

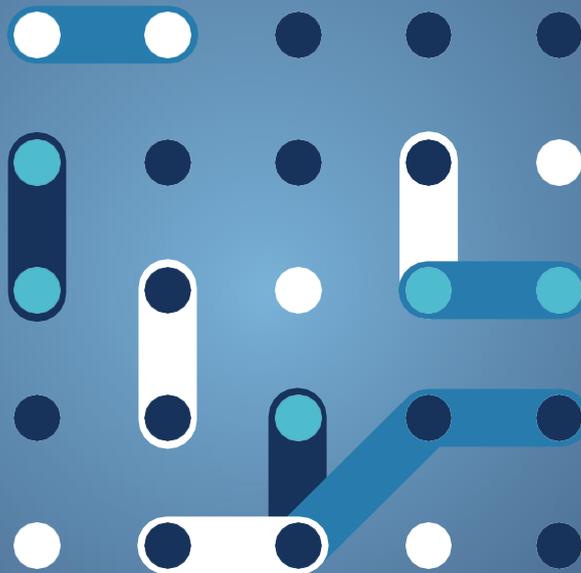


# bridge

## "Harmonized Electricity Market Role Model" (HEMRM)

A Differential Analysis with Respect to the  
ENTSO-E – eBIX – EFET Model

Regulation Working Group





# "Harmonized Electricity Market Role Model" (HEMRRM)

A Differential Analysis with Respect to the  
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April 2021



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# INDEX

<b>Executive Summary .....</b>	<b>2</b>
<b>1. Introduction and scope .....</b>	<b>3</b>
<b>2. Results of the Differential Analysis .....</b>	<b>4</b>
<b>3. Proposed Next Step: Cooperation with ENTSO-E for a Common Development of the Model.....</b>	<b>19</b>



## Executive Summary

The present document "Harmonized Electricity Market Role Model" (HEMRM) – A Differential Analysis with Respect to the ENTSO-E – ebIX – EFET Model intends to show a common view of the EU Bridge Projects about the roles (and the possible actors playing those roles) in the electricity market with focus on flexibility. The Report aims to provide a base of discussion for an update of the existing model, able to include the new roles identified by the Innovative Projects under the EU Bridge Program.

The document is a result of the Action 7 task named "Harmonized Electricity Market Role Model" (HEMRM), coordinated by Ercole De Luca (areti SpA) within the H2020 EU Platone Project Management Team. Action 7 aspires to share a common understanding of an Electricity Market Role Model between electricity players operating on the flexibility market and European institutions.

The finding of this Differential Analysis outline the needs to upgrade of the ENTSO-E – ebIX – EFET HEMRM, assuming it as a base for further discussions with all the relevant stakeholders and Institutions involved in the electricity sector, for comments and further tuning and developments, to be at the end analysed with ENTSO-E – ebIX – EFET.



# 1. Introduction and scope

During April 2020, EU Bridge Regulation WG assigned to the EU Platone Project PMT, coordinated for this task by Ercole De Luca (areti SpA), the task to develop the Action N. 7 named "Harmonized Electricity Market Role Model" (HEMRM), with the scope to share between:

- the EU Bridge Program
- all the relevant EU H2020 projects acting on Energy Market Models
- the System Operator's Associations
- Citizen Energy Communities

and the EU Institutional Bodies (EC, ACER, CEER, ...) a common understanding of an Electricity Market Role Model, according to the new provisions of the "Clean Energy for all Europeans" Package, arising from the H2020 Projects acting on flexibility services.

During the development of the Action, a group of "First Selected Projects", i.e.:

- Coordinet
- Eu-SysFlex
- FEVER
- Goflex
- Interrface
- PlatOne

have been identified to answer a detailed and comprehensive questionnaire about the differences between the "ENTSO-E – ebIX – EFET HEMRM" and the Electricity Market Role Model implemented in their Innovation Projects.

During July 2020, all the above-mentioned Projects provided their answers and views about the Electricity Market Role Model, while Projects belonging to the EU BRIDGE Data Management WG started giving their contribution to the HEMRM from a Data Management point of view.

During August 2020 the Platone PMT, after having compared all the different models presented by the First Selected Projects and the role definitions coming from the DM WG about data treatment and exchange, has drawn up a first draft document in which, for every role foreseen in the ENTSO-E – ebIX – EFET HEMRM, has been identified an "upgraded" definition compared with the initial one and a set of new needed roles not present in the initial model.

From October to December 2020, the draft prepared by the First Selected Projects was presented to all the WG Regulation EU Bridge Projects: all of them were invited to review and consolidate the Draft HEMRM. Several Projects answered to the request (in annex the list of contribution Projects) and an intense work has been run together to arrive to the present edition of the "EU Bridge HEMRM View" intended as a differential analysis with the actual official HEMRM.

The scope of this document is to outline the shared view of the EU Bridge Projects on the needs of upgrade of the ENTSO-E – ebIX – EFET HEMRM, assuming it as a base for further discussions with all the relevant stakeholders and Institutions involved in the electricity sector, for comments and further tuning and developments, to be at the end analysed with ENTSO-E – ebIX – EFET.



## 2. Results of the Differential Analysis

In this chapter, they are shown the results of the Differential Analysis with respect to the ENTSO-E – ebIX – EFET Model run by the EU Bridge Projects, both from the Regulation and the Data Management point of view.

