

<b>Minutes EBG meeting</b>	 <b>European forum for energy Business Information eXchange</b>
March 28 <sup>th</sup> , 2023	<b>EBG (ebIX® Business Group)</b>

**Date:** Monday March 27<sup>th</sup>, 2023

**Time:** 14:00 –15:30

**Place:** GoToMeeting

**Present:** Boštjan, SODO (represent Section IPET)  
Gerrit, EDSN  
Jan, Svenska kraftnät  
Ove, Edisys

**Appendix A:** Extract of HG minutes from meeting January 31<sup>st</sup>

**Appendix B:** Status for update of BRSS

**Appendix C:** EBG project and survey list

**Appendix D:** Mapping from ebIX® class diagrams for Validated measured data for continuous metered AP to CIM

**Attachments:** None

## 1 Approval of agenda

The agenda was approved with the following additions:

- Draft agenda for physical meeting April 25<sup>th</sup> and 26<sup>th</sup>, see item 11, Meeting schedule.

How to handle “sub-metering”, requested by Slovenia, will be put on our next agenda.

## 2 Approval of minutes from previous meeting

The minutes from previous meeting were approved.

## 3 Status for kick-off meeting of “Alignment of master data for areas project”

### *ebIX® Forum decisions 2023a-01:*

- We stop the project as an ebIX® project and ask ENTSO-E to take the lead – ebIX® will join until end of 2023.
- EBG is asked to find a way of convincing ENTSO-E taking the lead of the project. Oskar and Jan are members of the ENTSO-E CIM wg and may assist in in the task.

The item was postponed until physical meeting in Stockholm.

Jan will ask Oscar to join us for an hour to discuss possible ways of convincing ENTSO-E taking the lead of the project.

## 4 Resolve matters from ebIX® Forum meeting March 21<sup>st</sup>

ebIX® Forum decided at their meeting March 21<sup>st</sup> to close ebIX® by the end of 2023 and the ebIX® convenors were asked to make a list over what must be done before ebIX® ends and eventually what cannot be ended. A meeting was agreed to Thursday May 30<sup>th</sup> from 9:00 to 11:00 to discuss the ending plans.

The ebIX® Forum expects to hand over most of the ebIX® work to the EU-DSO entity and the Joint working group between the EU DSO Entity and ENTSO-E for further development/maintenance of the ebIX® reference models etc. The EU DSO entity will establish (or has established?) workstreams for “roles and business procedures” and “IEC/CIM” where ebIX® DSO members can be invited as experts or full members. However, the EU DSO Entity still have lack of people that can participate in external workgroups and work with harmonisation issues. The EU DSO Entity is currently focusing on the SGTF/EG1 Implementing Acts.

#### **Action 2023a-01:**

- All ebIX convenors are asked to come up with prioritised work items that must be finalised before ebIX® ends by the end of 2023 (and if anything is left). These workplans will be discussed at the ebIX® Forum meeting May 30<sup>th</sup>.

#### **Decisions 2023a-02:**

- If the proposed two new EBG projects “Efficient data alignment” and/or “Differentiation of data sets per Entitled Role when aligning master data” still are valid and it is possible to finalise these projects before end of 2023, EBG may run the projects as proposed.

Since Gerrit couldn't participate the review of account and budget were postponed until our May meeting.

Ove informed that he has started on an ending plan for ebIX®. A first review will be put on our next EBG meeting agenda.

#### **Action:**

- Ove will distribute the draft ebIX® ending plan before next meeting.

## **5 Resolve matters from ETC meeting February 14<sup>th</sup> and 15<sup>th</sup>**

ETC asks EBG to review the following draft MRs related to BRS for common grid and supply billing:

- 2022/022: Add an association from Series to ChargeType in 62325-301 and 62325-351.
- 2022/023: Add an association from ChargeType to MarketParticipant in 62325-301 and 62325-351.
- 2022/024: Add an association from ChargeGroup to ChargeType in 62325-351.
- 2022/025: Add an association from ChargeType to Period (62325-301) and from ChargeType to Series\_Period (62325-351)
- 2022/026: Add the attribute VATobliged (Boolean) to ChargeType in 62325-301 and 62325-351.
- 2022/035: Add the attribute VATlevel (String (may be a percentage or low/high...)) to ChargeType in 62325-301 and 62325-351.

ETC asks how to use the “Conversion factor class” in BRS for metering configuration characteristics, especially for temperature, pressure and measurement – and for electricity: is this the same as the constant in the register?

The item was postponed until our physical meeting in April.

## **6 HEMRM issues**

### **6.1 Status for MR for addition of Grid Connection to the HEMRM after review by ETC**

From ETC minutes:

The draft HG MR from EBG for the new domain (or CIM object) Grid Connection was reviewed and discussed:

- Kees thinks this is a physical “domain”, hence it should be handled by CGM or CIM.
- Jan (SE) stressed the Grid Connection is used as a reference in the grid connection contract between the Grid Access Provider (GAP) and Customer.

- The request originates from Gerrit and is probably related to discussions in the EG1 flex group and discussions related to the linking of Metering points, Accounting Points, sub-Accounting Points, Resources etc.

**Action:**

- We will ask EBG (Gerrit) for better justification for the need for the Grid Connection.

