

Exchange 2.0 by Eress

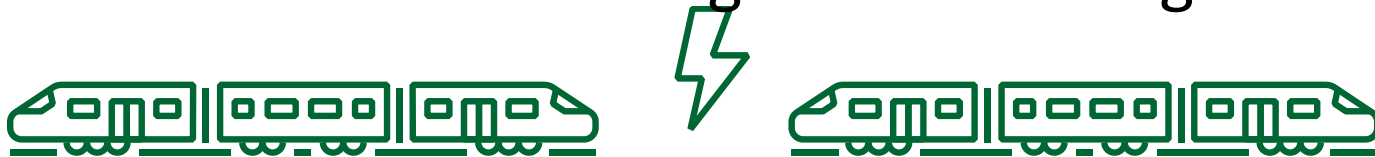
Gunn-Helene Krogstad



Exchange 2 building on IRS 90930

The past year and development

- Erex Exchange 2.0 is jointly owned by the Eress partners and all Eress partners are users and can offer the Exchange service to the users of traction energy within their settlement areas.
- Exchange 2.0 is communicating with several DCS for receiving CEBDs from different metering suppliers.
- Eress DCS is one of the DCS that are supplying energy measurements through Erex Exchange.

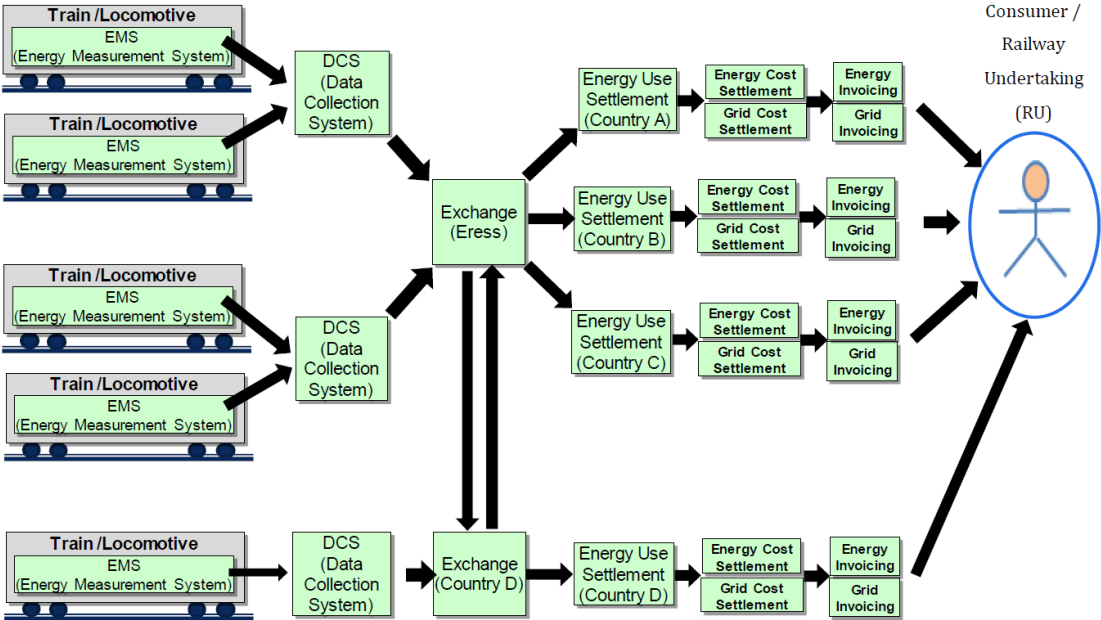


Looking back at the past year

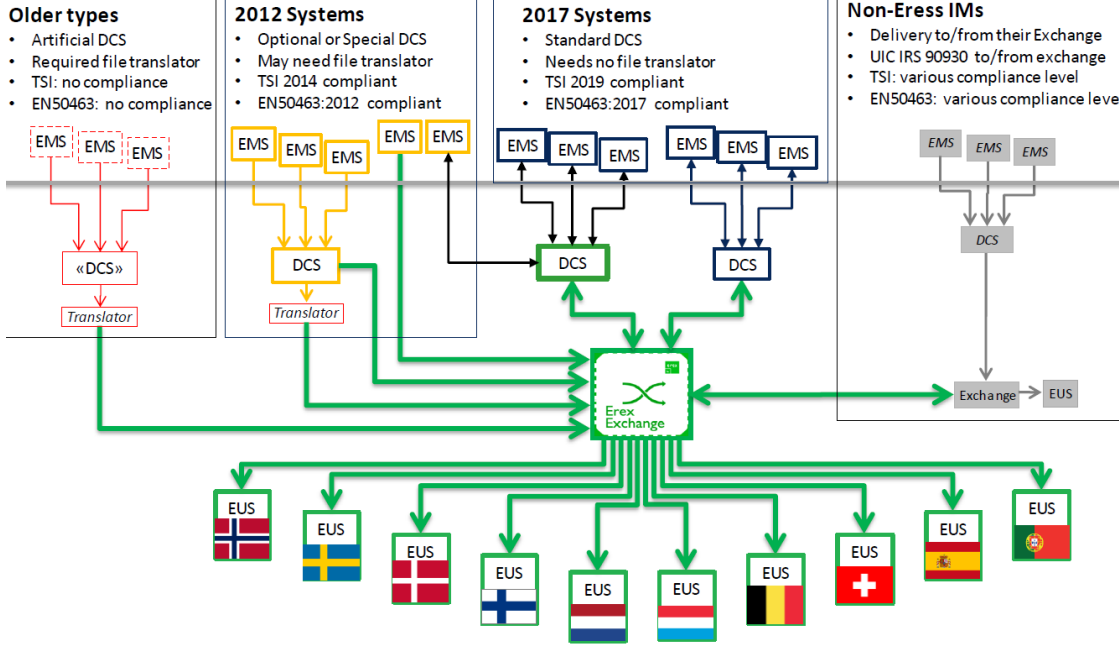
The basis for implementing



Dataflow in general



Wide range of interfacing



How to implement while the standards is still under adjustment

- Participating in the maintenance group of IRS90930 has been crucial to get a good result for implementation.
- Members of the group are lifting the questions on uncertainties for implementation. Different aspects and expectations for the discussion and being a guideline for implementation.
- Challenges with implementing a new norm that is not adapted to ground to ground communication.
- EN50463 does not “fit like a glove” when splitting and forwarding metering data collected to more than one recipient.
- During the year of implementation and testing we have had several changes on the run.

Exchange Leaflet 930 vs Exchange 2.0 IRS90930



Messages

adminghk | Log out