All the answers from the Projects have been analysed and, where possible a common definition for each Role and a set of possible actors have been identified: all these definitions have been put together with the corresponding ENTSO-E – ebIX – EFET one in the table below.

When the Role definitions of the EU BRIDGE Projects correspond perfectly, the original text is replicated; if even a small difference exists, or the definition has been updated with features coming from a Data Management point of view, related integrations or updated sentences are reported in red colour, in case they have been provided by selected projects within the Regulation Working Group (Action 7), and in blue, in case they have been provided by selected projects within the Data Management Working Group (Action 2).

In the following of the Report, it is intended that:

- an actor can be associated to different roles;
- System roles describe the different characteristics of the linked business role;
- a business role can be performed by different actors.



INTEGRATIONS ON EXISTING ROLES IN ENTSO-E – ebIX – EFET HEMRM 2020			
	ENTSO-E – ebIX – EFET HEMRM 2020	EU BRIDGE PROJECTS	EU BRIDGE PROJECTS
ROLE NAME	ROLE DESCRIPTION	ROLE DESCRIPTION*	EXAMPLES OF ACTORS
		* Integrations and updated descriptions with respect to the ENTSO-E HEMRM 2020 are coloured in red (Regulation WG insights) and in blue (Data Management WG insights).	
Balance Responsible Party	<p>A Balance Responsible Party is responsible for its imbalances, meaning the difference between the energy volume physically injected to or withdrawn from the system and the final nominated energy volume, including any imbalance adjustment within a given imbalance settlement period.</p> <p>Note: Based on Electricity Balancing - Art.2 Definitions.</p> <p>Additional information: Responsibility for imbalances (Balance responsibility) requires a contract proving financial security with the Imbalance Settlement Responsible of the Scheduling Area entitling the party to operate in the market.</p>	<p>A Balance Responsible Party is responsible for its imbalances, meaning the difference between the energy volume physically injected to or withdrawn from the system and the final nominated energy volume, including any imbalance adjustment within a given imbalance settlement period.</p> <p>Note: Based on Electricity Balancing - Art.2 Definitions.</p> <p>Additional information: Responsibility for imbalances (Balance responsibility) requires a contract proving financial security with the Imbalance Settlement Responsible of the Scheduling Area entitling the party to operate in the market.</p>	Energy Trader
Balancing Service Provider	<p>A party with reserve-providing units or reserve-providing groups able to provide balancing services to one or more LFC Operators.</p> <p>Additional information: Based on Electricity Balancing - Art.2 Definitions.</p>	<p>A party with reserve-providing units or reserve-providing groups able to provide balancing services to one or more LFC Operators.</p> <p>Additional information: Based on Electricity Balancing - Art.2 Definitions.</p> <p><b>BSP can also be an extension of BRP.</b></p>	Aggregator, eMobile Service Provider (eMSP), Flexibility Services Provider (FSP), Consumer, Citizen Energy Community, ESCO, CPO.
Billing Agent	The party responsible for invoicing a concerned party.	The party responsible for invoicing a concerned party.	Market Place Operator, eMobile Service Provider (eMSP), Flexibility Services Provider (FSP), Citizen Energy Community, ESCO



**INTEGRATIONS ON EXISTING ROLES IN ENTSO-E – eBIX – EFET HEMRM 2020**

Capacity Trader	A party that has a contract to participate in the Capacity Market to acquire capacity through a Transmission Capacity Allocator.  Note: The capacity may be acquired on behalf of an Interconnection Trade Responsible or for sale on secondary capacity markets.	A party that has a contract to participate in the Capacity Market to acquire capacity through a Transmission Capacity Allocator.  Note: The capacity may be acquired on behalf of an Interconnection Trade Responsible or for sale on secondary capacity markets.	BSP, FSP, Aggregator.
Consumer	A party that consumes electricity.  Additional information: This is a Type of Party Connected to the Grid.	A party that consumes electricity.  Additional information: This is a Type of Party Connected to the Grid.	Customer
Consumption Responsible Party	A Consumption Responsible Party is responsible for its imbalances, meaning the difference between the energy volume physically withdrawn from the system and the final nominated energy volume, including any imbalance adjustment within a given imbalance settlement period.  Additional information: This is a type of Balance Responsible Party.	A Consumption Responsible Party is responsible for its imbalances, meaning the difference between the energy volume physically withdrawn from the system and the final nominated energy volume, including any imbalance adjustment within a given imbalance settlement period.  Additional information: This is a type of Balance Responsible Party.	BRP
Consent Administrator	A party responsible for administrating a register of consents for a domain. The Consent Administrator makes this information available on request for entitled parties in the sector.	A party responsible for administrating a register of consents for a domain. The Consent Administrator makes this information available on request for entitled parties in the sector.	NEMO (Nominated Electricity Market Operator), TSO, DSO, Third Party agreed by TSO or DSO
Coordinated Capacity Calculator	Coordinated Capacity Calculator is the entity or entities with the task of calculating transmission capacity, at regional level or above.  Source: Commission Regulation (EU) 2015/1222 (CACM).	Coordinated Capacity Calculator is the entity or entities with the task of calculating transmission capacity, at regional level or above.  Source: Commission Regulation (EU) 2015/1222 (CACM).	TSO, NEMO
Coordination Centre Operator	A party responsible for the coordination of its Coordination Centre Zone in respect of scheduling, load frequency control, time deviation and compensation of unintentional deviation.	A party responsible for the coordination of its Coordination Centre Zone in respect of scheduling, load frequency control, time deviation and compensation of unintentional deviation.	TSO, DSO, NEMO
Data Provider	A party that has a mandate to provide information to other parties in the energy market.	A party that has a mandate to provide information to other parties in the energy market.	NEMO, TSO, DSO, Third Party agreed