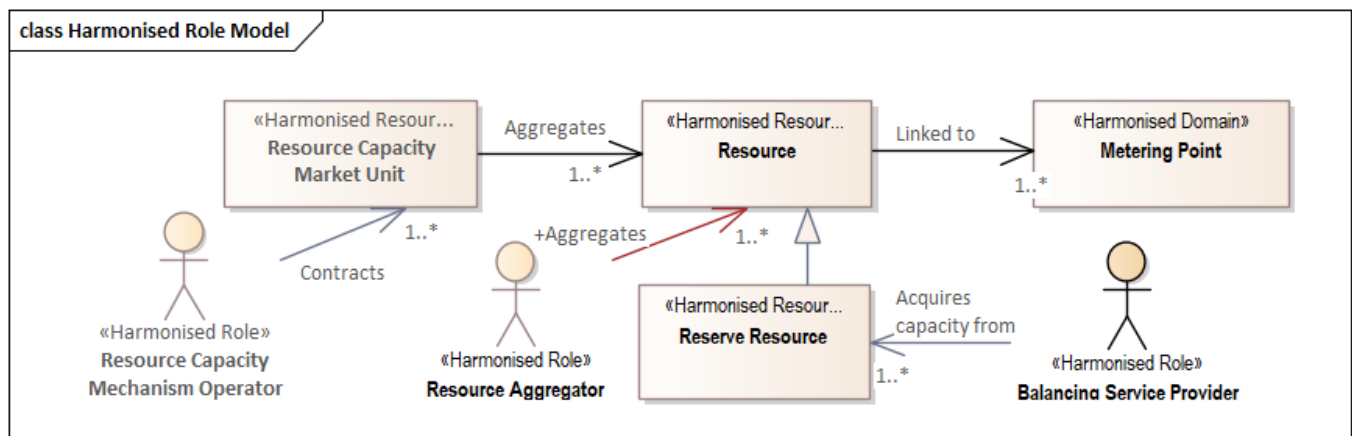
Gerrit mentioned that the Grid Connection is especially useful when linking sub-Accounting Points.

The item was postponed until physical meeting in Stockholm.

6.2 Review of comments to ebIX® comments by HG at meeting January 31<sup>st</sup>

The Harmonisation Group (HG) reviewed January 31<sup>st</sup> the comments ebIX® sent in June 2022 to the definition and related associations of the Resource Aggregator in HEMRM, see Appendix A.

For aggregated Resources, such as a Generator Group or a “Pool of Resources” (term used in the ebIX® flex project), EBG suggested in June last year to use the Resource Capacity Market Unit.



However, the response from the HG was: “HG thinks that a Resource, e.g. a generator group, can be related to more than one AP”, which may be a result of the HG not having read the suggestion from EBG properly.

The discussion will be continued at our physical meeting in April.

6.3 Review of ETC comments to the EBG memo “ebIX® (previous EBG) comments to HEMRM”



ebIX comments to HEMRM 20230215.d (Double click to open file)

The item was postponed but will be prioritised at next meeting April 17<sup>th</sup>.

7 Request for new MRs from NMEG

NMEG asks:

- Can we give priority to MR ebIX® 2022/019 (Add an association from MarketEvaluationPoint to MktPSRType)? The MR will handle the new attribute “Consumption detail” that was added to the “Energy volume information” class in the Accounting Point characteristics document.
  - Already agreed in ETC; ebIX® MR 2022/019
- Can we give priority to making a MR for linking the Meter ID to MarketEvaluationPoint (the association is already part of basic CIM)?
  - Already agreed in ETC; ebIX® MR 2023/002

Postponed until next physical meeting in April.

## 8 Update of BRSs

Due to lack of time the item was postponed.

## 9 Review of CIM definitions for classes and attributes based on mapping from ebIX® class diagrams for Validated measured data for continuous metered AP to CIM

See Appendix D.

For information, an initial discussion was taken at the ETC meeting February 14<sup>th</sup> and 15<sup>th</sup> and a continuation of the discussion is on the ETC agenda for the meeting March 30<sup>th</sup>.

Postponed until next physical meeting in April.

## 10 Review of ebIX domain model (low priority item)

Postponed until next physical meeting in April.

## 11 Meeting schedule

*GoToMeetings:*

- Every Monday until (including) July 3<sup>rd</sup>, 2023, except for holydays.

*Physical meeting:*

- Tuesday April 25<sup>th</sup> and Wednesday April 26<sup>th</sup> at Svenska kraftnäts offices in Sundbyberg (Stockholm).

## 12 AOB

No items.

**Appendix A Extract of HG minutes from meeting January 31<sup>st</sup>**

From item 4.6 in the latest HG minutes:

4.6 Review of Resource Aggregator Role, see Appendix D, item (row) 5 (from FO)

ebIX®/EBG had as action verified the latest proposal, see comments in Appendix D, item (row) 5.

LW stressed that there are several projects working with flexibility and several guidelines and reports are underway, such as the ACER framework guidelines Hence, LW suggest that we don't do more changes than need related to flex processes before these processes are more mature.

The definition was slightly modified. Also other ebIX® comments from ebIX® were discussed, see Appendix D, item (row) 5.

