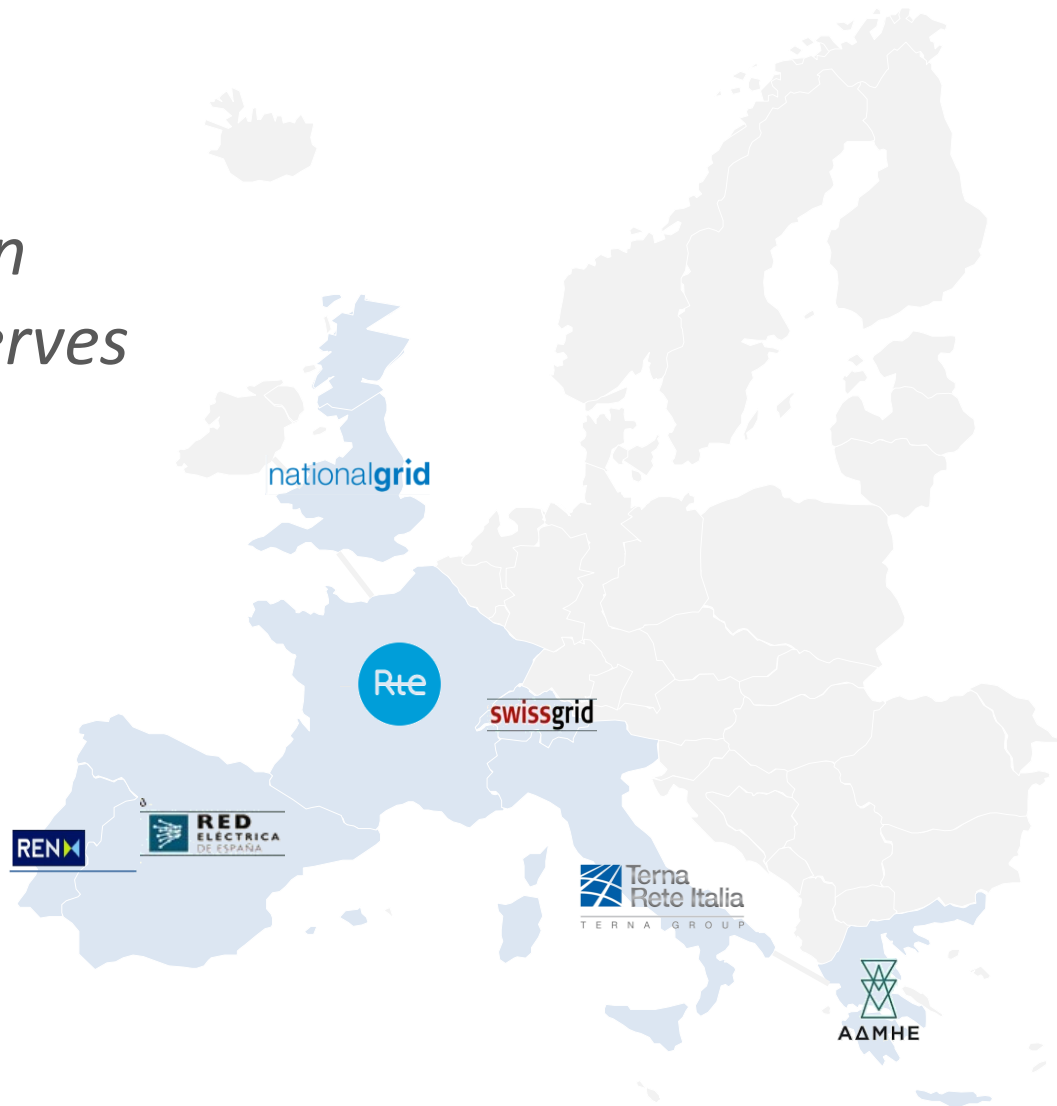


TERRE

Trans European Replacement Reserves Exchange

**WGAS
BSG meeting**

December 07th , 2016



TERRE project Status

- 2 steps: **TSO-TSO (Platform) design** & then **Local Features harmonization**
- TERRE project showed significant progress in 2016 by closing the TSO-TSO **Design**, going through the **NRAs Approval** and entering the **RFP (Request For Proposal) period**:

Design “platform” TSO-TSO

- ✓ RR balancing offers
- ✓ TSO Imbalance Need
- ✓ CMO and algorithmic optimization
- ✓ Settlement
- ✓ CBA
- ✓ Timing & Scheduling
- ✓ Handling AC and DC borders

NRAs Approval

- ✓ Public Consultation
- ✓ NRA approval process

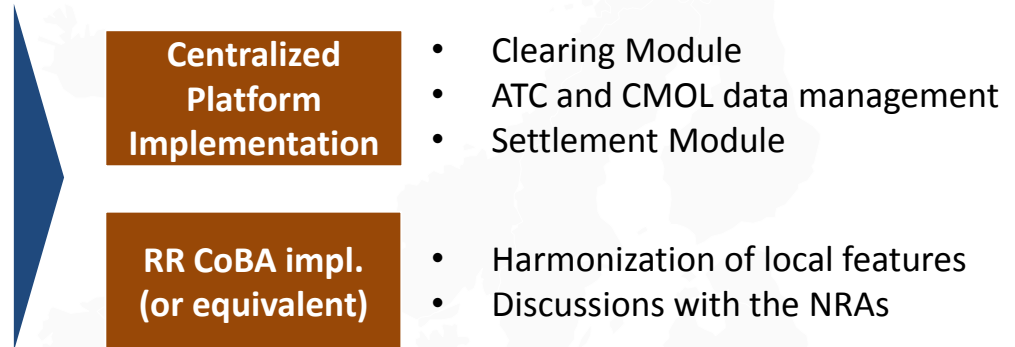
RFP period

- ✓ Contract notice on OJEU
- ✓ Candidates pre-selection
- ✓ RFP documentation preparation
- ✓ Tendering phase preparation

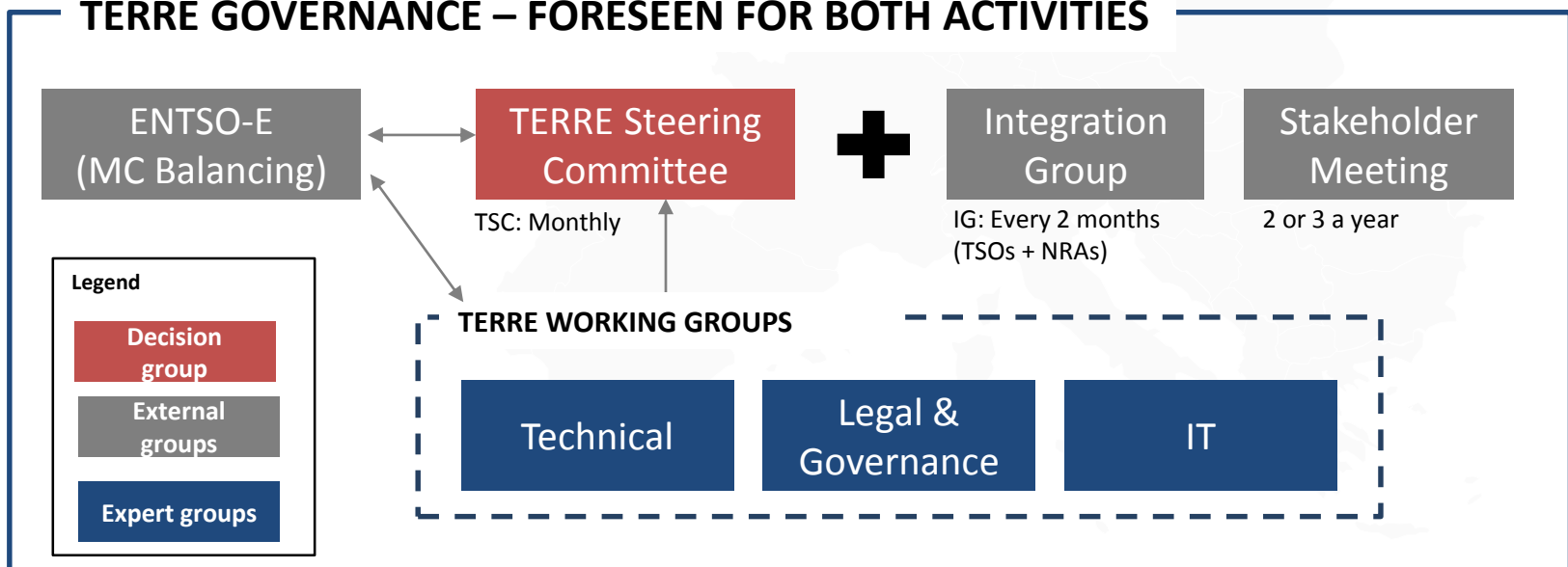
- The RFP period is the “corner-stone” which will allow TERRE project to concretely enter its **Implementation Phase** once completed (Q1/Q2 2017)