**INTEGRATIONS ON EXISTING ROLES IN ENTSO-E – eBIX – EFET HEMRM 2020**

	<p>Note: For example, due to Article 2 of the European Commission Regulation 543/2013 of the 14th of June 2013, a data provider may be a Transmission System Operator or a third party agreed by a TSO.</p>	<p>Note: <b>A data provider may be a NEMO, Transmission System Operator, a DSO or a third party agreed by a TSO or a DSO: in the general Flexibility Market, data comes and are used by both TSOs and DSOs.</b></p>	by TSO or DSO, Data Hub Operator
Energy Service Company (ESCO)	<p>A party offering energy-related services to the Party Connected to Grid, but not directly active in the energy value chain or the physical infrastructure itself. The ESCO may provide insight services as well as energy management services.</p>	<p>A party offering energy-related services to the Party Connected to Grid, but not directly active in the energy value chain or the physical infrastructure itself. The ESCO may provide insight services as well as energy management services.</p> <p><i>It can be also a Service Provider. Entity with the objective of building and selling added value services on data.</i></p> <p><b>It can be also "third party financing" service provider or the "Contracting" business case relationship</b></p>	ESCO
Energy Supplier	<p>An Energy Supplier supplies electricity to or takes electricity from a Party Connected to the Grid at an Accounting Point.</p> <p>Additional information: An Accounting Point can only have one Energy Supplier. When additional suppliers are needed the Energy Supplier delivers/takes the difference between established (e.g. measured or calculated) production/consumption and the (accumulated) contracts with other suppliers.</p>	<p>An Energy Supplier supplies electricity to or takes electricity from a Party Connected to the Grid at an Accounting Point.</p> <p>Additional information: <b>An Accounting Point can be an aggregation of PoDs and can only have one Energy Supplier.</b> When additional suppliers are needed the Energy Supplier delivers/takes the difference between established (e.g. measured or calculated) production/consumption and the (accumulated) contracts with other suppliers.</p>	Aggregator, Energy Trader, Consumption or Production Responsible Party
Energy Trader	<p>A party that is selling or buying energy.</p>	<p>A party that is selling or buying energy.</p>	Aggregator, Energy Supplier, Consumption or Production Responsible party,



**INTEGRATIONS ON EXISTING ROLES IN ENTSO-E – eBIX – EFET HEMRM 2020**

			FSP, BSP, Citizen Energy Community
Grid Access Provider	A party responsible for providing access to the grid through an Accounting Point for energy consumption or production by the Party Connected to the Grid. The Grid Access Provider is also responsible for creating and terminating Accounting Points.	A party responsible for providing access to the grid through an Accounting Point for energy consumption or production by the Party Connected to the Grid. The Grid Access Provider is also responsible for creating and terminating Accounting Points.	DSO, TSO
Imbalance Settlement Responsible	A party that is responsible for settlement of the difference between the contracted quantities with physical delivery and the established quantities of energy products for the Balance Responsible Parties in a Scheduling Area.  Note: The Imbalance Settlement Responsible may delegate the invoicing responsibility to a more generic role such as a Billing Agent.	A party that is responsible for settlement of the difference between the contracted quantities with physical delivery and the established quantities of energy products for the Balance Responsible Parties in a Scheduling Area.  Note: The Imbalance Settlement Responsible may delegate the invoicing responsibility to a more generic role such as a Billing Agent.	BRP, NEMO
Interconnection Trade Responsible	Is a Balance Responsible Party or depends on one. It is recognised by the Nomination Validator for the nomination of already allocated capacity.  Additional information: This is a type of Balance Responsible Party.	Is a Balance Responsible Party or depends on one. It is recognised by the Nomination Validator for the nomination of already allocated capacity.  Additional information: This is a type of Balance Responsible Party.	BRP; NEMO
LFC Operator	Responsible for the load frequency control for its LFC Area or LFC Block.  Additional information: This role is typically performed by a TSO.	Responsible for the load frequency control for its LFC Area or LFC Block.  Additional information: This role is typically performed by a TSO.	TSO
Market Information Aggregator	A party that provides market related information that has been compiled from the figures supplied by different actors in the market. This information may also be published or distributed for general use.  Note: The Market Information Aggregator may receive information from any market participant that is relevant for publication or distribution.	A party that provides market related information that has been compiled from the figures supplied by different actors in the market. This information may also be published or distributed for general use.  Note: The Market Information Aggregator may receive information from any market participant that is relevant for publication or distribution.	Market Operator, NEMO



