

MARI

The objective of Manually Activated Reserves Initiative (MARI) project is to establish the European balancing energy market for mFRR product and to create uniform conditions for market participants. MARI platform has been operational since 5th October 2022. First auctions have been organized for the System Operators Amprion, 50Hertz, TenneT DE, TransnetBW and ČEPS.

The MARI Platform developed by Unicorn Systems in collaboration with Artelys S.A.S. has been confirmed by the ENTSO-E as the European platform for the exchange of balancing energy from mFRR product in compliance with the European Commission's Electricity Balancing Guideline (EB GL). It is closely monitored by national regulatory authorities and the Agency for the Cooperation of Energy Regulators. It assures the highest level of security and reliability and is prepared for pan-European scale.

Along with this solution, Unicorn provides extensive support services. These include the First Line Support, Second Line Support and Operation Support provided systematically in a continuous and highly flexible 24/7/365 mode, in accordance with renowned methodologies and approaches.



Solution

The MARI platform enables TSOs to activate the most cost-efficient set of mFRR bids to meet their needs, while considering constraints linked with the availability of networks to exchange these reserve products. The cross-border trading with regulation energy on the MARI platform shall have a positive impact on electricity prices for end customers. In the upcoming years, the other European transmission system operators will gradually connect to the MARI platform.

The optimisation engine provided by Artelys S.A.S simultaneously clears upward and downward balancing offers from BSPs with balancing needs from TSOs. Technically speaking, the market clearing engine optimises social welfare as well as other criteria and handles volume/price indeterminacies. It also generates key performance indicators for market monitoring purposes. Based on the optimization outcome, MARI determines the final results that are distributed to the data consumers.

Selected functionalities:

- mFRR scheduled and direct activations
- Full activation time 12.5min
- 5s optimization cycles
- Controlling signals, real-time communication
- Graphical dashboards displaying data in tables, charts and on map
- Integration with national balancing systems of TSOs
- Reporting towards JAO and ENTSO-E Transparency Platform

Technical aspects

- 99.9 % availability of the platform
- Distribution of controlling signals every 4 seconds
- State-of-the-art Unicorn Application Framework (UAF)
- Robust Communication Gateway Enelane

Representative Statement

With the launch of the MARI platform the European TSOs together with our partners Unicorn and Artelys have reached an important milestone for the beginning of a European-wide coupling of national balancing markets for frequency restoration reserves with manual activation (mFRR).

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- Zero downtime deployment
- Microservice architecture

Delivered services from Unicorn's portfolio:

- Integration and building up
- Transition and go-live preparation
- 1st Line Support (Helpdesk)
- 2nd Line Support – preventive, corrective and evolutive maintenance (24/7)
- 3rd Line Operation and Hosting support
- 1st Line and 2nd Line Support for MARI and PICASSO ECCo SP (ECP)



MARI is the European implementation project for the creation of the European mFRR Platform. MARI project includes 28 TSO members and 4 TSO observers (see MARI webpage for further details). The project establishes the European platform for the exchange of balancing energy from frequency restoration reserves with manual activation or mFRR-Platform, pursuant to Article 20 of the Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing (EB Regulation).