TERRE project Implementation: way forward

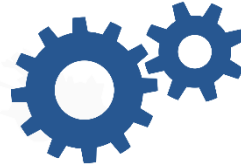
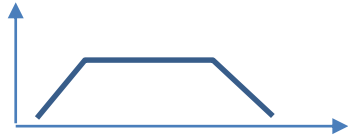
In order to ease the implementation of the TERRE platform, it has been **agreed by TERRE Steering Committee to consider 2 different types of activities**



TERRE GOVERNANCE – FORESEEN FOR BOTH ACTIVITIES



Optimisation of balancing energy through a standard product



PRODUCT

- 30min Full Activation Time
- Scheduled
- Delivery of 15min which can be linked together
- Max duration is 1hr
- Energy Block settled on the borders
- Large variety of bid formats (links)

ALGORITHM

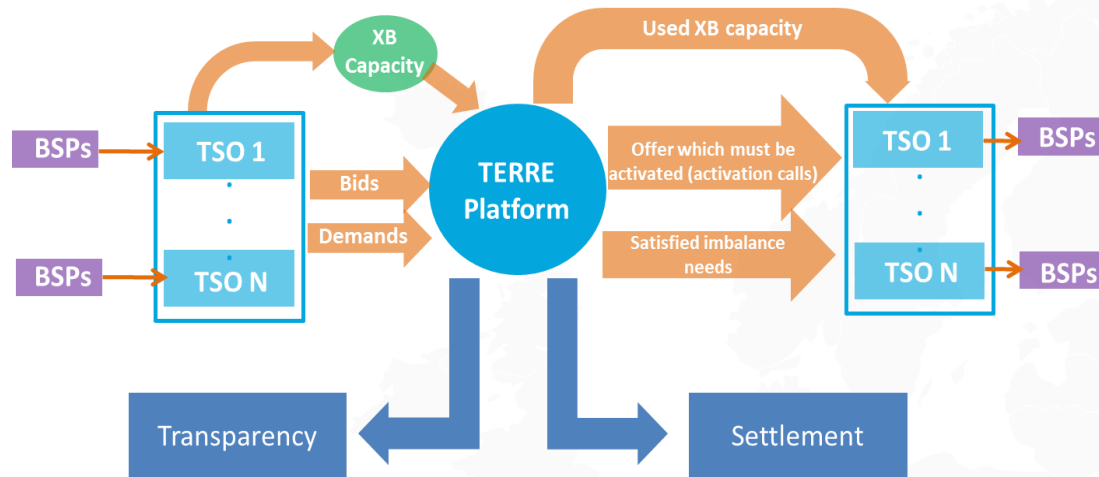
- Social welfare maximisation
- Elastic TSO demand
- Single clearing (up and down offers/needs)
- Netting of TSO needs
- Counter-activations permitted
- Controllability of XB interconnections (XB implicit Countertrading for DC and AC links)

SETTLEMENT

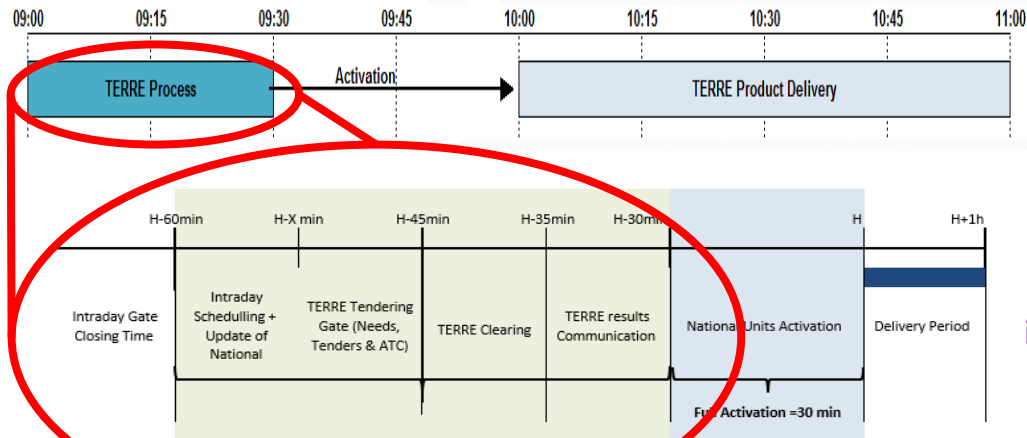
- TSO-TSO balancing energy
- Pay as cleared - XB Bal Energy Marginal Pricing
- One price for upwards & downwards activations
- Congestion rent generated

