

TwInsider session #2

Case study: Iberian Pilot Site

etra|+D

Esteban Pastor Calatayud

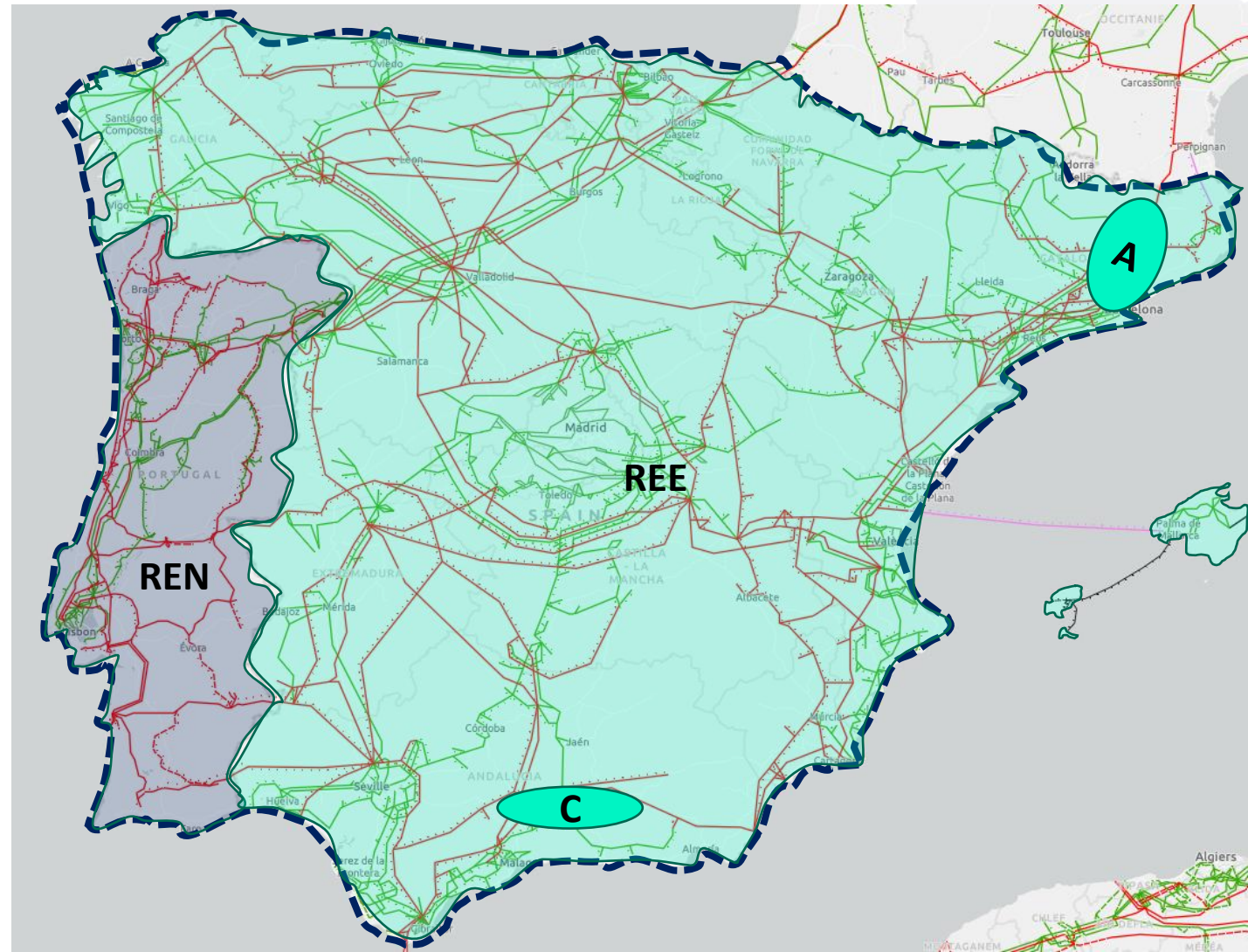