Erex Exchange
Time zone GMT

EREX

Monitor

Fleet

Infrastructure

Administration

Exchange

Status Processes Queries Report Administration

Operator view Message Log Process Log Event Monitor Import control

From: 10/06/2023 22:00 To: 12/06/2023 22:00 Update

Process Statistics

Procedure Name	Total	Not successful	Delayed tasks
allocation	32820	0	0
export	20069	1	0
validation	31823	8	0

Message Log (78789)

All	78789
OK	75197
REJECTED	3581
PARTLY_REJECTED	31
UTILTS Validation	15894
UTILTS Import	12598
Export	20024
CEBD Validation	15260
CEBD Import	15015

Event Monitor (66074)

ConsumptionPoint	66074
Generation without movement	20032
Consumption without movement	14558
Speed exceeded, successfully interpolated	4868
Hole detected	3833
Speed exceeded, single record corrected	858
Speed exceeded, but no interpolation possible within set timerange	141
Missing quantity value	11939
Outside confined area	111
Movement without consumption	1841
Missing location for short period	7309
Missing location for long period	87
Unallocated data	288
Missing location and quantity value	241
Power has exceeded maximum limit	583

Time range

From: 05/06/2023 13:53 To: 07/06/2023 00:00 UPDATE

Import

Status	CEBDBlock (files)	CEBDBlock (timeseries)	ReadingBlock (files)	ReadingBlock (timeseries)	UTILTS (files)	UTILTS (timeseries)
Success	5	9	0	0	9133	9698
Not successful	0	0	0	0	0	0
Response sent	5	-	0	-	1969	-
Rejected	0	0	0	0	14	27
Other	0	-	0	-	0	-
Queue	0	-	0	-	0	-