**INTEGRATIONS ON EXISTING ROLES IN ENTSO-E – eBIX – EFET HEMRM 2020**

Market Operator	<p>A market operator is a party that provides a service whereby the offers to sell electricity are matched with bids to buy electricity.</p> <p>Additional Information: This usually is an energy/power exchange or platform. The definition is based on Regulation on the internal market for electricity (EU) 2019/943.</p>	<p>A market operator is a party that provides a service whereby the offers to sell electricity or electricity flexibility are matched with bids to buy electricity or electricity flexibility.</p> <p>Additional Information: This usually is an energy/power exchange or platform. The definition is based on Regulation on the internal market for electricity (EU) 2019/943.</p> <p><b>Flexibility Market operator is a type of MO for the Markets where only energy flexibilities are traded.</b></p>	Market Operator, NEMO
Merit Order List Responsible	Responsible for the management of the available tenders for all Acquiring LFC Operators to establish the order of the reserve capacity that can be activated.	Responsible for the management of the available tenders for all Acquiring LFC Operators to establish the order of the reserve capacity that can be activated.	TSOs or Nominated Third Party
Meter Administrator	A party responsible for keeping a database of meters.	A party responsible for keeping a database of meters.	DSO, TSO, NEMO, Third Party
Meter Operator	A party responsible for installing, maintaining, testing, certifying and decommissioning physical meters.	A party responsible for installing, maintaining, testing, certifying and decommissioning physical meters.	DSO, TSO, NEMO, Third Party
Meter Data Administrator	A party responsible for storing and distributing validated measured data.	A party responsible for storing and distributing validated measured data.	DSO, TSO, NEMO, Third Party
Metered Data Aggregator	A party responsible for the establishment and qualification of measured data from the Metered Data Responsible. This data is aggregated according to a defined set of market rules.	A party responsible for the establishment and qualification of measured data from the Metered Data Responsible. This data is aggregated according to a defined set of market rules.	DSO, TSO, NEMO, Third Party
Metered Data Collector	A party responsible for meter reading and quality control of the reading.	A party responsible for meter reading and quality control of the reading.	DSO, TSO, NEMO, Third Party
Metered Data Responsible	A party responsible for the establishment and validation of measured data based on the collected data received from the Metered Data Collector. The party is responsible for the history of metered data for a Metering Point.	A party responsible for the establishment and validation of measured data based on the collected data received from the Metered Data Collector. The party is responsible for the history of metered data for a Metering Point.	DSO, TSO, NEMO, Third Party
Metering Point Administrator	A party responsible for administrating and making available the Metering Point characteristics, including registering the parties linked to the Metering Point.	A party responsible for administrating and making available the Metering Point characteristics, including registering the parties linked to the Metering Point.	DSO, TSO, NEMO, Third Party



**INTEGRATIONS ON EXISTING ROLES IN ENTSO-E – eBIX – EFET HEMRM 2020**

<p>Nominated Electricity Market Operator</p>	<p>An entity designated by the competent authority to perform tasks related to single day-ahead or single intraday coupling.</p> <p>Source: Commission Regulation (EU) 2015/1222 (CACM).</p> <p>Additional Information: A NEMO performs MCO (Market Coupling Operator) and CCP (Central Counter Party) functions. A NEMO runs a power exchange related to day-ahead or intraday market. A NEMO is a type of Market Operator.</p>	<p>An entity designated by the competent authority to perform tasks related to single day-ahead or single intraday coupling.</p> <p>Source: Commission Regulation (EU) 2015/1222 (CACM).</p> <p>Additional Information: A NEMO performs MCO (Market Coupling Operator) and CCP (Central Counter Party) functions. A NEMO runs a power exchange related to day-ahead or intraday market. A NEMO is a type of Market Operator.</p>	<p>NEMO</p>
<p>Nomination Validator</p>	<p>Has the responsibility of ensuring that all capacity nominated is within the allowed limits and confirming all valid nominations to all involved parties. He informs the Interconnection Trade Responsible of the maximum nominated capacity allowed. Depending on market rules for a given interconnection the corresponding System Operators may appoint one Nomination Validator.</p>	<p>Has the responsibility of ensuring that all capacity nominated is within the allowed limits and confirming all valid nominations to all involved parties. He informs the Interconnection Trade Responsible of the maximum nominated capacity allowed. Depending on market rules for a given interconnection the corresponding System Operators may appoint one Nomination Validator.</p>	<p>NRA, National Government</p>
<p>Party Administrator</p>	<p>A party responsible for maintaining party characteristics for the energy sector.</p>	<p>A party responsible for maintaining party characteristics for the energy sector.</p>	<p>European Commission, NRA, National Government</p>
<p>Party Connected to the Grid</p>	<p>A party that contracts for the right to consume or produce electricity at an Accounting Point.</p>	<p>A party that contracts for the right to consume or produce electricity at an Accounting Point.</p>	<p>Customer, Aggregator, ESCO, Citizen Energy Community</p>
<p>Producer</p>	<p>A party that generates electricity.</p> <p>Additional information: This is a type of Party Connected to the Grid. The definition is based on Directive (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019 on common rules for the internal market for electricity and amending Directive 2012/27/EU, Article 2 (Definitions).</p>	<p>A party that generates electricity.</p> <p>Additional information: This is a type of Party Connected to the Grid. The definition is based on Directive (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019 on common rules for the internal market for electricity and amending Directive 2012/27/EU, Article 2 (Definitions).</p>	<p>Producer, Customer</p>