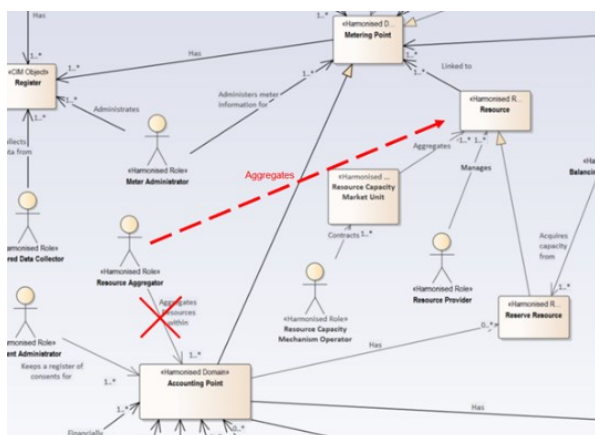
Agreed proposal for Resource Aggregator:

~~A party that aggregates Resources for usage by other market participants~~

**Additional information:**

~~The domain to aggregate within, such as Resource or Accounting Point, must be defined by market rules.~~

And the association will be moved to go from the Resource Aggregator to the Resource.



**20230131:**

New proposal:

A party that aggregates Resources for usage by other market participants.

**Additional information:**

The aggregation must be defined by market rules.

The changes to the associations were agreed, i.e.:

**20220620 comments from ebIX® Business Group (EBG):**

- We are missing the “bigger picture”, i.e. we should look at all the new roles identified in the flex arena. We question if a Resource Aggregator really is needed, as we see no need for a role for purely aggregation of Resources. It must at least be linked to the Service Provider roles, such as the BSP role. However, it would probably be better to replace the Resource Aggregator with the FSP (Flexibility Service Provider) or one or more Service Providers that also do the aggregation. We think that in the future it will be difficult to differentiate between different kinds of flexibility service providers and that an FSP will offer services in multiple ‘flexibility domains’, as for Congestion, Frequency, etc.

**20220627 comments from EBG meeting:**

- a) We support moving of the association to go to the Resource instead of the Accounting Point.
- b) The text “... to aggregate within .... Resource” sounds strange. We suggest removing the “Additional information”.

**20230131:**

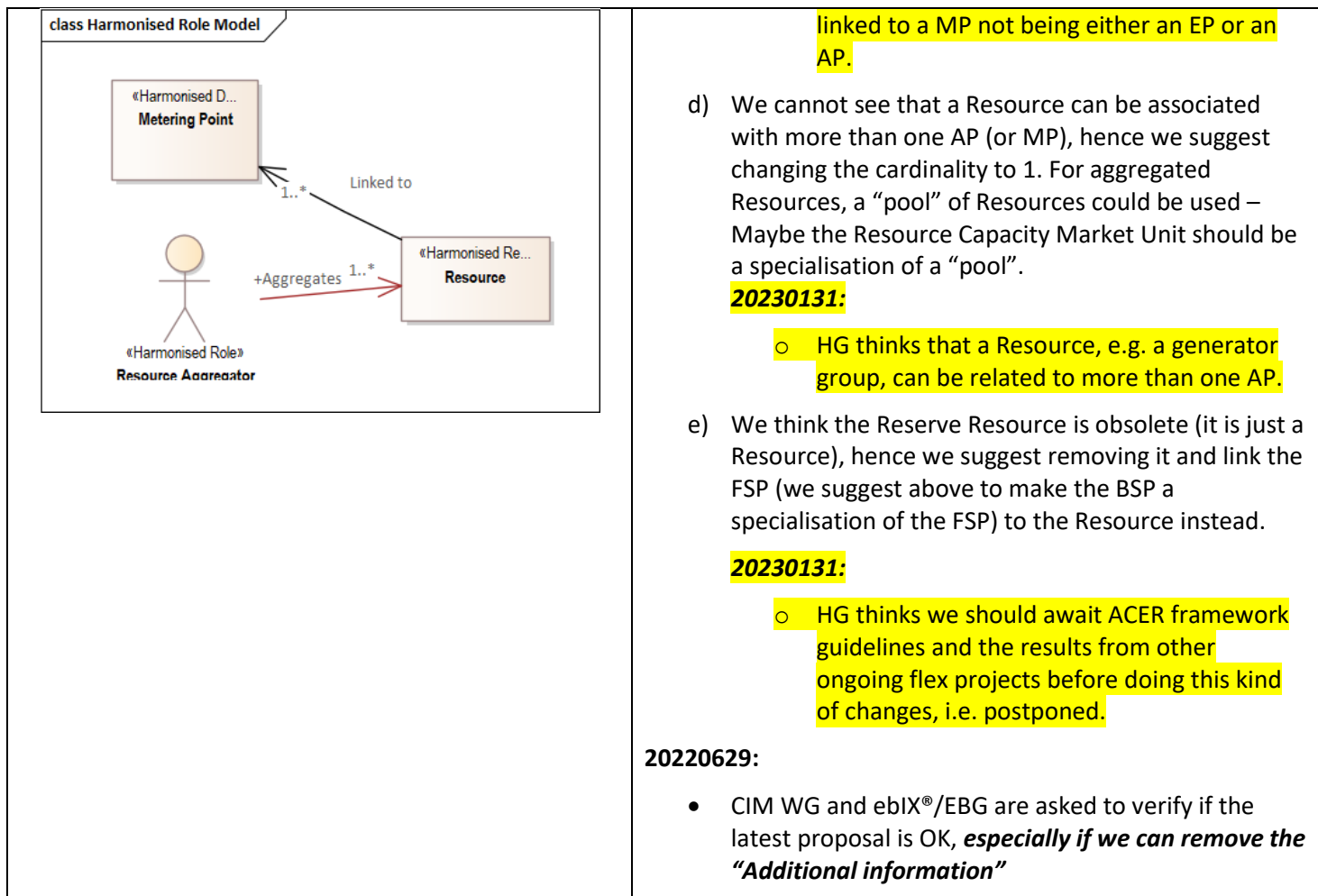
- The “Additional information” was suggested simplified but not removed.