This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement N°101136119

TwinEU

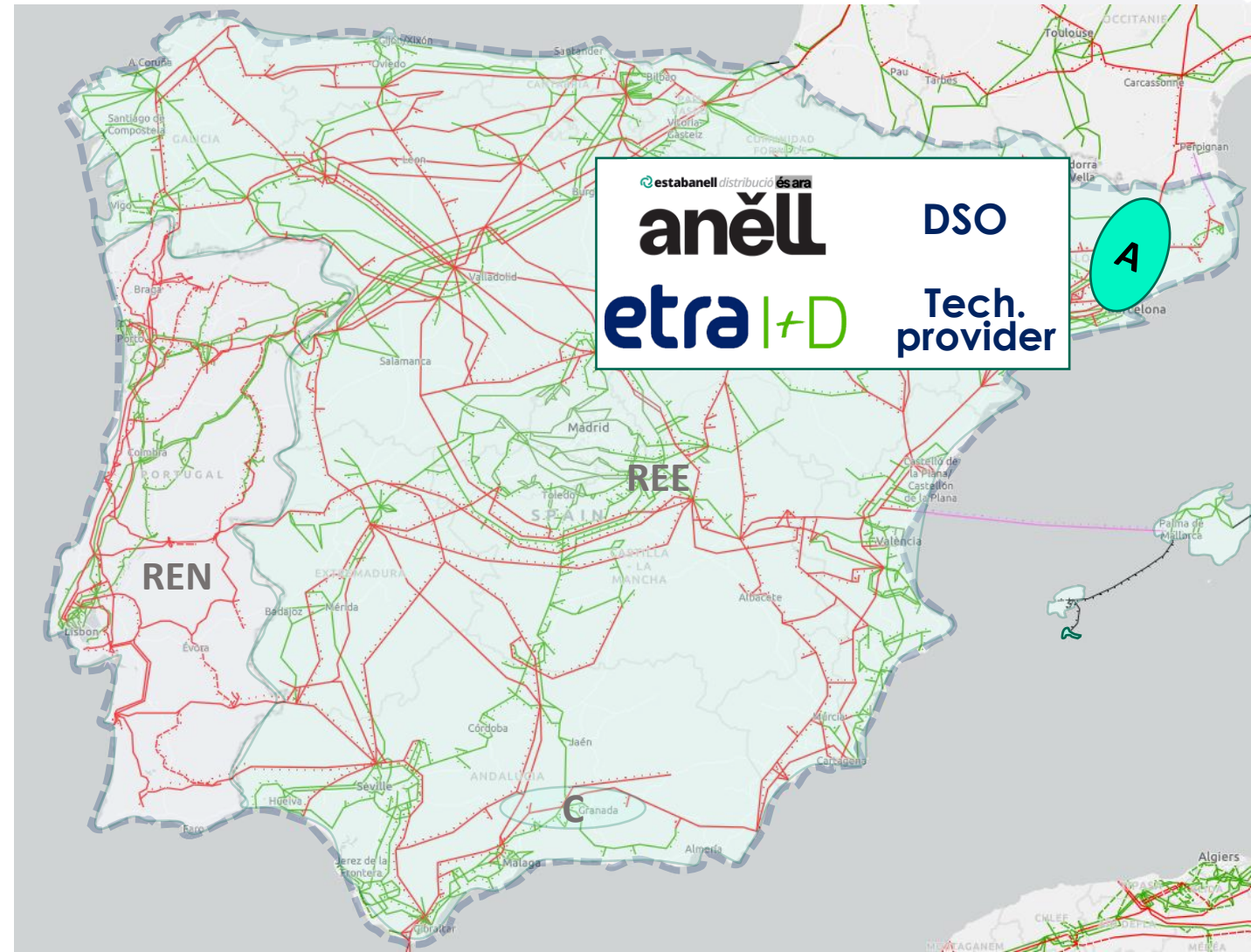
Systems, grid infrastructure and sites involved

