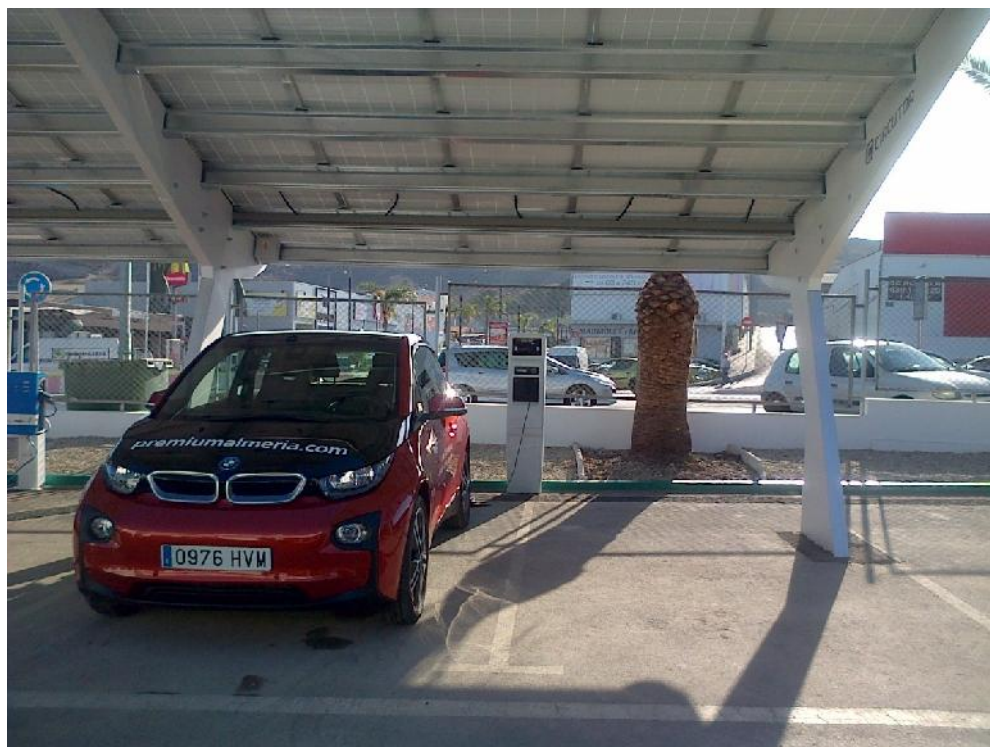
General view



Power Studio Scada main screen



# Selfconsumption at BMW's car dealer



PV installed power:

7 kWp on a solar car port

15 kWp on a Tracker

PV inverters:

Injection control:

Location:

22 kWp

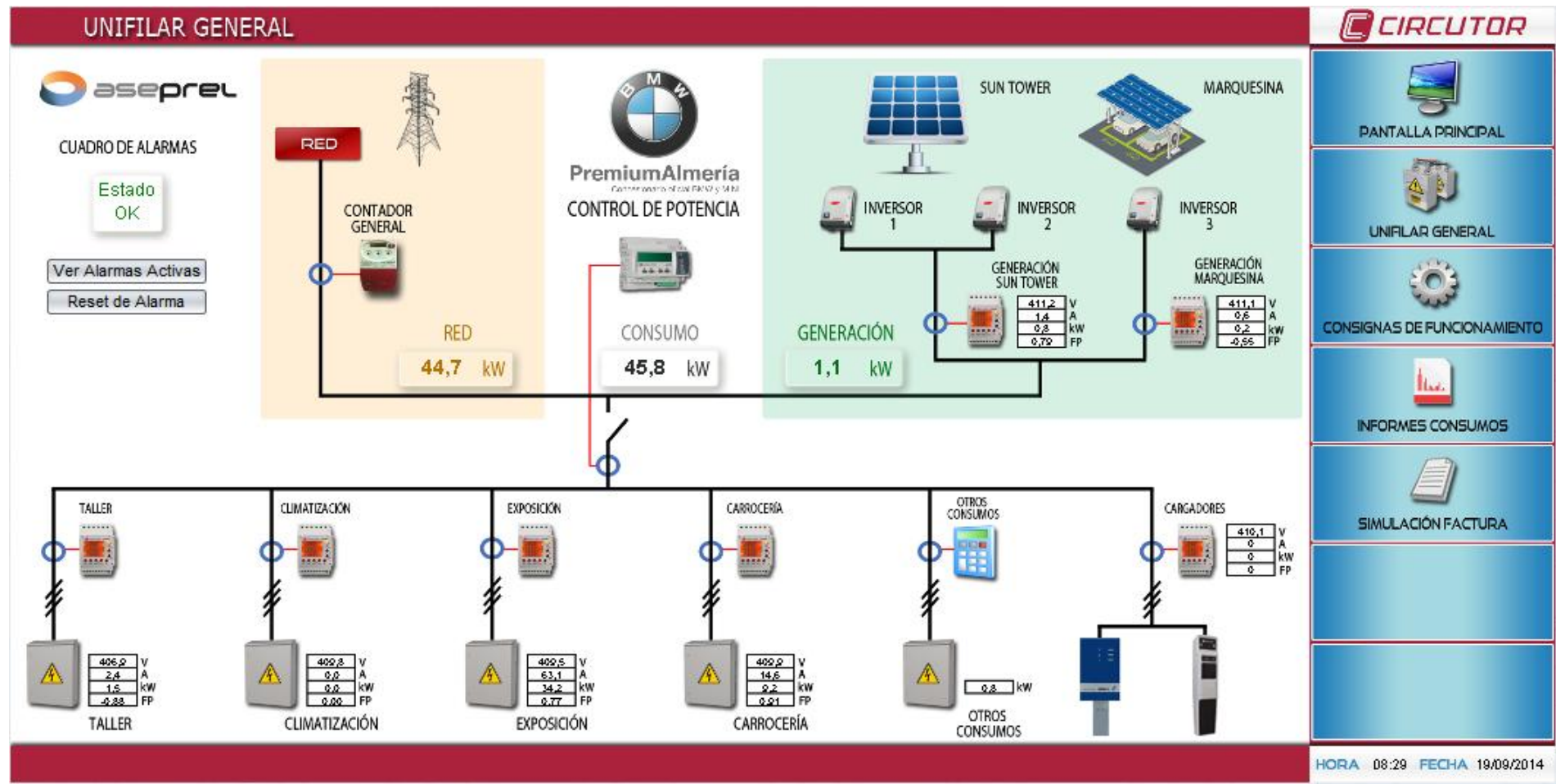
3 x 7 kW

CDP-0

Almeria, SP



# Selfconsumption at BMW's car dealer



# Selfconsumption, Hotel in Costa Brava



PV installed power:

PV inverters:

Injection control:

Location:

36 kWp

3 x 12 kW

CDP-0

Costa Brava, Girona





# Selfconsumption at PAMI ES - Lleida



PV installed power:

15 kWp

PV inverters:

3 x 6 kW

Injection control:

CDP-0

Location:

Balaguer, Lleida

<http://www.emoncms.org/adeinnova&id=14778>





**Thanks**  
**For your attention**