In general we think the roles and domains needed for energy flexibility services should be more generic than in the current HEMRM, such as:

- c) Since we cannot see that a Resource linked to an Exchange Point can be active in a market. Hence, we suggest moving the association currently going from the Resource to the Metering Point to go from the Resource to the Accounting Point.

**20230131:**

- HG agrees that it cannot be linked to an Exchange Point (EP), however it could be



## Appendix B Status for update of BRSs

### B.1 Structure BRSs

#	BRS	Shall we:	Status
		<ul style="list-style-type: none"> <li>• Rename the class “Reconciliation information” to “Energy volume information”?</li> <li>• Add attribute “Consumption detail” to “Energy volume information” class?</li> <li>• Add Metered Data Administrator ID and/or Metering Point Administrator ID?</li> <li>• Add Accounting Point level and Grid Connection ID to the root class?</li> <li>• Other additions?</li> </ul>	
1.	BRS for administration of consent	Not applicable.	
2.	BRS for Alignment of AP characteristics	Already updated.	
3.	BRS for Alignment of Area characteristics	Not applicable.	Earlier agreed, but not yet, published: <ul style="list-style-type: none"> <li>• Updated the definition of the role Market Operator.</li> <li>• Updated introduction (chapter A).</li> <li>• Updated Appendix A.</li> </ul>
4.	BRS for Alignment of characteristics of a Customer at an AP	Not applicable.	Earlier agreed, but not yet, published: <ul style="list-style-type: none"> <li>• Updated introduction (chapter A).</li> <li>• Updated Appendix A.</li> </ul>
5.	BRS for Alignment of metering configuration characteristics	<ul style="list-style-type: none"> <li>• Shall we add Metered Operator or other related roles?</li> <li>• Shall we add Grid Connection ID?</li> <li>• Can a meter be connected to a sub-AP? If yes: Shall we add Accounting Point level?</li> </ul>	Earlier agreed, but not yet, published: <ul style="list-style-type: none"> <li>• Addition of clarifying text in chapter A</li> <li>• Hiding attributes from the root class in Appendix A, to make the class diagrams more readable.</li> <li>• Update of spelling errors</li> </ul>
6.	BRS for bulk change of BRP		Earlier agreed, but not yet, published: <ul style="list-style-type: none"> <li>• Harmonised the introduction with other ebIX® BRSs.</li> <li>• Correction of spelling errors.</li> </ul>

#	BRS	<b>Shall we:</b> <ul style="list-style-type: none"> <li>• Rename the class “Reconciliation information” to “Energy volume information”?</li> <li>• Add attribute “Consumption detail” to “Energy volume information” class?</li> <li>• Add Metered Data Administrator ID and/or Metering Point Administrator ID?</li> <li>• Add Accounting Point level and Grid Connection ID to the root class?</li> <li>• Other additions?</li> </ul>	<b>Status</b>
7.	BRS for Bulk change of Shipper	Not applicable.	Earlier agreed, but not yet, published: <ul style="list-style-type: none"> <li>• Harmonised the introduction with other ebIX® BRSs.</li> <li>• Moved Reference to requesting Transaction ID to Async Additions.</li> <li>• Correction of spelling errors.</li> <li>• Update of roles to be in line with HEMRM (renamed Balance Supplier to Energy Supplier, incl. update of the definition).</li> </ul>
8.	BRS for Change of BRP	Not applicable.	Earlier agreed, but not yet, published: <ul style="list-style-type: none"> <li>• Harmonised the introduction with other ebIX® BRSs.</li> <li>• Moved Reference to requesting Transaction ID to Async Additions.</li> <li>• Correction of spelling errors.</li> <li>• Update of roles to be in line with HEMRM (renamed Balance Supplier to Energy Supplier, incl. update of the definition).</li> </ul>
9.	BRS for Change of Metered Data Responsible	Not applicable.	Earlier agreed, but not yet, published: <ul style="list-style-type: none"> <li>• Harmonised the introduction with other ebIX® BRSs.</li> <li>• Moved Reference to requesting Transaction ID to Async Additions.</li> <li>• Correction of spelling errors.</li> <li>• Update of roles to be in line with HEMRM (renamed Balance Supplier to Energy Supplier, incl. update of the definition).</li> </ul>