- REE: REE's transmission grid modelled in the DT
- REN: REN's transmission grid modelled in the DT
- A: ANELL's distribution grid modelled in the DT.
- C: Cuerva's distribution grid modelled in the DT
- OMIE's Digital Twins: Covering the entire Iberian Peninsula
- INESC TEC's HL DT: Covering the entire Iberian Peninsula



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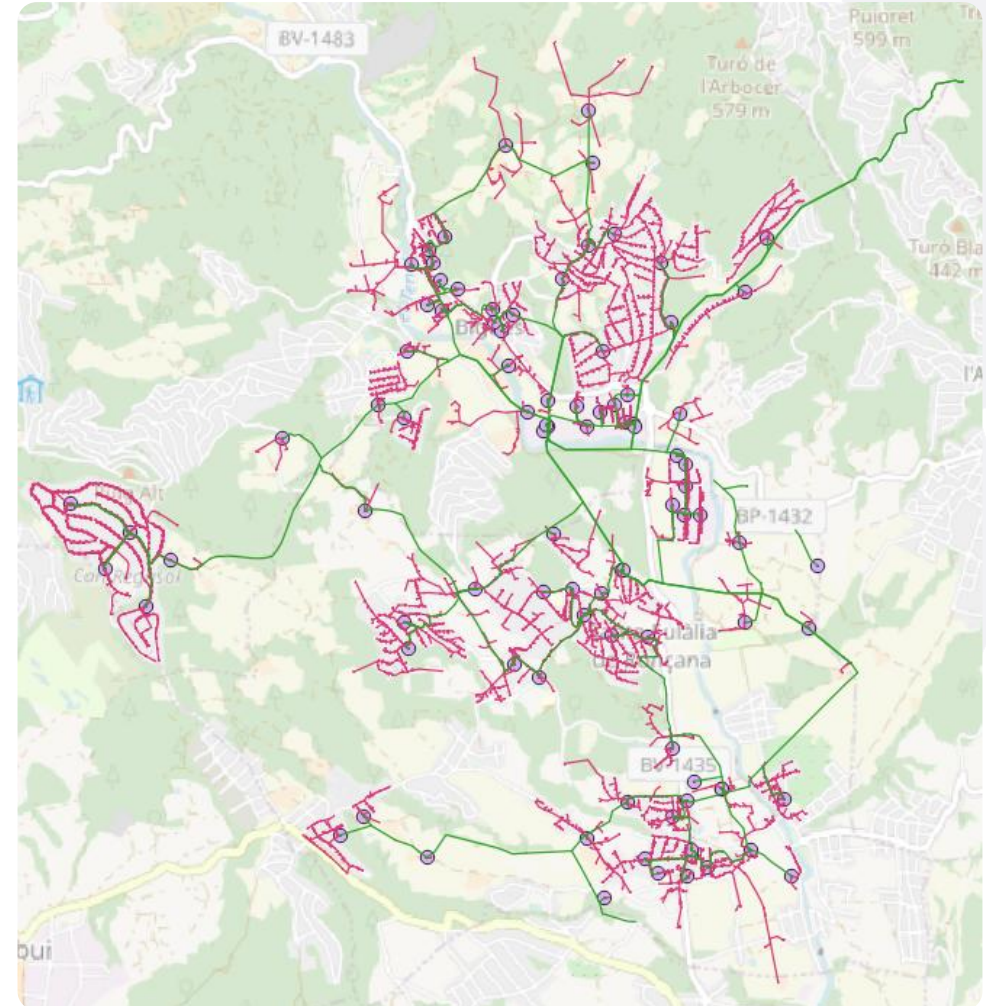
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ANELL's piloted distribution grid

Santa Eulàlia de Ronçana area.
Characterised by high PV penetration at
industrial and residential level.