TERRE process is based on a TSO-TSO model

TERRE PROCESS



TIMINGS & SCHEDULING



The final timings & Schedule will be defined during the implementation phase

TERRE Cost Benefit Analysis shows positive results

- CBA using **historical data**
- **Simulations with & without TERRE** using historical ATC
- Main conclusions:
 - **~€150m reduction in balancing costs per year**
 - All member states benefit (varies)
 - **Shift of welfare from BSPs to BRPs**
 - **~25m€ Congestion Rent generated**
 - **Costs of ~€27m for EU & national implementation**
- Challenge to get results reflective of future state (e.g. change in behaviour)

More detailed info can be found at - <https://consultations.entsoe.eu/markets/terre>

Harmonization and GL EB implementation

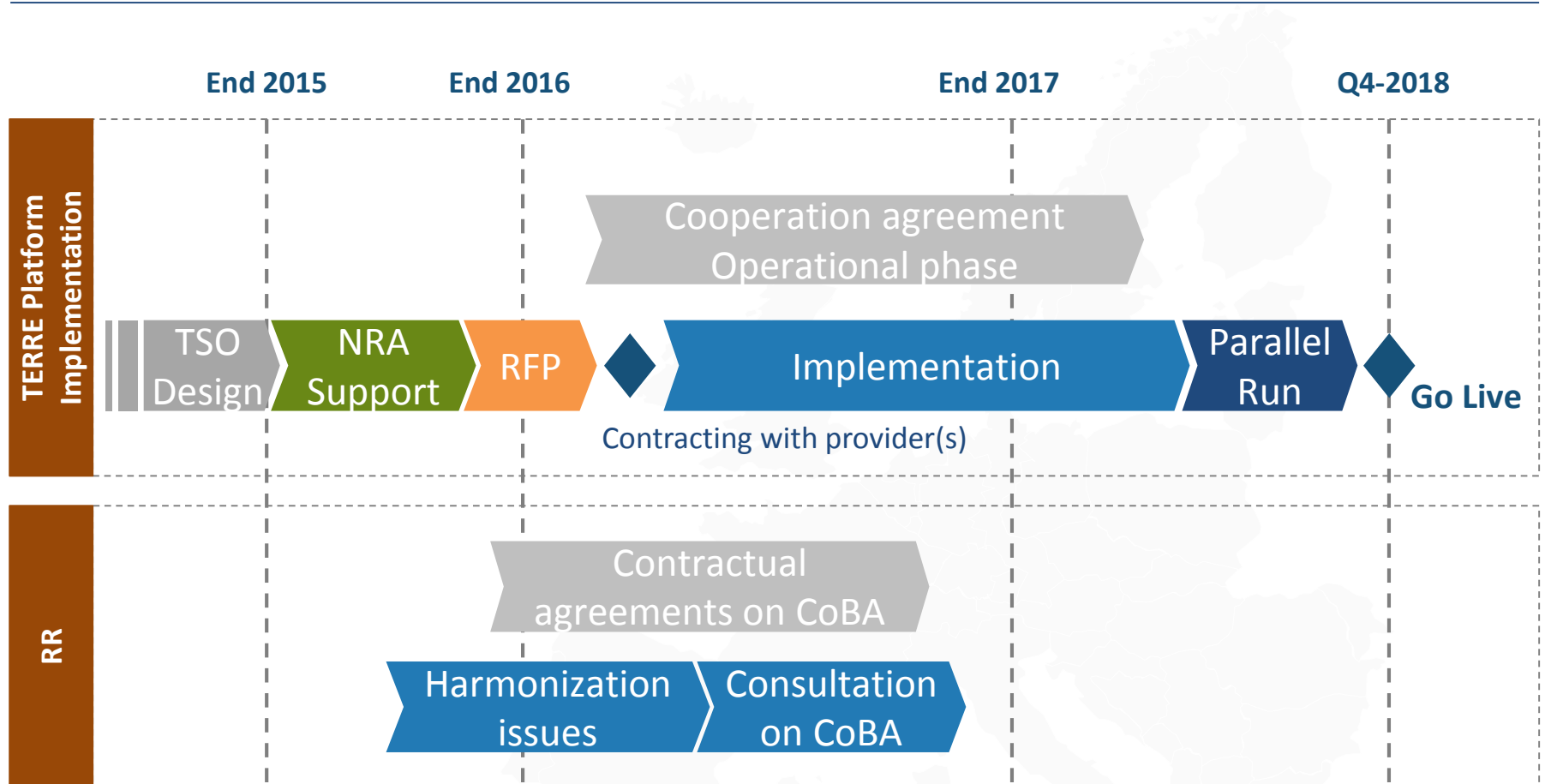
Local features