#	BRS	<b>Shall we:</b> <ul style="list-style-type: none"> <li>• Rename the class “Reconciliation information” to “Energy volume information”?</li> <li>• Add attribute “Consumption detail” to “Energy volume information” class?</li> <li>• Add Metered Data Administrator ID and/or Metering Point Administrator ID?</li> <li>• Add Accounting Point level and Grid Connection ID to the root class?</li> <li>• Other additions?</li> </ul>	<b>Status</b>
10.	BRS for Change of Shipper	Not applicable.	Earlier agreed, but not yet, published: <ul style="list-style-type: none"> <li>• Harmonised the introduction with other ebIX® BRSs.</li> <li>• Moved Reference to requesting Transaction ID to Async Additions.</li> <li>• Correction of spelling errors.</li> <li>• Update of roles to be in line with HEMRM (renamed Balance Supplier to Energy Supplier, incl. update of the definition).</li> </ul>
11.	BRS for Change of supplier	Not applicable.	Earlier agreed, but not yet, published: <ul style="list-style-type: none"> <li>• Updated role definitions incl. update of Energy Supplier to fit gas.</li> <li>• Hiding attributes from the root class in Appendix A, to make the class</li> </ul>
12.	BRS for Combined grid and supply billing	Not applicable.	Earlier agreed, but not yet, published: <ul style="list-style-type: none"> <li>• Harmonised the introduction with other ebIX® BRSs.</li> <li>• Hiding attributes from the root class in Appendix A, to make the class.</li> <li>• Correction of spelling and grammatical errors.</li> </ul>
13.	BRS for Consented request for Accounting Point characteristics	Not applicable.	Earlier agreed, but not yet, published: <ul style="list-style-type: none"> <li>• Harmonised the introduction with other ebIX® BRSs.</li> <li>• Hiding attributes from the root class in Appendix A, to make the class.</li> </ul>
14.	BRS for Customer move	Not applicable.	Earlier agreed, but not yet, published: <ul style="list-style-type: none"> <li>• Harmonised the introduction with other ebIX® BRSs.</li> <li>• Hiding attributes from the root class in Appendix A, to make the class.</li> </ul>

#	BRS	Shall we:	Status
15.	BRS for End of Metered Data Responsible	TBD <ul style="list-style-type: none"> <li>• Rename the class “Reconciliation information” to “Energy volume information”?</li> <li>• Add attribute “Consumption detail” to “Energy volume information” class?</li> <li>• Add Metered Data Administrator ID and/or Metering Point Administrator ID?</li> <li>• Add Accounting Point level and Grid Connection ID to the root class?</li> <li>• Other additions?</li> </ul>	Earlier agreed, but not yet, published: <ul style="list-style-type: none"> <li>• Harmonised the introduction with other ebIX® BRSs.</li> <li>• Moved Reference to requesting Transaction ID to Async Additions.</li> <li>• Update of roles to be in line with the ebIX®, EFET and ENTSO-E Harmonised Electricity Market Role Model version 2022-01.</li> <li>• Updated attribute sequence in class diagrams.</li> <li>• Hiding attributes from the root class in Appendix A.</li> </ul>
16.	BRS for End of supply	TBD	Earlier agreed, but not yet, published: <ul style="list-style-type: none"> <li>• Harmonised the introduction with other ebIX® BRSs.</li> <li>• Moved Reference to requesting Transaction ID to Async Additions.</li> <li>• Update of roles to be in line with the ebIX®, EFET and ENTSO-E Harmonised Electricity Market Role Model version 2022-01.</li> <li>• Hiding attributes from the root class in Appendix A.</li> </ul>
17.	BRS for Manage APs	TBD	Earlier agreed, but not yet, published: <ul style="list-style-type: none"> <li>• Harmonised the introduction with other ebIX® BRSs.</li> <li>• Update of roles to be in line with the ebIX®, EFET and ENTSO-E Harmonised Electricity Market Role Model version 2022-01.</li> <li>• Hiding attributes from the root class in Appendix A.</li> </ul>

#	BRS	Shall we:	Status
		<ul style="list-style-type: none"> <li>• Rename the class “Reconciliation information” to “Energy volume information”?</li> <li>• Add attribute “Consumption detail” to “Energy volume information” class?</li> <li>• Add Metered Data Administrator ID and/or Metering Point Administrator ID?</li> <li>• Add Accounting Point level and Grid Connection ID to the root class?</li> <li>• Other additions?</li> </ul>	
18.	BRS for Rearrange MPs between grids	TBD	<p>Earlier agreed, but not yet, published:</p> <ul style="list-style-type: none"> <li>• Harmonised the introduction with other ebIX® BRSs.</li> <li>• Update of roles to be in line with the ebIX®, EFET and ENTSO-E Harmonised Electricity Market Role Model version 2022-01.</li> <li>• Hiding attributes from the root class in Appendix A</li> </ul>

## B.2 Measure BRSs

#	BRS	shall we add Consumption detail and/or move Fuel and Technology?	Status
1.	BRS for Measure for Billing	Not applicable.	<p>Earlier agreed, but not yet, published:</p> <ul style="list-style-type: none"> <li>• However, the sequence of attributes in “Series characteristics” in “Validated measured data for billing” has been updated (Moved Resolution to the Product, unit cluster) and the layout in Appendix A have been updated.</li> <li>• Exchange UCs has been renamed to Notify.</li> <li>• Updated Appendix A.</li> </ul>
2.	BRS for Measure for Collected Data	Not applicable.	Already aligned with latest HEMRM.
3.	BRS for Measure for determine and notify validated meter read	Not applicable.	<p>Earlier agreed, but not yet, published:</p> <ul style="list-style-type: none"> <li>• Exchange UCs and documents has been renamed to Notify.</li> <li>• The BRS is renamed from “BRS for Measure for determine and exchange validated meter read” to “BRS for Measure for determine and notify validated meter read”.</li> </ul>