**INTEGRATIONS ON EXISTING ROLES IN ENTSO-E – eBIX – EFET HEMRM 2020**

Production Responsible Party	A Production Responsible Party is responsible for its imbalances, meaning the difference between the energy volume physically injected to the system and the final nominated energy volume, including any imbalance adjustment within a given imbalance settlement period.  Additional information: This is a type of Balance Responsible Party.	A Production Responsible Party is responsible for its imbalances, meaning the difference between the energy volume physically injected to the system and the final nominated energy volume, including any imbalance adjustment within a given imbalance settlement period.  Additional information: This is a type of Balance Responsible Party.	BRP
Reconciliation Accountable	A party that is financially accountable for the reconciled volume of energy products for a profiled Accounting Point.	A party that is financially accountable for the reconciled volume of energy products for a profiled Accounting Point.	Market Operator, TSO, DSO, NEMO, BRP
Reconciliation Responsible	A party that is responsible for reconciling, within a Metering Grid Area, the volumes used in the imbalance settlement process for profiled Accounting Points and the actual measured quantities.  Note: The Reconciliation Responsible may delegate the invoicing responsibility to a more generic role such as a Billing Agent.	A party that is responsible for reconciling, within a Metering Grid Area, the volumes used in the imbalance settlement process for profiled Accounting Points and the actual measured quantities.  Note: The Reconciliation Responsible may delegate the invoicing responsibility to a more generic role such as a Billing Agent.	Market Operator, TSO, DSO, NEMO, BRP
Reserve Allocator	Informs the market of reserve requirements, receives bids against the requirements and in compliance with the prequalification criteria, determines which bids meet requirements and assigns bids.	Informs the market of reserve requirements, receives bids against the requirements and in compliance with the prequalification criteria, determines which bids meet requirements and assigns bids.	NEMO, NRA, TSO, DSO, National Government
Resource Aggregator	A party that aggregates resources for usage by a service provider for energy market services.  Note: In the current version, the only service provider in HRM is the Balancing Service Provider.	A party that aggregates resources for usage by a service provider for energy market services.	Aggregator, Flexibility Services Provider, BSP, CEC, ESCO
Resource Provider	A role that manages a resource and provides production/consumption schedules for it, if required.	A role that manages a resource and provides production/consumption schedules for it, if required.	Aggregator, Flexibility Services Provider, Customer, BSP
Scheduling Agent	The entity or entities with the task of providing schedules.	The entity or entities with the task of providing schedules.	Scheduling Agent, BRP, Customer



**INTEGRATIONS ON EXISTING ROLES IN ENTSO-E – eBIX – EFET HEMRM 2020**

	<p>Source: System Operation Guideline, Commission Regulation (EU) 2017/1485.</p> <p>Additional information: A party that is responsible for the schedule information and its exchange on behalf of a Balance Responsible Party.</p>	<p>Source: System Operation Guideline, Commission Regulation (EU) 2017/1485.</p> <p>Additional information: A party that is responsible for the schedule information and its exchange on behalf of a Balance Responsible Party.</p>	
Scheduling Area Responsible	<p>A party responsible for the coordination of nominated volumes within a scheduling area.</p> <p>Additional information: This role is typically performed by a TSO.</p>	<p>A party responsible for the coordination of nominated volumes within a scheduling area.</p> <p>Additional information: This role is typically performed by a TSO.</p>	BRP, TSO, DSO, NEMO
System Operator	<p>A party responsible for operating, ensuring the maintenance of and, if necessary, developing the system in a given area and, where applicable, its interconnections with other systems, and for ensuring the long-term ability of the system to meet reasonable demands for the distribution or transmission of electricity.</p> <p>Additional information: The definition is based on DIRECTIVE 2009/72/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC, Article 2 (Definitions).</p>	<p>A party responsible for operating, ensuring the maintenance of and, if necessary, developing the system in a given area and, where applicable, its interconnections with other systems, and for ensuring the long-term ability of the system to meet reasonable demands for the distribution or transmission of electricity.</p> <p>Additional information: The definition is based on DIRECTIVE 2009/72/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC, Article 2 (Definitions).</p>	DSO, TSO
Trade Responsible Party	<p>A party who can be brought to rights, legally and financially, for any imbalance between energy nominated and consumed for all associated Accounting Points.</p> <p>Note: A power exchange without any privileged responsibilities acts as a Trade Responsible Party.</p> <p>Additional information: This is a type of Balance Responsible Party.</p>	<p>A party who can be brought to rights, legally and financially, for any imbalance between energy nominated and consumed for all associated Accounting Points.</p> <p>Note: A power exchange without any privileged responsibilities acts as a Trade Responsible Party.</p> <p>Additional information: This is a type of Balance Responsible Party.</p>	BRP, Aggregator, CEC, TSO, DSO
Transmission Capacity Allocator	<p>The Transmission Capacity Allocator manages, on behalf of the System Operators, the allocation of available transmission capacity for a Bidding Zone Border. He offers the available transmission capacity to the market, allocates the available</p>	<p>The Transmission Capacity Allocator manages, on behalf of the System Operators, the allocation of available transmission capacity for a Bidding Zone Border. He offers the available transmission capacity to the market, allocates the available</p>	TSO, Third Party, Market Operator