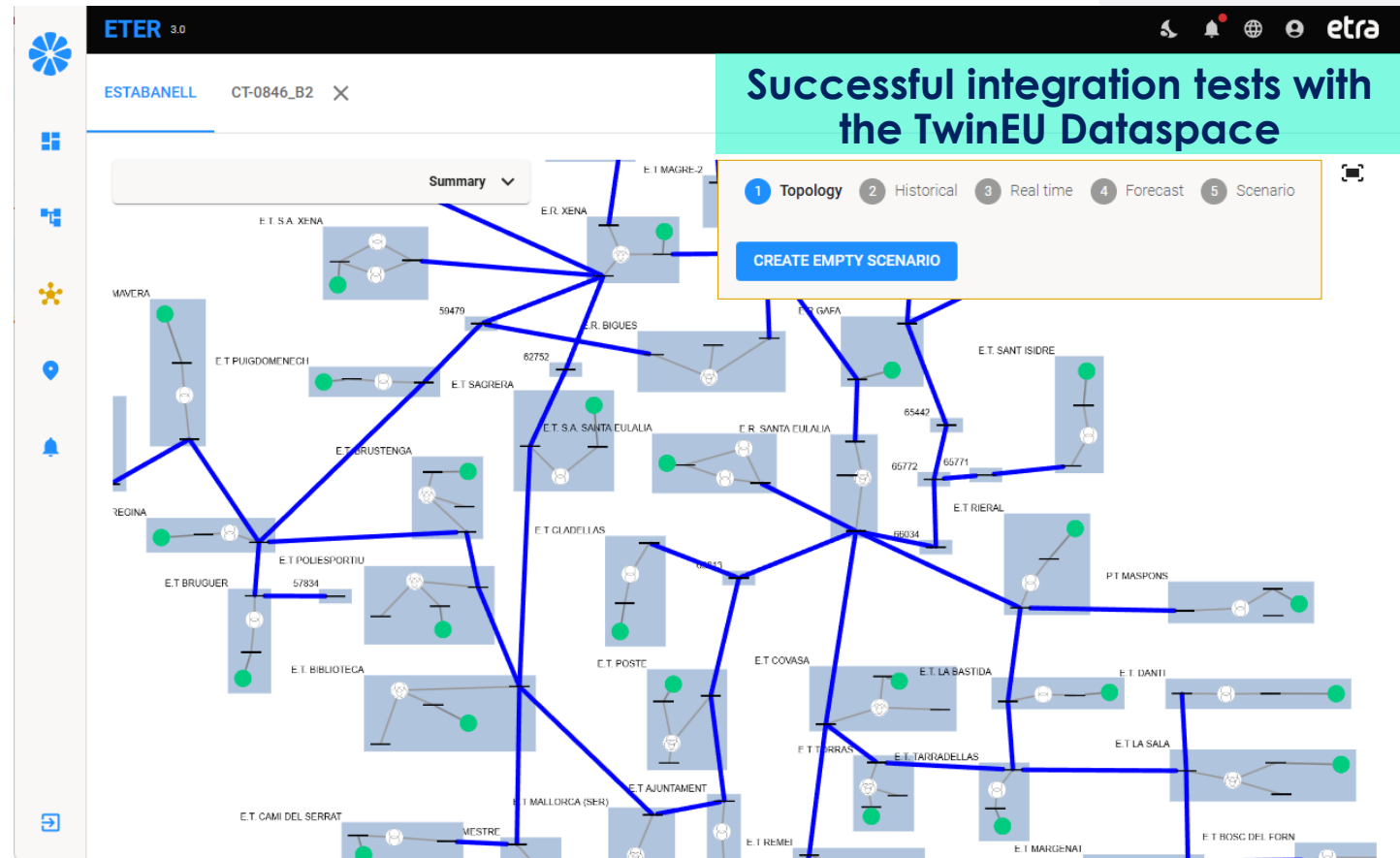
- 28.4 km of MV lines and 78.8 km of LV
- 2 primary substations
- 42 secondary substations
 - 37 with supervision
 - 10 with advanced supervision
- ~300 self-consumption in ~2600 supply points
- Collecting additional data from smart meters



ANELL's distribution grid Digital Twin

Based on ETRA's ADMS: ÉTER.

