Minutes EBG meeting



European forum for energy Business Information eXchange

October 5th, 2023

EBG (ebIX[®] Business Group)

Date: Time: Place:	Monday October 2 nd , 2023 14:00 – 15:30 GoToMeeting
Present:	Boštjan, Section IPET (SODO) Gerrit, EDSN Jan, Svenska kraftnät Joachim, Westnetz Ove, Edisys
Appendix A: Appendix B:	EBG project and survey list 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:

• Do datahubs aggregate for balancing? See item 10.1 under AOB.

2 Approval of minutes from previous meeting

The minutes from previous meeting were approved.

3 Resolve matters related to close down of ebIX®

3.1 Announcement at the ebIX[®] web site for the closure of ebIX[®]

EBG was asked at the ebIX[®] chair and convenor meeting September 26th to make an announcement at the ebIX[®] web site for the closure of ebIX[®]. During the meeting, a proposal for an announcement was made.

Since Gerrit has an action to inform the ebIX[®] web master of the close down of ebIX[®], we will await the submission of the announcement until Gerrit has informed the web master.

Actions:

 Gerrit will inform the ebIX[®] web master of the close down of ebIX[®] and ask for a price for hosting the web site until end of 2026 and thereafter Ove will send the announcement of closure of ebIX[®] to the ebIX[®] web master.

3.2 Agenda for ebIX[®] Forum GoToMeeting October 27th

EBG was also asked to propose an agenda for the $ebIX^{\otimes}$ Forum meeting October 27th (14:00 – 15:00), including information that: if anyone is participating somewhere as an $ebIX^{\otimes}$ member, this must end by the end of this year. The following agenda was drafted:

- 1) Review and update of status for close down of ebIX[®], see "Plan for close down of ebIX[®]"
- 2) Status for handover of ebIX[®] work to the EU DSO Entity and/or the Joint Work Group between EU DSO Entity and ENTSO-E (JWG)

- 3) To whom do we distribute the memo: "Consequences of closure of ebIX®"
- 4) Financial status
- 5) Prepare the physical ebIX[®] Forum closure meeting end of November or beginning of December
- 6) Note: if anyone is participating in any organisation as an ebIX[®] member, this must end by the end of this year
- 7) AOB

Action:

• Ove will ask Vlatka if the above agenda looks OK and if so, add it to the meeting invitation.

3.3 Physical ebIX[®] Forum meeting November/December

Since several ebIX[®] members intend to participate at the Enlit conference in Paris, November 28th to 30th, 2023, it is suggested to move the earlier proposed ebIX[®] Forum meeting November 29th, with a common dinner the evening before, to the week before or the week thereafter, i.e. either November 23rd with a dinner the evening of November 22nd, or December 7th with a common dinner the evening of December 6th. Also former chairs and active ebIX[®] workgroup participants will be invited to this dinner.

A doodle poll has been sent to ebIX[®] Forum asking for a response latest by Friday September 29th, however with only a few responses, see (<u>https://doodle.com/meeting/participate/id/aQ7Z3WMd</u>). All responders are available December 6th and 7th, while two are unable November 22nd and 23rd.

Since it is not yet decided if we should have a two- or three-hours meeting before dinner or the day after the dinner (ending with a lunch) and where to have the meeting, it was agreed that Ove will ask for a short ebIX[®] chair and convenor meeting to agree the coordinates of the physical ebIX[®] Forum meeting.

Action:

- Ove will ask for an ebIX[®] chair and convenor meeting, preferably this week:
 - Thursday between 10:00 and 13:00
 - Friday 11:30-12:00 or 14:00-14:30

4 Splitting of the ebIX[®] BRS for Quantification and settlement of flexibility services

Ove had as action split the "ebIX[®] BRS for Quantification and settlement of flexibility services" into two separate BRSs.

Gerrit had commented the BRS for Quantification of flexibility services. It was agreed to rename the BRS for Quantification of flexibility services to "Measure for Quantification of flexibility services", however it will be published under the "Business Requirements Specifications for Distributed Flexibility" block at the ebIX[®] web site.

We will await sending the BRSs to ebIX[®] Forum until the BRS for settle flexibility services has been reviewed – hopefully after next EBG meeting.