### INTEGRATIONS ON EXISTING ROLES IN ENTSO-E – eBIX – EFET HEMRM 2020

	<p>transmission capacity to individual Capacity Traders and calculates the billing amount of already allocated capacities to the Capacity Traders.</p> <p>Additional Information: The single allocation platform established by all TSOs for Forward Capacity Allocation performs the role of a Transmission Capacity Allocator.</p>	<p>transmission capacity to individual Capacity Traders and calculates the billing amount of already allocated capacities to the Capacity Traders.</p> <p>Additional Information: The single allocation platform established by all TSOs for Forward Capacity Allocation performs the role of a Transmission Capacity Allocator.</p>	
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### NEW ROLES with respect to ENTSO-E – eBIX – EFET HEMRM 2020

#### EU BRIDGE PROJECTS

ROLE NAME	REFERENCEPROJECT/S	ROLE DESCRIPTION	EXAMPLES OF ACTORS
Authentication Service Provider	EU-SYSFLEX	<b>Trust authority. Verifies the identity of authenticating parties. Some countries will have their own authentication service provider. For country which will not, there may be a more global and to be defined one</b>	Third parties
Customer Portal Operator	EU-SYSFLEX	<b>Customer Portal Operator manages data user's authentication, access permission and data logs. Customer Portals store data related to its services (e.g. authentication information, representation rights, access permissions, data logs).</b>	TSO, DSO, NEMO, Third parties
Data Delegated Third Party	EU-SYSFLEX AND SEVERAL OTHERS	<b>Any natural person or legal entity who has received representation rights from data owner</b>	Third Party
Data Hub Operator	EU-SYSFLEX	<p><b>Data Hub Operator owns and operates an information system whose main function is to store and make available electricity (also gas, heat) metering data and associated master data.</b></p> <p><b>It can be:</b></p> <ul style="list-style-type: none"> <li>- <b>Grid data Hub Operator in the sphere of a System Operator;</b></li> <li>- <b>Market data Hub Operator in the sphere of Market operator;</b></li> </ul>	TSO, DSO, NEMO, Third parties



NEW ROLES with respect to ENTSO-E – ebIX – EFET HEMRM 2020			
		<ul style="list-style-type: none"> <li>- Meter Data Hub operator in the sphere of a metering data operator;</li> <li>- Sub-meter Data Hub Operator in the sphere of an Energy Service Provide</li> </ul> <p>It makes data available for being exchanged between Data Owner and Data Consumer. In most cases, identical with respect to the Data Owner</p>	
Data Owner	ROLE SUGGESTED BY EU-SYSFLEX AND BD4OPEM ( <i>The latter from the Data management WG</i> )	<p><b>Any physical person or legal entity that owns data and can give authorization to other parties to access them.</b></p> <p><b>He can create data and / or execute control over them.</b></p> <p><b>Every role in the model can be a data owner (it can be also meant as a specification of the role).</b></p>	Natural person, Legal entities, all the roles
Data User	ROLE SUGGESTED BY EU-SYSFLEX AND BD4OPEM ( <i>The latter from the Data management WG</i> )	<p><b>Any person who uses data. Can be a Data Owner or a Data Delegated Third party.</b></p> <p><b>He has the right to use the data of a Data Owner as specified by a contract policy</b></p> <p><b>(it can be also meant as a specification of the role).</b></p>	Natural person, legal entities, all roles
DEP Operator	ROLE SUGGESTED BY EU-SYSFLEX	<b>Data Exchange Platform Operator owns and operates a communication system witch basic functionality is data transfer</b>	TSO, DSO, NEMO, Third Party
DSO	SEVERAL PROJECTS	<p><b>A DSO is a System Operator.</b></p> <p><b>DSO is responsible for security of supply and reliability of the distribution grid. For this reason, it monitors the grid in order to identify possible arising issues and, if there is a need, it makes use of resources to solve such problems, by network reconfiguration and/or by requests to market operators or directly to properly contracted customers.</b></p> <p><b>In addition to the above and more in detail:</b></p> <ul style="list-style-type: none"> <li>- is responsible for the access of the customers to the grid;</li> <li>- operates, maintains, develops and is fully responsible of the part of the electricity system, named "Distribution Network", typically starting from the HV/MV transformers (or vHV/HV transformers depending upon Member State Regulation) down to the customer's POD;</li> <li>- acts on Local Flexibility Market requiring Local Flexibility Services to solve distribution grids issues;</li> <li>- ensures a transparent and non-discriminatory access to the distribution network for each users;</li> <li>- assess network status of the distribution grid and broadcasts selected information of the network status to eligible actors (e.g. aggregators, other system operators);</li> </ul>	DSO



NEW ROLES with respect to ENTSO-E – ebIX – EFET HEMRM 2020			
		<p>- in critical situations, implements dedicated actions and deliver alerts during stress events if necessary, implement emergency measures including load shedding and DER curtailment; - cooperates with the Transmission System Operator in carrying out their responsibilities (e.g. load shedding).</p> <p><b>ADDITIONAL Information:</b></p> <p>Extract from the provisions of DIRECTIVE 2009/72/EC, Art.31:</p> <p>“ ...The distribution system operator shall be responsible for ensuring the long-term ability of the system to meet reasonable demands for the distribution of electricity, for operating, maintaining and developing under economic conditions a secure, reliable and efficient electricity distribution system in its area with due regard for the environment and energy efficiency...”</p>	
Energy transfer cost calculator	GOFLEX, INTERFACE AND GIFT (the latter from the Data Management WG)	<p><b>Calculates the costs of (flexible) energy transfer in the (distribution) grid from point of injection into the grid to the point of use</b></p> <p><b>Additional information: in DN, this role is typically performed by DSO</b></p>	DSO
Flexibility Register Operator	INTERFACE	<p><b>Administrator of all the information that is stored in the Flexibility Register.</b></p> <p><b>Responsible for allocating access rights to the various actors and controlling the level of access.</b></p> <p><b>Stores flexibility assets, results of qualification (both product and grid), stores market results, grid information, aggregates flexibility information and stores the results of the settlement. Forwards activation signals to flexibility assets upon request of the SOs.</b></p> <p><b>The Flexibility operator should be a trusted authority due to the sensitivity level of the information being handled</b></p>	TSO, DSO and Third Party
Flexibility Services Checker	SEVERAL PROJECTS	<p><b>Responsible for assessing impacts, at a relevant grid level, of a flexibility / balancing order or action to guarantee grid security and its correct operation.</b></p>	DSO, TSO or third party delegated by them.