#	BRS	shall we add Consumption detail and/or move Fuel and Technology?	Status
4.	BRS for Measure for Imbalance Settlement	Already added and the BRS is published.	Already aligned with latest HEMRM.
5.	BRS for Measure for Reconciliation	Not applicable.	Already aligned with latest HEMRM.
6.	BRS for Measure for renewable energy certificates	Not applicable.	Earlier agreed, but not yet, published: <ul style="list-style-type: none"> <li>Moved Resolution to the Product, unit cluster in all class diagrams.</li> <li>Updated Appendix A</li> </ul>
7.	BRS for Validate and notify measured data	Not applicable.	Earlier agreed, but not yet, published: <ul style="list-style-type: none"> <li>Moved Resolution to the Product, unit cluster in all class diagrams.</li> <li>Exchange UCs and documents has been renamed to Notify.</li> <li>The BRS is renamed from “BRS for Validate and exchange measured data” to “BRS for Validate and notify measured data”</li> </ul>

### B.3 Distributed Flexibility BRSs

#	BRS	Status	Comments
1.	BRS for Flexibility register administration	The published version: <ul style="list-style-type: none"> <li>Is already aligned with latest HEMRM.</li> <li>Grid Connection ID is already added.</li> </ul>	
2.	BRS for Prepare and aggregate Resources for flexibility services	The published version: <ul style="list-style-type: none"> <li>Is already aligned with latest HEMRM.</li> <li>Grid Connection ID is already added.</li> </ul>	
3.	BRS for Quantification and settlement of flexibility services	The published version: <ul style="list-style-type: none"> <li>Is already aligned with latest HEMRM.</li> <li>Grid Connection ID is already added.</li> </ul>	

**B.4 Settlement and reconciliation BRSs**

#	BRS	Status	Comments
1.	BRS for Settle for Reconciliation	TBD autumn 2024	

## Appendix C EBG project and survey list

## C.1 Potential projects

#	Project description	Priority	Start
A)	Review what attributes to send in a confirmation (e.g. all from the request, only approve/disapprove or some core attributes, such as AP)	High	<b>20220206:</b> <ul style="list-style-type: none"> <li>Started February 2023</li> </ul>
B)	Efficient data alignment, including the possibility to request historical and/or future master data. See “very general” data act from EU: <a href="https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13045-Data-Act-amended-rules-on-the-legal-protection-of-databases_en">https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13045-Data-Act-amended-rules-on-the-legal-protection-of-databases_en</a> . EBG should start with a survey for the need of such a project.	To be decided by ebIX® Forum	<b>20220206:</b> <ul style="list-style-type: none"> <li>We will ask ebIX® Forum for participants in a new project.</li> </ul>
C)	Discuss differentiation of data sets per Entitled Role when aligning master data (e.g. when referencing notification of AP master data in a BRS) based on GDPR	High	<b>20220206:</b> <ul style="list-style-type: none"> <li>We will ask ebIX® Forum for participants in a new project.</li> </ul>
D)	Making a BRS for alignment of Exchange Point characteristics	High	Hopefully a part of the common energy market area project
E)	Making an introduction to the ebIX® BRSs, including an overview of the BRSs and a short description.	In finalising RtR	<b>20220206:</b> <ul style="list-style-type: none"> <li>Will be put on next EBG agenda</li> </ul>
F)	It is assumed that the EC will decide to use IEC basic CIM as the reference Information Model, hence we should bring our definitions in line with IEC CIM. This can be done by changing our definitions, or by submitting maintenance requests to IEC TC57/wg16 (eventually to be forwarded by wg16 to wg14).	Medium	<b>20220206:</b> <ul style="list-style-type: none"> <li>Is on the EBG/ETC agenda</li> </ul>
G)	Update of Gas Role Model with addition of Aggregated Reception Station, Calorific Value Area and Temperature Area for gas.	Low	When the Gas Role Model starts adding domains.
H)	Investigate if exchange of measured data from “ebIX BRS for Quantification and settlement of flexibility services” should be moved to a separate “Measure for quantification BRS”.	This is a to-remember item	<b>20220206:</b> <ul style="list-style-type: none"> <li>TBD</li> </ul>
I)	Verify extensions to the definitions of roles with the group harmonising the electricity and gas markets role models before adding the extension to the role definitions in a BRS to include gas.	Continuous	When updating role definitions in BRSs
J)	Review of BRS for Settle for Reconciliation, ref. minutes from EBG meeting October 10th, 2022.	Low	Autumn 2024