- TSO-BSP settlement
- XB scheduling steps
- BEGCT
- Unavailable Bids

GL Implementation

- Transparency
- Governance
- // Run

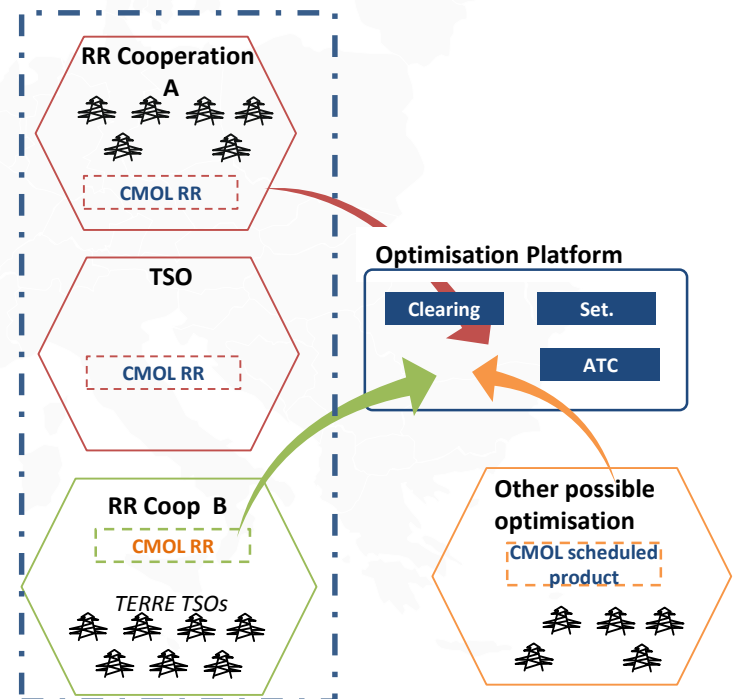
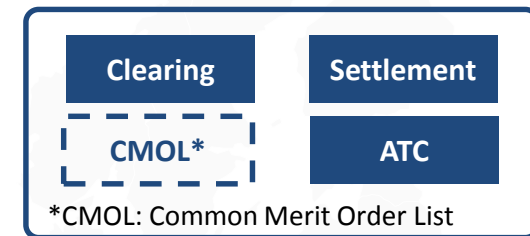
TERRE macro planning



TERRE platform ambition

TSOs involved in TERRE project are developing a modular solution that aims to be the reference for the optimisation RR products in Europe

- The **solution** will be composed of **4 independent modules**:
- **Different zones using the same and/or different types of product** can be optimised by the platform using different CMOL
- It is also **possible to have one single Merged CMOL** for the same type of product, **for TSOs from different Cooperation**
- **Other scheduled balancing product** can be optimised by the platform in different processes and timelines