NEW ROLES with respect to ENTSO-E – ebIX – EFET HEMRM 2020			
Flexibility Services Provider	SEVERAL PROJECTS	<p><b>A party providing flexibility services to energy stakeholders via bilateral agreements or flexibility markets. An FSP can also be a BSP if enabled to the LFC services.</b></p> <p><b>In the Bridge HEMRM, FSP is an extension of BSP.</b></p> <p><b>FSP offer services potentially to all the system operators, directly or through market operators.</b></p>	BSP, Aggregator, CPO, eMobile Service Provider (eMSP), Customer, Citizen Energy Community
Local Flexibility Calculator	SEVERAL PROJECTS	<p><b>The Local Flexibility Calculator defines the volumes of local flex to be procured by market according to the specific actor needs. This is the flexibility, which will be needed in a certain elapse of time.</b></p> <p><b>This is an internal role, to be decided if include in the model.</b></p>	DSO, TSO, Aggregator, CEC
Local Flexibility Market Operator	SEVERAL PROJECTS	<p><b>Responsible for the local flexibility market services.</b></p> <p><b>LFO in Local Energy community (LEC): In LEC this role is typically performed by Local energy Supplier</b></p>	DSO, TSO, CEC, Aggregator, Third Party
Regional Flexibility Market operator for DSOs	FEVER	<p><b>A regional flexibility market operator is a party that provides a service whereby the offers to sell electricity flexibility are matched with bids to buy electricity flexibility by DSOs in the region</b></p> <p><b>Additional information:</b></p> <p><b>This is a type of Flexibility Market operator on Regional Balancing market for DSOs</b></p> <p><b>Note: similar role is defined for Regional Balancing market for BRPs</b></p>	Independent market operator
Sub Balance responsible party	GOFLEX, FEVER and GIFT <i>the latter from the Data Management WG</i>	<p><b>Sub Balance responsible party is responsible for its imbalances to its Balance responsible party and within its responsibilities</b></p> <p><b>Note:</b></p> <p><b>Sub BRP is a party which operates within a BRP Balance Group and which responsibilities are nested into the responsibilities of its parental BRP</b></p>	Energy Trader



NEW ROLES with respect to ENTSO-E – ebIX – EFET HEMRM 2020			
Sub-DSO	GOFLEX and COORDINET	<p><b>A sub-DSO is a DSO nested in one or more DSOs operating in total or in a part a lower voltage level grid respect to the DSOs. It is responsible for its distribution network within a DSO network. For this DN it has the same responsibilities as DSO, within parental responsibility of the DSO</b></p> <p><b>Additional information</b></p> <p><b>Sub-DSO implies structuring of DN within DSO territory into further voltage levels</b></p>	DSO, Sub-DSO
Sub-Meter Data Hub Operator	SEVERAL PROJECTS	<p><b>- Sub - meter Data Hub Operator in the sphere of an Energy Service Provider operating on not validated data.</b></p> <p><b>It can be also a Meter Data Operator.</b></p>	TSO, DSO, NEMO
TSO	SEVERAL PROJECTS	<p><b>TSO is a System Operator.</b></p> <p><b>TSO is responsible for security of supply and reliability of the transmission grid. For this reason, it monitors the grid in order to identify possible arising issues and, if there is a need, it makes use of resources to solve such problems, by network reconfiguration and/or by requests to market operators or directly to properly contracted customers.</b></p> <p><b>In addition to the above and more in detail:</b></p> <ul style="list-style-type: none"> <li><b>- is responsible for real time the physical generation-consumption balance on a geographical perimeter, including ensuring the frequency control service;</b></li> <li><b>- operates, maintains, develops and is fully responsible of the part of the electricity system, named "Transmission Network", typically starting from the producers connected to the HV grid and arriving to the DSOs' HV/MV transformers (or vHV/HV transformers depending upon the Member State Regulation);</b></li> <li><b>- acts on Markets requiring services to solve transmission grids issues;</b></li> <li><b>- ensures a transparent and non-discriminatory access to the transmission network for each users;</b></li> <li><b>- assess network status of the transmission grid and broadcast selected information of the network status to eligible actors (e.g. aggregators, other system operators);</b></li> <li><b>- provides data to the interconnection capacity market operator for the management of cross border transactions;</b></li> <li><b>- in critical situations, implements dedicated actions and deliver alerts during stress events If necessary, implement emergency measures (e.g. system defence plan) including load shedding;</b></li> </ul>	TSO