## C.2 Approved (and running) projects

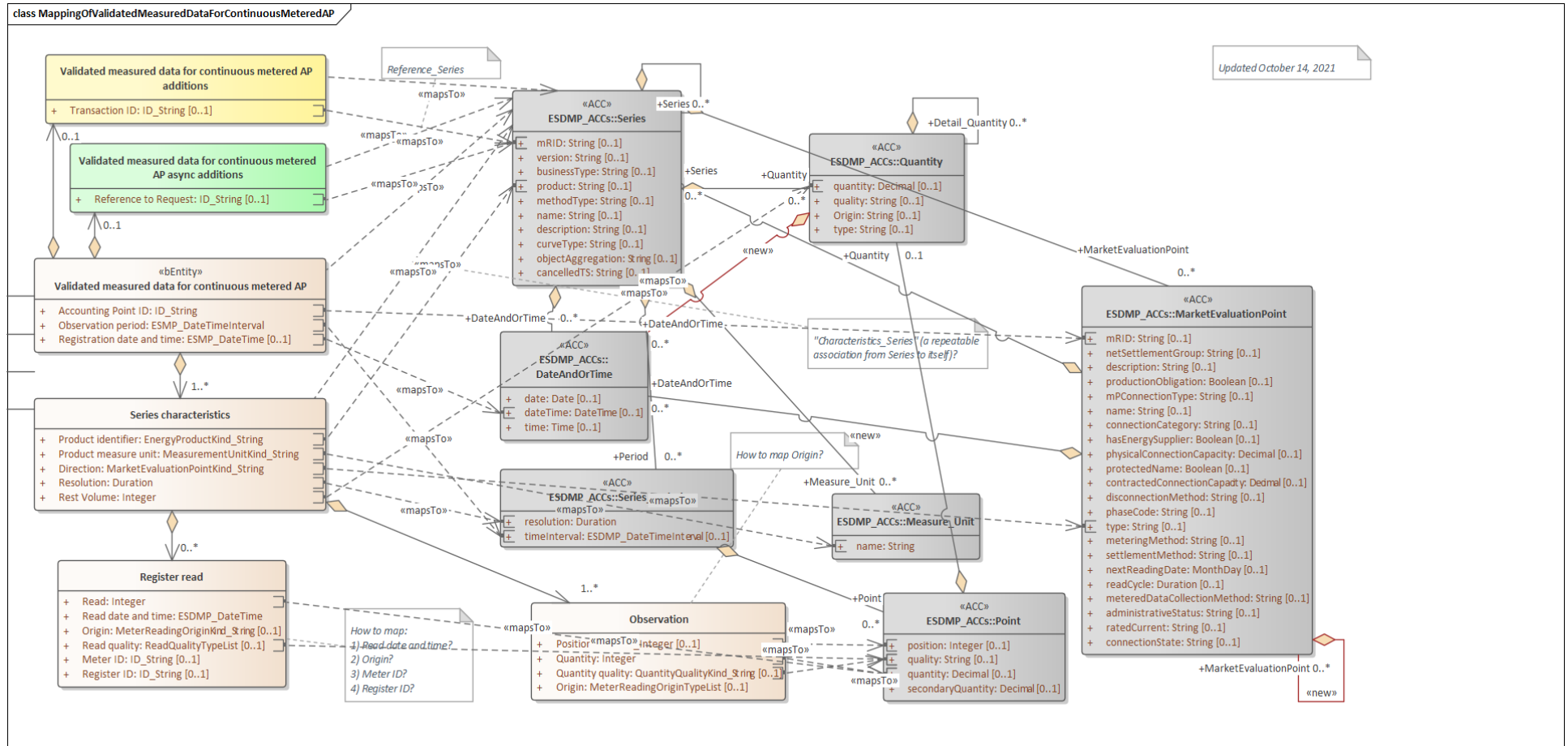
#	Project	Members	Status	Start	End
A)	Common energy market area project	<b>EBG:</b> Bartosz, Boštjan (?), Gerrit, Kees and Ove. <b>“External”:</b> Douglas (ENTSOG), Jon-Egil (ENTSO-E/CIM EG) and ? from EU DSO Entity	Hopefully start October 2022	February 2023	?

## C.3 Surveys

#	Survey	Status
A)	None.	

### Appendix D Mapping from ebIX® class diagrams for Validated measured data for continuous metered AP to CIM

The mapping will be reviewed by ETC, while EBG will look into the definitions of classes and attributes to see if we need to update the ebIX® definitions or if we should send maintenance requests to IEC for update of the CIM definitions.





BRS attribute	BRS definition	CIM attribute	CIM definition
«Business entity» Validated measured data for continuous metered AP	The information set sent by a Metered Data Responsible to the Metered Data Administrator when exchanging validated measured data for continuous metered AP	Series	A set of similar physical or conceptual objects defined for the same period or point of time.
Accounting Point ID	The unique identification of the Accounting Point to which the validated measured data are attributed.	MarketEvaluationPoint / mRID	Master resource identifier issued by a model authority. The mRID is unique within an exchange context. Global uniqueness is easily achieved by using a UUID, as specified in RFC 4122, for the mRID. The use of UUID is strongly recommended.  For CIMXML data files in RDF syntax conforming to IEC 61970-552, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements.
Observation period	The specific period of time the validated measured data have been measured, calculated or estimated for.	Series_Period / timeInterval	The start and end date and time for a given interval.
Registration date and time	The date and time of the validation (and storage in the database) of this set of validated measured data.	DateAndOrTime / dateTime	Date and time as per ISO 8601 YYYY-MM-DDThh:mm:ss.sssZ.
Series characteristics	The characteristics of this set of validated measured data, i.e., the product and flow direction.	Series	A set of similar physical or conceptual objects defined for the same period or point of time.
Product identifier	A code specifying the energy product for the quantities in this set of validated measured data.	Series / product	The type of the product such as Power, energy, reactive power, transport capacity that is the subject of the time series.
Product measure unit	The unit of measure used for the quantities in this set of validated measured data.	Measure_Unit / name	The coded representation of the unit.
Direction	A code specifying the direction of the energy flow that was measured with this validated measured data.  A flow from the Accounting Point into the Metering Grid Area is defined as production and a flow from the Metering Grid Area into the Accounting Point is defined as consumption.	MarketEvaluationPoint / type	Specifies if the Market Evaluation Point is an Exchange Point or an Accounting Point.