5 Review of the change of supplier process from EG1

No changes since previous meeting. To be continued.

6 Making an introduction to the ebIX[®] BRSs

Ove has sent the following ebIX[®] BRSs to the ebIX[®] web master for re-publication:

• Administration of consent

- Change of Metered Data Responsible
- Change of Supplier
- Consented request for Accounting Point characteristics
- End of Metered Data Responsible
- End of Supply
- Measure for determine and notify validated meter read
- Validate and notify measured data

The Introduction to ebIX[®] BRSs have been sent to ebIX[®] Forum on circulation for comments util October 17th.

Item closed.

7 Review of Appendix A EBG project and survey list

8 Mapping from ebIX[®] Class diagrams to CIM, see Appendix B

When it comes to the definitions, we could make examples of how the definitions in ESMP could be made more understandable. We will try doing this at our coming GoToMeetings.

9 Meeting schedule

GoToMeetings:

• Every Monday until December 18th, 2023.

Physical meeting:

• Wednesday December 13th and Thursday December 14th, in Oslo.

10 AOB

10.1 Do datahubs aggregate for balancing?

From Joachim:

• Do you know in which countries the data hub makes the aggregation for balancing?

Response from Ove:

In the Nordic countries (Denmark, Finland, Norway and Sweden), we have a common Nordic Balancing System (NBS) run by the eSett company. Hence, eSett is the Imbalance Settlement Responsible (ISR) for the four Nordic countries.

- Metered data for **production** Accounting Points (APs) are sent for each AP, from the Metered Data Responsible (the datahubs in Denmark, Finland and Norway and the DSOs in Sweden) to the eSett (ISR).
- Aggregated **production** is sent from the Metered Data Aggregator (MDA) (the datahubs in Denmark, Finland and Norway and the DSOs in Sweden) to the eSett (ISR).
- Aggregated consumption is sent from the Metered Data Aggregator (MDA) (the datahubs in Denmark, Finland and Norway and the DSOs in Sweden) to the eSett (ISR), split into the following time series:
 - Aggregated consumption per Energy Supplier and BRP per MGA
 - Aggregated profiled consumption per Energy Supplier and BRP per MGA
 - Aggregated metered exchange between MGA (from Exchange Points)

Response from Gerrit:

I am not sure, but I would guess the Scandinavian datahubs (DK, N, FI), the Netherlands and Belgium. I guess Poland is not yet in operation.

Response from Boštjan:

Slovenia for sure.

Slovenian HUB prepare, calculate and aggregate the metering data for balancing strictly following market rules, for each grid area (five grid areas) and for each Energy Supplier separately.

In Slovenia the 15. minutes period is used for a balancing (profiled and metered).

So for an Energy Supplier for a month, it is 5 aggregated metering data for each grid area. It was shown on presentation.

Listing for one Energy Supplier for monthly data, for a separate grid area available for supplier:

CEEPS Centralni elektroenergetski portal	Skupina Slovenija Slovenija	ITTELJ						👔 Pomoč	🛓 Profil	∌ Odjava
Moj menu Bilančni obračun dobavitelj	Bilančni obrač	un dobavite	lj							
Merilni podatki Merilava dobavitelja	Bilančni obračun	Količniki	Kan	didati za merjer	n odjem					
Vnos odbirka Evidenca MM Zahteve dobavitelja MM	Tip intervala * 15 minutni	 Prikaz+ Aktivni 		- 1881						
Evidenca sprememb MM Priklop	Najdenih 115 rezultatov.									
Odpoved pogodbe Sprememba bremenitve	ld prenosa	Dobavitelj	Leto	Mesec	Čas prenosa	Tip intervala	Tip izhoda			
Sprememba na merilni točki Prijava napak	68076	ECE d.o.o.	2023	8	20.9.2023 9:06	15 minutni	Podatki za dobavitelja (Excel)		XLS	
Kontakti	68496	ECE d.o.o.	2023	8	20.9.2023 9:06	15 minutni	Podatki preostali diagram (Excel)		XLS	
Zahteva za storitev SODO SODO dokumenti	67218	ECE d.o.o.	2023	7	5.9.2023 22:00	15 minutni	Podatki za dobavitelja (Excel)		XLS	
Evidenca MT	67617	ECE d.o.o.	2023	7	5.9.2023 22:00	15 minutni	Podatki preostali diagram (Excel)		XLS	
Evidenca sprememb MT	66382	ECE d.o.o.	2023	6	3.8.2023 22:04	15 minutni	Podatki za dobavitelja (Excel)		XLS	
Dogovorjena moč	66781	ECE d.o.o.	2023	6	3.8.2023 22:04	15 minutni	Podatki preostali diagram (Excel)		XLS	
Uporabniki	65546	ECE d.o.o.	2023	5	4.7.2023 22:03	15 minutni	Podatki za dobavitelja (Excel)		XLS	
Pravice Pooblaščanje bilančne skupine	65945	ECE d.o.o.	2023	5	4.7.2023 22:03	15 minutni	Podatki preostali diagram (Excel)		XLS	
	64710	ECE d.o.o.	2023	4	6.6.2023 22:09	15 minutni	Podatki za dobavitelja (Excel)		XLS	
	65109	ECE d.o.o.	2023	4	6.6.2023 22:09	15 minutni	Podatki preostali diagram (Excel)		XLS	
	63874	ECE d.o.o.	2023	3	12.5.2023 22:11	15 minutni	Podatki za dobavitelja (Excel)		XLS	
	64273	ECE d.o.o.	2023	3	12.5.2023 22:11	15 minutni	Podatki preostali diagram (Excel)		XLS	
	62620	ECE d.o.o.	2023	2	4.4.2023 22:00	15 minutni	Podatki za dobavitelja (Excel)		XLS	

The same data are available by B2B data exchange. All data, for all Energy Suppliers and all Metering Grid Areas (MGAs) are available for the Market Operator who is responsible for balancing, calculation and billing.

The example for one Energy Supplier and 5 MGAs for a month with production and consumption profiled and metered in 15. minutes time periods:

- 10	~ ~				-									11	-						
				ELEKT	ROCELJE			ELEKTRO	LJUBLJANA		1	ELEKTR	DMARIBOR			ELEKTRO	GORENJSKA			ELEKTRO	PRIMORSKA
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3			mediana occelia	meritev	Merjani odjam	meritev	Interforma coccept	mentev	Liverjoni odjeni	meritev	withing coosts	meribev	Methani bojem	meritev	Avergana cocaga	meritev	sairjani oojam	meritev	sverjena obcaja	meritev	Margani odjem
4	DATIM	1104	4.893.	788,00	Količnik p.d.	0,53790	700 706 77	49,00	Kolicnik p.d.	0,02605	820.3	31,00	Kolicnik p.d.	0,03352	2.508.	951,00	Količnik p.d.	0,36660	600.9	25,00	Kolicnik p.d.
2	61.68.2623	00.15:00	2 378.45	4 38	7 921 58	7 123 17	130.99	5.22	12 674 20	615.08	32.21	0.25	2.610.92	518.97	2.001.001,72	2.42	3,734,99	2 538.00	164.06	0,00	1,936,91
2	01 68 2023	00.30.00	2 436 56	4.33	7 192 47	6716.89	134.57	5.20	12 571 03	583.93	32.15	0.25	2 606 58	484.21	830.42	2.42	3 673 40	2 406 04	164.58	0.00	1943.90
8	01.08.2023	00:45:00	2.455.60	4.48	7.102.74	6.439.30	138.29	5.25	12.367.58	554.01	32.23	0.25	2.620.16	459.33	830.53	2.42	3.665.12	2.275.14	164.55	0.00	1.917.31
9	01.08.2023	01 00:00	2 450 59	4.47	7 144 19	6 190 34	143.74	5.31	12 319 00	530.03	32.12	0.25	2 651 41	449.40	833.66	2.42	3 623 12	2 164 24	164.50	0.00	191120
10	01.08.2023	01:15:00	2.418.69	4.44	7.128.55	5.954.99	137.53	5.42	12 105.23	511.34	32,15	0.26	2.609.67	431.08	837.75	2,41	3 595.17	2.080.99	164.49	0.00	1 902 51
11	01.08.2023	01:30:00	2.395.31	4.43	6.958.05	5.724.23	132.82	5.46	12.438.45	495.51	32.09	0.26	2.643.12	423.34	837.73	2.41	3 559 53	2.019.23	164.47	0.00	1.889.27
12	01.08.2023	01:45:00	2 399.67	4.41	6.968.91	5 759.00	136.19	5.42	12 650.49	482.75	32.12	0.26	2 669 38	411.09	835.12	2.41	3 556 99	1.957.77	164.46	0.00	1 900.64
13	01.08.2023	02:00:00	2.418.54	4.42	6.901.08	5 695 08	129.77	5.40	12 500 81	470.97	32.04	0.25	2 656 70	402.36	826.42	2.41	3 554 23	1.911.70	164.42	0.00	1.843.29
14	01.08.2023	02.15:00	2.441.07	4.45	6.828.59	5.543.02	146.90	5.47	12.357.32	463.11	32.10	0.25	2.091.77	399.03	824.08	2.40	3.544.61	1.881.02	164.44	0.00	1.828.98
15	01.08.2023	02:30:00	2.420.46	4.36	6.907.46	5 515.01	135.78	5.42	12.126.85	457.88	31.98	0.25	2.686.72	393.64	823.36	2.40	3 510 94	1.847.52	164.33	0.00	1 852 43
16	01.08.2023	02:45:00	2.435.13	4.38	6.917.03	5.412.05	136.26	5.43	12.025.18	450.72	32.02	0.25	2,730,37	383.85	824.22	2.39	3 532 60	1.826.74	164.36	0.00	1.816.39
17	01.08.2023	03:00:00	2 418 43	4.35	6 973 59	5 282 49	138.81	5.45	12 133 55	446.85	31.95	0.25	2 708 14	381.86	829.04	2.40	3 584 07	1 808 98	164.45	0.00	1.807.43
18	01.08.2023	03:15:00	2.424.41	4.41	6.977.48	5,295.00	137.76	5.44	12 126.40	443.50	32.04	0.25	2,726,19	379.29	830.61	2.41	3 581 52	1.790.31	164.35	0.00	1 847.61
19	01.08.2023	03 32:00	2.449.49	4.41	6.911.94	5 290 35	147.79	5.49	12.300.88	439.41	31.97	0.25	2.094.92	382.09	828.29	2.40	3 593 17	1.709.49	164.39	0.00	1.872.93
20	01.08.2023	03:45:00	2 470.31	4.42	6 995 99	5 204 35	138.15	5.47	12.418.26	438.97	32.05	0.25	2 689 38	376.05	827.75	2.40	3 625 30	1.773.11	164.37	0.00	1.864.67
21	01.08.2023	04:00:00	2.433.02	4.38	7.034.30	5 240.21	136.39	5.48	12.579.33	438.86	31,96	0.25	2.095.44	380.98	822.09	2.40	3.630.32	1,786,30	164.33	0.00	1.937.25
22	01.08.2023	04:15:00	1.727.40	3.45	7.050.37	5.322.19	139.43	5.50	12.636.41	439.30	32.01	0.25	2,736.02	388.34	818.80	2.40	3.606.15	1.795.23	164.34	0.00	1.971.00
23	01.08.2023	04:30:00	1.740.68	3.50	7.112.21	5 340 74	135.00	5.45	12 378.97	441.14	31.93	0.25	2,717.17	385.71	816.63	2.39	3.591.67	1.819.50	164.37	0.00	1 971 19
2.6	01.08.2023	04:45:00	1,732,40	3.48	7,231,38	5 459 09	139.22	5.42	12 193.36	446.77	32.01	0.25	2 748 91	205.09	815.24	2.39	3 688 82	1.848.04	164.35	0.00	1 937 53
25	01.08.2023	05:00:00	1.719.08	3.46	7.379.24	5.494.18	152.29	5.52	12.385.00	455.17	31,95	0.25	2,743.01	401.07	818.90	2.39	3.696.80	1.884.79	164,29	0.00	1 927.12