NEW ROLES with respect to ENTSO-E – ebIX – EFET HEMRM 2020			
		<p>- cooperates with the Distribution System Operators in carrying out their responsibilities (e.g. load shedding).</p> <p><b>ADDITIONAL INFORMATION</b></p> <p>Extract from the provisions of DIRECTIVE 2009/72/EC, Art.40:</p> <p>“...Transmission system operator shall be responsible for:</p> <p>ensuring the long-term ability of the system to meet reasonable demands for the transmission of electricity, operating, maintaining and developing under economic conditions secure, reliable and efficient transmission system with due regard to the environment, in close cooperation with neighbouring transmission system operators and distribution system operators...”</p>	
TSO- DSO Coordination Platform Operator	INTERFACE	<p><b>This Role can connect the SOs, where needed: this role can be taken over either by a TSO or a DSO or by a third party or a NEMO to ensure the coordination among them.</b></p> <p><b>During grid qualification the TDCPO can cooperate with the Flexibility Service Checker to provide the respective system operators constraints.</b></p> <p><b>The System Operators publish their needs in the various markets through the TDCPO</b></p>	DSO, TSO, Third Party, NEMO



### 3. Proposed Next Step: Cooperation with ENTSO-E for a Common Development of the Model

As specified in the introduction of the document, this Report shows a common view of the EU Bridge Projects about the roles (and the possible actors playing those roles) in the electricity market.

The scope of the Report is to provide a base of discussion with ENTSO-E – ebIX – EFET HEMRM Organisation to work together on a new model, able to include the new roles provided by the Projects and upgrade it with the new definitions of some of those roles.

It would be desirable and useful to start that kind of cooperation with ENTSO-E – ebIX – EFET where working together on a final and "harmonized" HEMRM.

Just as a reference, in the picture below is reported the ENTSO-E – ebIX – EFET HEMRM with the new roles to be included listed on the left (in red the ones relevant from a regulation point of view and in blue the ones relevant from a data management point of view): in the picture the roles to be modified in their description according to the present differential analysis are highlighted in red or blue according to the before mentioned relevance.

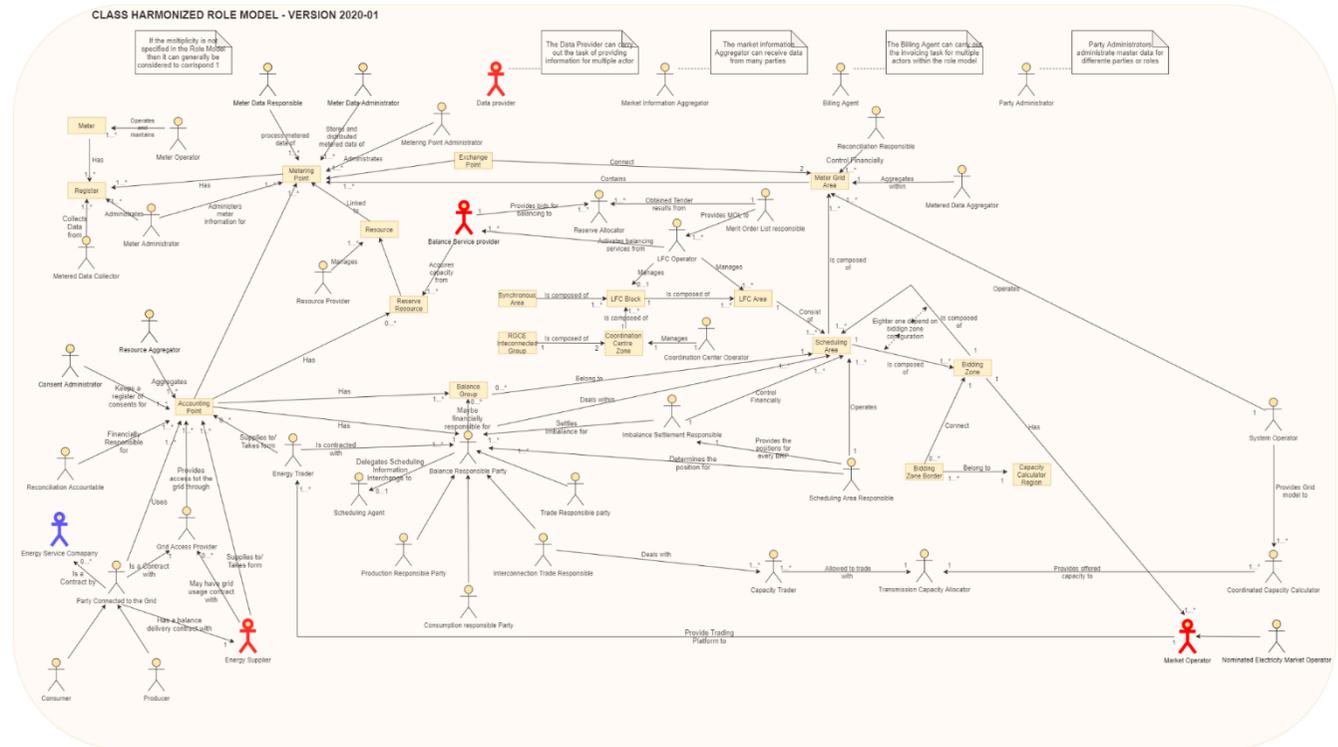


Figure 1 Harmonised Role Model with the identified New Roles



# bridge