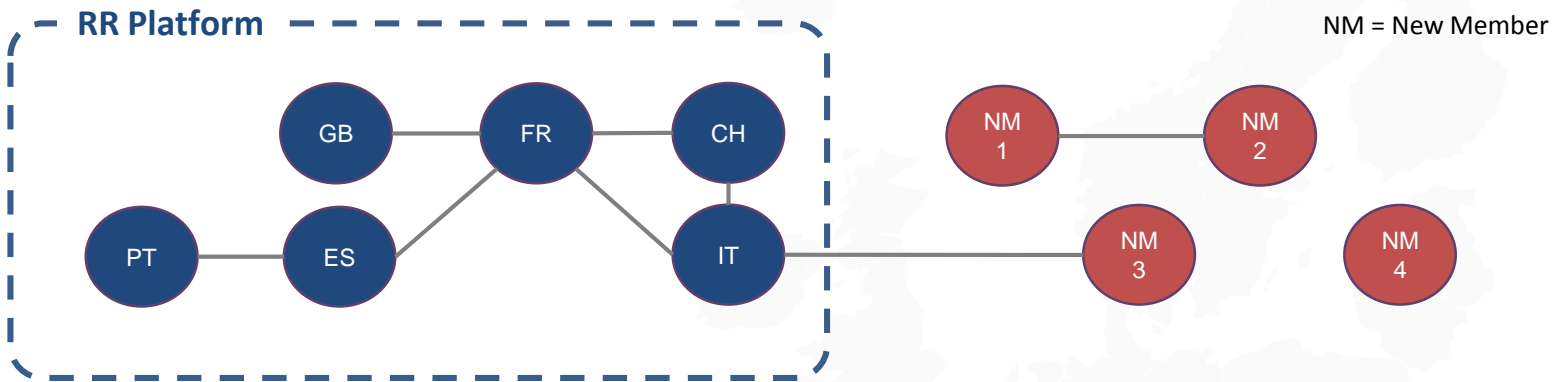


Next steps

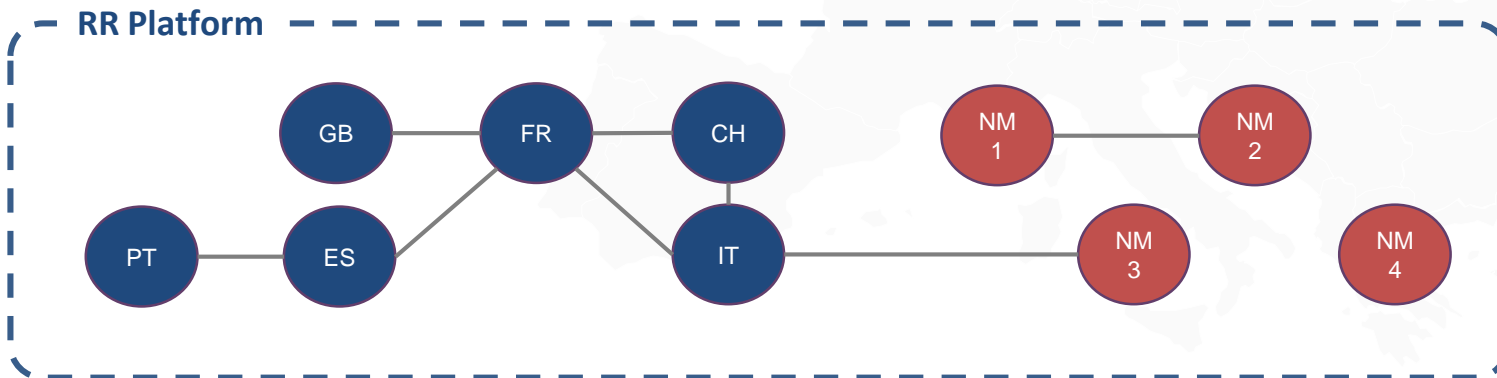
- **Project TERRE is well established...**
 - NRA approval of the high level design of TSO-TSO RR balancing model and the centralized optimisation platform has been received last month
- **...and is launching concrete activities:**
 - Request for proposal to appoint an IT provider to develop the platform
 - Work on the local harmonization definition to create a level playing field across the markets connected to the centralized platform
- **Thus WGAS and the TERRE project proposed to elect the TERRE project as the *implementation project for Replacement Reserves*:**
 - In order to progress on the deliverables for Replacement Reserve in the EB GL, and in line with the approach taken for Imbalance Netting.
- **The MC validated this proposal. This proposal implies that all TSOs using RR now or potentially in the future will be invited to join the project.**
 - Issue an open invitation for all TSOs currently using or seriously considering to use RR in the future.
 - Organise a kick-off workshop to further discuss the involvement of additional TSOs in the project.
- **For a start, Project TERRE recommends to:**
 - Involve additional TSOs as observers in the IT implementation work stream, due to the in-flight procurement exercise.
 - Involve additional TSOs as full members in the harmonisation work stream.
 - Propose a governance structure for “all TSO” for decision to the MC.