26	01.08.2023	05:15:00	1.712.67	3.46	7.624.95	5 703.60	140.28	5.49	12.568.11	472.44	31,98	0.25	2,894.40	414.70	820.48	2.39	3 973 33	1.967.76	164.33	0.00	1 932 81
27	01.08.2023	05 32:00	1.744.76	3.50	7 742 21	5 836 39	141.55	5.43	12.490.40	486.50	30.89	0.25	2.858.27	429.67	815.22	2.39	4.117.55	2.045.89	164.28	0.00	1 925.04
28	01.08.2023	05:45:00	1.746.89	3.50	7 683 13	6.035.71	178.28	5.66	12.467.50	501.89	32.96	0.25	2 886 94	442.41	818.26	2.58	4 234 45	2 089 53	164.32	0.00	1 974 71
29	01.08.2023	06:00:00	1.743.39	3.52	8.539.34	6.054.03	187,28	5.78	12.637.59	515.99	38.06	0.25	3.105.18	439.91	815.75	2,38	4.545.46	2.148.69	164.27	0.00	2.174.19
30	01.08.2023	06.15:00	1.758.03	3.59	9.589.65	6.447.75	206.36	6.09	13.458.50	532.82	43.39	0.26	3.391.14	456.47	818.81	2.39	5.023.11	2 228 92	165.38	0.00	2.370.68
11	01.08.2023	06:30:00	1.793.39	3.89	10.178.12	6 501.67	193.96	6.57	13.949.48	543.71	45.86	0.26	3 838 03	475.03	819.08	2.41	5 291 72	2 285 99	166.94	0.00	2 525 50
32	01.08.2023	00.45:00	1.049.74	4.10	10 345 39	6 331 36	203.08	7.46	13 920 89	552.30	56.43	0.28	3.967.26	459.98	816.20	2.41	5 499 89	2 391.10	171.45	0.00	2 008 57
33	01.08.2023	07.00:00	1.964.61	4.81	10.422.19	5,999.60	221.02	8.46	14.099.83	565.47	77.55	0.30	3.977.33	464.51	825.64	2.45	5.623.78	2.372.10	178.05	0.00	2,768.15
34	01.08.2023	07 15:00	2.029.36	5.45	10.612.26	6.034.03	213.98	9.70	14.450.43	567.61	109.98	0.32	3 968 25	451.84	845.02	2.53	5.664.13	2 320.34	185.54	0.00	2 840.52
15	01.08.2023	07.30:00	2.116.67	5.61	11.030.86	6,215.98	241.77	11.01	14.588.15	562.51	153.31	0.36	3 996 35	438.91	866.02	2.60	5.889.65	2 325 26	185.56	0.00	2.859.82
36	01.08.2023	07:45:00	2 276.94	6.30	11.002.83	5.568.90	293,74	15.34	14.661.66	538.46	183.42	0.38	3.872.89	431.09	857,99	2.59	5.822.83	2.414.10	181.95	0.00	2.845.35
37	01.08.2023	08:00:00	2.646.14	7.17	10.875.53	5 169.54	293.79	18.18	14.982.56	529.32	208.70	0.40	3.800.49	427.54	850.20	2.57	5.883.73	2,516,44	191,48	0.00	2 912 64
38	01.08.2023	08.15:00	2.600.28	7.63	10.632.48	4.491.61	354.75	19.09	15.108.29	533.99	282.83	0.44	3.805.76	381.49	850.10	2.59	5.887.91	2.540.05	202.54	0.00	2,986.83
39	01.08.2023	08.30:00	2.695,15	8.09	10.903,15	4.417,43	399.30	19.50	15.241,58	541,47	364.35	0.49	3.884,77	349.00	849.36	2,60	6.117.89	2.544,16	216.52	0,00	3.056.93
40	01.08.2023	08:45:00	2.648.73	7.05	11.316.02	4.838.46	310.05	21.41	15.076,46	531.41	419.33	0.52	3.881.39	312.68	873,99	2,75	6.149,18	2.284,79	202.73	0.00	3.068.25
41	01.08.2023	09.00:00	2.605.94	7.74	11.593.40	4.891.65	416.80	24.88	14.872.60	502.91	390.57	0.53	3.099.29	325.66	846.06	2.82	6.221.46	2.105.34	230.26	0.00	3.174.84
42	01.08.2023	09.15:00	2.773,38	8,41	11.437,68	4.493,61	376.66	26.20	14.287,27	472.82	423.87	0,50	3.575.07	346.64	904.33	3,12	6.098.96	1.747,49	221,99	0,00	3.203.65
43	01.08.2023	09.32.00	2.985,39	9,45	11.080,22	3.600,28	452,48	29,61	14.218,45	437,46	458,01	0,50	3.549,97	357,53	960,42	3,06	6.027,85	1.819,58	213,08	0,00	3.192,45
44	01.08.2023	09.45:00	3.282.68	10.77	10,796.52	2,414,81	464.36	33.22	14,120,80	427.06	402.22	0.52	3.727.61	319.89	911.36	2.98	6.109.52	1.980.13	217.23	0.00	3.149.44
45	01.08.2023	10.00:00	3.457,38	11,67	10.331,62	1.802,32	424,10	31,59	14.601,48	453,97	495,23	0,60	3.444,36	270,75	873,25	2,74	6.115.56	2.281,22	224,00	0,00	3.156,05
46	01.08.2023	10.15:00	3.040,98	11,21	10.557,06	2.392,74	383,83	26,85	14,646,19	491,38	658,56	0,65	3.471,37	208,08	882,34	2,66	6.218,40	2.437,73	230,91	0,00	3.106,40
47	01.08.2023	10:30:00	2.584,37	9,11	10.844,03	3.453.56	391,74	25.74	14.592,38	510.45	557,68	0.60	3.529.32	253.93	878,10	2,61	6.262.32	2.598,73	197,04	0.00	3.119.36
48	01.08.2023	10:45:00	2 4/14 3/1	8.44	11 293 85	4 210 34	372 56	25.80	14 620 49	519 22	477 92	0.58	3 684 31	289.55	809.33	210	6.334.53	2 555 23	109.97	0.00	3 033 12
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Item closed.