Datasource delivery status

Status	Sources	Delay (h)	CPIDs registered	CPIDs not delivering
Delivering	3	34	3184	1233
No delivery	8	76	2068	2068

Processing

Status	Validation	Allocation	Conversion
Success	9728	9728	8799
Not successful	0	0	0
Queue	0	0	0

Export

Status	CEBDBlock	ReadingBlock	Transfer to settlement
Success	79	0	8229
Not successful	0	0	0
Pending response	21	0	-
Rejected	9	0	-

The dataflow

Exchange 2.0 has been created in line with the Eress strategy of transparency to its users.

In addition to the dashboard that is the start page.

We have a log where it is possible to get a quick status of the dataflow through the system. The dataflow is transparent to operators and users of Exchange 2.0.

The screenshot shows the ERESX interface with the 'Process view' selected. The top navigation bar includes 'Monitor', 'Fleet', 'Infrastructure', 'Administration', and 'Exchange'. Below this, a secondary bar shows 'Data log', 'Source/receiver', 'Audit log', 'Run process', 'Data search', and 'Reports'. The 'Process view' section contains a table with the following columns: Process start time, Observation start time, Observation end time, Consumption point, #, Validation OK, Validation Failure, Allocation OK, Allocation Failure, Conversion OK, Conversion Failure, Export OK, and a checkbox. The table lists various dataflow entries with their respective timestamps and consumption points. A sidebar on the left provides filters for 'Processing time' (Date from, Time, Date to, Time) and 'Observation time' (Enable observation filter, Date from, Time, Date to, Time). It also includes a 'Consumption point' search field and checkboxes for 'View my runs' and 'View manual runs', along with a 'SEARCH' button.

Process start time ↓	Observation start time	Observation end time	Consumption point	#	Validation OK	Validation Failure	Allocation OK	Allocation Failure	Conversion OK	Conversion Failure	Export OK	
09.06.2023 10:59	09.06.2023 04:59	09.06.2023 05:59	SNCB 08173 (9488008173141)	60	60	0	60	0	60	0	60	
09.06.2023 10:59	09.06.2023 06:59	09.06.2023 07:59	SNCB 08173 (9488008173141)	60	60	0	60	0	60	0	60	
09.06.2023 10:59	09.06.2023 07:59	09.06.2023 08:59	SNCB 08173 (9488008173141)	59	59	0	59	0	59	0	59	
09.06.2023 10:50	09.06.2023 10:10	09.06.2023 10:40	Sm4-6320-6420 (9410600402060)	30	30	0	30	0	30	0	30	
09.06.2023 10:34	09.06.2023 10:05	09.06.2023 10:20	Sr2-3228 (9110300202810)	15	15	0	15	0	0	0	0	
09.06.2023 10:34	09.06.2023 09:05	09.06.2023 10:05	Sr2-3228 (9110300202810)	60	60	0	60	0	0	0	0	
09.06.2023 10:34	08.06.2023 06:21	08.06.2023 17:36	528 204 (9485752820411)	653	648	0	648	0	648	0	648	
09.06.2023 10:34	08.06.2023 03:00	09.06.2023 03:00	528 203 (9485752820331)	1440	1440	0	1440	0	1440	0	1440	
09.06.2023 10:34	08.06.2023 03:00	09.06.2023 03:00	528 130 (9485752813081)	1440	1440	0	1440	0	1440	0	1440	
09.06.2023 10:34	08.06.2023 03:00	09.06.2023 03:00	528 129 (9485752812901)	1440	1440	0	1440	0	1440	0	1440	
09.06.2023 10:34	08.06.2023 03:00	09.06.2023 03:00	528 128 (9485752812821)	1440	1440	0	1440	0	1440	0	1440	
09.06.2023 10:34	08.06.2023 19:25	08.06.2023 21:16	620 060 (9185462006041)	58	58	0	58	0	58	0	58	
09.06.2023 10:34	08.06.2023 03:00	09.06.2023 03:00	528 127 (9485752812741)	1440	1440	0	1440	0	1440	0	1440	
09.06.2023 10:34	08.06.2023 03:00	09.06.2023 02:23	420 139 (9185442013981)	1179	1179	0	1179	0	1179	0	1179	
09.06.2023 10:34	08.06.2023 03:00	09.06.2023 03:00	420 118 (9185442011821)	439	439	0	439	0	439	0	439	
09.06.2023 10:34	08.06.2023 03:00	09.06.2023 01:44	420 115 (9185442011581)	632	632	0	632	0	632	0	632	
09.06.2023 10:34	08.06.2023 03:00	09.06.2023 03:00	420 111 (9185442011171)	958	958	0	958	0	958	0	958	
09.06.2023 10:34	08.06.2023 03:00	09.06.2023 03:00	528 126 (9485752812661)	1438	1437	0	1437	0	1437	0	1437	