TERRE implementation approach – New members

1 - First Stage



2 - New members integration





Annex – Feedback from Stakeholders on TERRE consultation

Stakeholders Consultation Answers

Expressed feedbacks (1/5)

1. Introduction:

- Stakeholders requested more details on **if/how will co-exist local and TERRE aspects** (e.g. local TSO-BSP contacts, local products, etc.)
- Details on the **next steps for the approval process** has been asked

2. Balancing markets

- Stakeholders are happy with the fact that **TERRE is not overlapping with ID market**, but request in general an **harmonisation before the Go Live**. Some **confusion** is made **between CoBA implementation and TERRE project**.
- Some stakeholders are concerned about a potential **need for a pre-qualification** for TERRE.

Stakeholders Consultation Answers

Expressed feedbacks (2/5)

3. a. Product

- All stakeholders (but 1 BSP who proposed “conditional offers”) are **comfortable with the types of products** proposed, even if some are in favour of **not implementing high complexity products** (that need more explanations) in a first stage.
- **Product attributes have been challenged without critical impact** (e.g. FAT, Ramping period, algo resolution, validity period, max delivery period, max offer size, caps & floors, 15 min time resolution)
- Further details have been requested on **unshared offers, exclusive multi-part offers** and **bid conversion in CDS**

3. b. Imbalance Need

- Stakeholders **challenged the max size** for the imbalance need and are **strongly opposed to the elasticity** of the need

Stakeholders Consultation Answers

Expressed feedbacks (3/5)

4. Balancing CMO & Algorithm

- Stakeholders agree with the proposed CMO features but requested details on HVDC losses and UAB/URB.
- Counter activations have been challenged.

5. Settlement

- Stakeholders agree with the proposed approach for settlement (pay as cleared, in line with GL EB) but request an alignment of TSO-TSO and TSO-BSP for settlement options (ramps, ISP, etc.)

6. CBA

- In general, stakeholders are comfortable with the hypothesis and the methodology used for the CBA, but they challenged the representativeness of 2013 data at the expected TERRE Go Live date (2018) and requested additional simulations (e.g. 2014-2015)
- They also would like to be better involved in simulations (in terms of costs and change of bidding behaviour)

Stakeholders Consultation Answers

Expressed feedbacks (4/5)

7. Timings

- Stakeholders are comfortable with the XB scheduling step reduction to 15 min and the **one clearing per hour** option
- Stakeholders requested **between 5 and 30 min to update their bids**, and they suggested the **parallelization of bids and ATC/needs submission** to potentially increase it.
- Stakeholders asked about **Fall-back options** (in terms of process and tools)

8. TERRE platform; 9. ATC; 10. Governance; 11. Transparency

- **Various precisions have been requested on ATC** (e.g. ramp rate in synchronous zones, use of capacity platform, Physical feasibility of IFA, etc.)
- Stakeholders would like to be **more involved in TERRE governance** to better participate to project orientations
- Principle, type of platform and timelines for **transparency publication** have been requested. **Additional transparency needs** have been shared (regarding design and future operation of TERRE)

Stakeholders Consultation Answers

Expressed feedbacks (5/5)

12. Harmonization

- **Harmonization needs ranked by priority (has been stressed as a major challenge by stakeholders):**
 - **First priority:** Settlement rules + Pricing
 - **Second priority:** XB product definition + Timings
 - **Other elements for future harmonization:** Imbalance need (incl. elasticity), system/platform, transparency, regulatory issues

13. PIP and 14. Possible evolutions

- Stakeholders complained about the **too short time dedicated to answer the consultation**
- Stakeholders are **concerned about the short time available to set / develop their internal tools / process**. In particular, they requested **more information on parallel run** to be able to be ready on time
- Suggestions for possible evolutions have been made: flexibility for other products, second clearing, local arrangements, expend to RR capacity...