BRS attribute	BRS definition	CIM attribute	CIM definition
Resolution	<p>The resolution is the time between two observations, leading to the number of observations in this timeseries (calculated from the Observation Period divided by the Resolution).</p> <p>The Observation Period must contain a whole number of observations as derived from the resolution.</p> <p>The resolution is expressed in compliance with ISO 8601 in the following format:</p> <p style="text-align: center;">PnYnMnDTnHnMnS.</p> <p>For example <b>PT15M</b> for 15 minutes resolution.</p>	Series / resolution	The number of units of time that compose an individual step within a period.
Rest Volume	The Rest Volume is used for a volume that cannot be related to the 'normal' measured time series observations, i.e., the difference, for the Observation Period, between the start and end meter read and the aggregated volume from the exchanged time series.	Quantity / quantity	<p>The quantity value.</p> <p>The association role provides the information about what is expressed.</p>
Register read	A read from the register of the Meter linked to the Accounting Point and characteristics of the read. This read is at the basis of the validated measured data in the Observation.	N/A	
Read <sup>1</sup>	The value as read from or calculated for the register, for this Read date and time in the Observation period.	Point / quantity	Principal quantity identified for a point.
Read date and time	The timestamp of the moment in time when the value was registered in the Register of the Meter or the value was calculated for.	N/A	
Origin	A code specifying the role of the party that has retrieved or calculated the read.	N/A	
Read quality	The quality of this read, such as estimated, remotely read or physically read.	Point / quality	The quality of the information being provided. This quality may be estimated, not available, as provided, etc.
Meter ID	The unique identification of the Meter linked to the Accounting Point, which contains the register that has been read.	N/A	

<sup>1</sup> If the Register read is missing, the Meter Reading Origin Code shall be “E28 From Metered Data Responsible” and the Quantity Quality Code shall be “56 Estimated”.

BRS attribute	BRS definition	CIM attribute	CIM definition
Register ID	The unique identification of the Register within the Meter, where this data has been read from or is estimated for.	N/A	
Observation	One validated measured value within a timeseries.	N/A	
Position	The ordinal position of this Observation in this Observation Period for this set of validated measured data.	Point / position	A sequential value representing the relative position within a given time interval.
Quantity	The validated quantity of energy for this Observation.	Point / quantity	Principal quantity identified for a point.
Quantity quality	The quality of this quantity (volume), such as validated (default value, hence not sent), estimated, or temporary.	Point / quality	The quality of the information being provided. This quality may be estimated, not available, as provided, etc.
Origin	A code specifying the role of the party delivering the Quantity.	N/A	
Validated measured data for continuous metered AP additions	Additional information, related to validated measured data, the use of which may be agreed on a national level.	Series	A set of similar physical or conceptual objects defined for the same period or point of time.
Transaction ID	The unique identification of this set of information as given by the Metered Data Responsible.	Series / mRID	<p>Master resource identifier issued by a model authority. The mRID is unique within an exchange context. Global uniqueness is easily achieved by using a UUID, as specified in RFC 4122, for the mRID. The use of UUID is strongly recommended.</p> <p>For CIMXML data files in RDF syntax conforming to IEC 61970-552, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements.</p>
Validated measured data for continuous metered AP async additions	Additional information related to validated measured data needed when using asynchronous communication.	Series	A set of similar physical or conceptual objects defined for the same period or point of time.
Reference to request	Information about the request for this set of validated measured data for continuous metered AP which uniquely identifies it.	Series / mRID	<p>Master resource identifier issued by a model authority. The mRID is unique within an exchange context. Global uniqueness is easily achieved by using a UUID, as specified in RFC 4122, for the mRID. The use of UUID is strongly recommended.</p> <p>For CIMXML data files in RDF syntax conforming to IEC 61970-552, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements.</p>

class MappingOfValidatedMeasuredDataForContinuousMeteredAP

Target \ Source	1 DateAndOrTime	2 MarketEvaluationPoint	3 Measure_Unit	4 Point	5 Quantity	6 Series	7 Series_Period
1 Observation				Maps To Quant... → quality  Maps To Position → position  Maps To Quantity → quantity			
2 Register read				Maps To Read → quantity  Maps To Read ... → quantity			
3 Series characteristics		Maps To Direct... → type	Maps To Produ... → name		Maps To Rest V... → quantity	Maps To Produ... → product  Maps To →	Maps To Resol... → resolu...
4 Validated measured dat...	Maps To Regist... → dateTi...	Maps To Accou... → mRID				Maps To →	Maps To Obser... → time...
5 Validated measured dat...						Maps To Trans... → mRID  Maps To →	
6 Validated measured dat...						Maps To →  Maps To Refer... → mRID	