Connected to the DT federation as integration tests with the TwinEU Dataspace have successfully been executed.



A snapshot on some of the use cases proposed for ANELL's distribution grid DT and the use of TwinEU's dataspace

Local use case –
not making use of
the TwinEU
dataspace

UC Ib06 Grid hosting capacity

viability assessment
for further
deployment of
generation (RES)
and consumption
(e.g., data centres)
assets

UC Ib14 Flexible connection

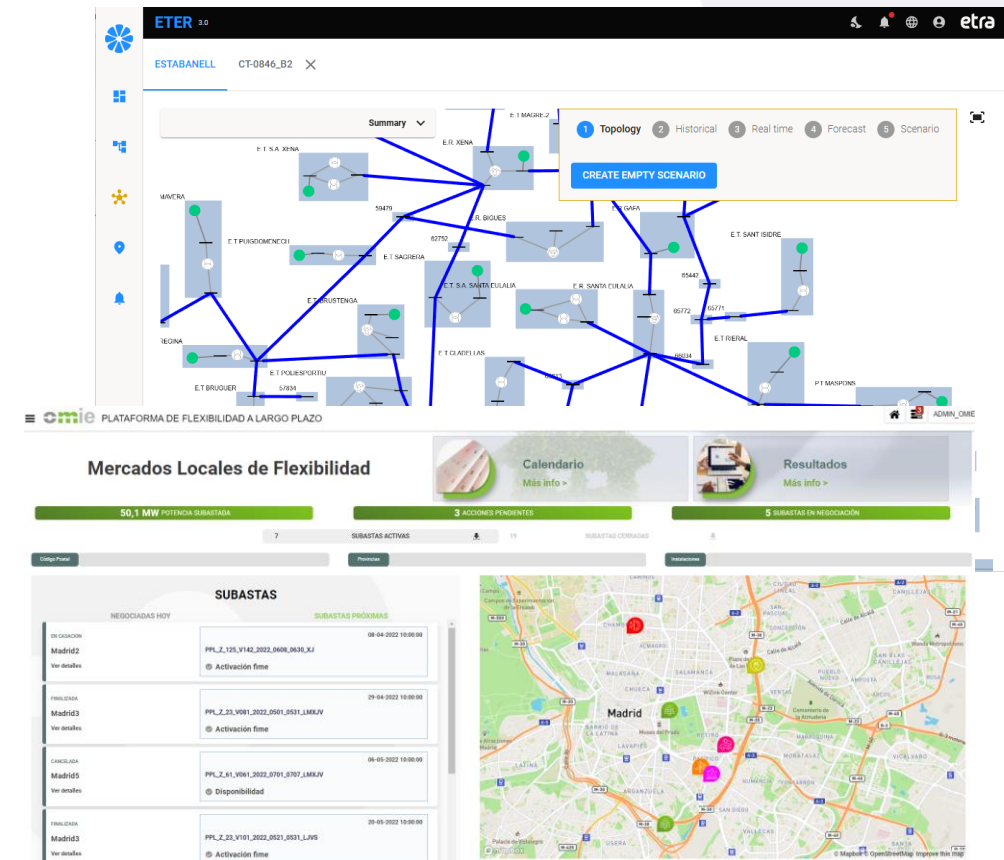
Increase potential
capacity with
flexible connection
establishing an
open DTs
collaboration
(DSO+LFMO)

Valorisation of results for
participation in pan-EU
scenario. Data provision for
European hosting capacity
map via de TwinEU
dataspace

Pan-EU scenario on distribution grid hosting capacity map

UC Ib04 Abnormal market participation in LFM

Makes use of the dataspace
and its certified-based
communication as a safe
data exchange mechanism
for verifying the matched LFM
offers. Contingency measure
against compromised
communication channels.



Thank you for your attention

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