Appendix A EBG project and survey list

A.1 Potential projects

#	Project description	Priority	Start
A)	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	 20230417: If time item 20230914: See also row E) below
В)	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	20230417: • TBD 20230914: • In progress
C)	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	 20230417: When updating role definitions in BRSs
D)	Review of BRS for Settle for Reconciliation, ref. minutes from EBG meeting October 10 th , 2022.	Low	 20230417: At least to consider during handover to EU DSO Entity. 20230914: We will keep it as is
E)	Mapping from ebIX [®] Class diagrams to CIM, see Appendix B	If time item	 20230821: For review at next physical EBG meeting in September 2023 See also A) above

A.2 Approved (and running) projects

#	Project	Members	Status	Start	End
A)	Common energy market area project	EBG: Bartosz, Boštjan (?), Gerrit, Kees and Ove. "External": Douglas (ENTSOG), Jon-Egil (ENTSO-E/CIM EG) and ? from EU DSO Entity	Will probably be too late for ebIX [®] to join.	Dependent on ENTSO-E	?

A.3 Surveys

#	Survey	Status
A)	None.	

Appendix B 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	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).	Series / resolution	The number of units of time that compose an individual step within a period.
	The Observation Period must contain a whole number of observations as derived from the resolution.		
	The resolution is expressed in compliance with ISO 8601 in the following format:		
	PnYnMnDTnHnMnS.		
	For example PT15M for 15 minutes resolution.		
Rest Volume	The Rest Volume is used for a volume that cannot be related	Quantity / quantity	The quantity value.
	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.		The association role provides the information about what is expressed.
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 ¹	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	

¹ 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	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.
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	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.

MappingOfValidatedMeas	sured Data For Continuous	MeteredAP					
Target Source	1 DateAndOrTime	2 MarketEvaluationPoint	з Measure_Unit	4 Point	5 Quantity	6 Series	7 Series_Period
1 Observation				Maps To Quant Maps To Position Maps To Quantity Quantity Quantity			
2 Register read				Maps To Read Quantity Maps To Read Quality			
3 Series characteristics		Maps To Direct type	Maps To		Maps To Rest V	Maps To Produ Maps To Maps To	Maps To
[#] /alidated measured dat	Maps To Regist	Maps To Accou > mRID				Maps To	Maps To Obser > timeI
5 Validated measured dat						Maps To Trans MRID Maps To	
6 Validated measured dat						Maps To Maps To Refer	