Responsibility and access TU is the heart

There is a defined Exchange admin responsible for each Traction Unit registered.

The defined Exchange admin in Exchange is always a Exchange responsible according to the definition of IRS and is used for administration of the fleet master data and being the sender responsible towards others when exchanging data with other Exchanges .

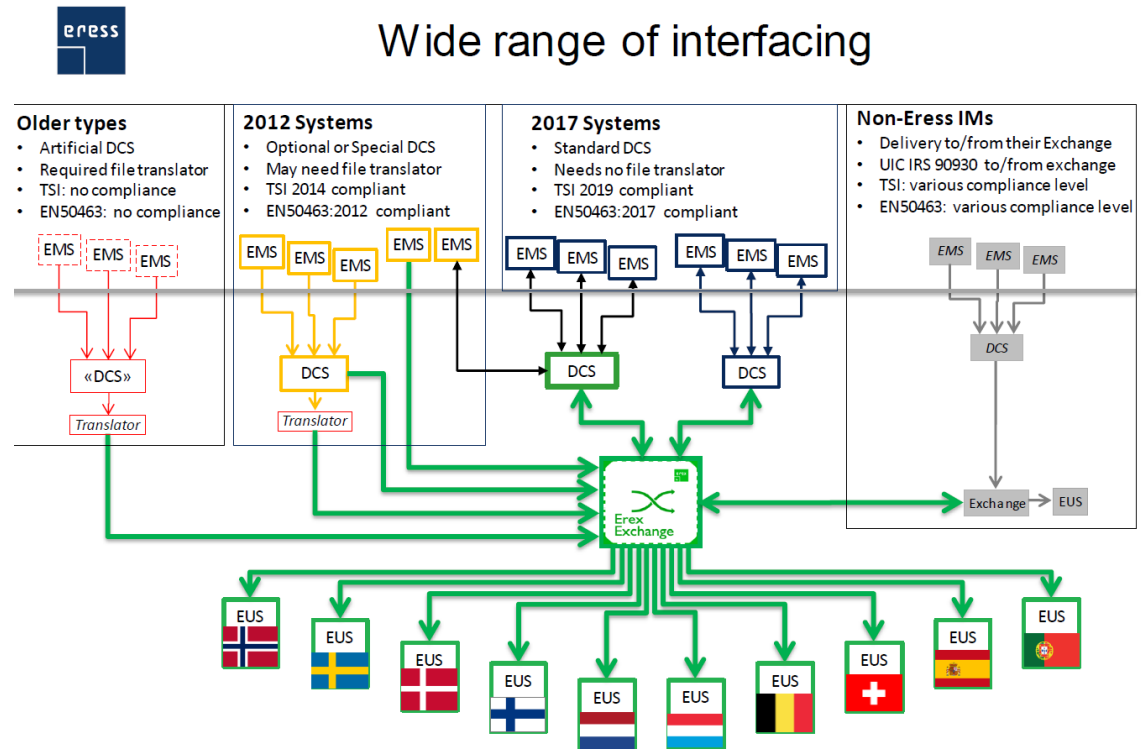
Other connections are also available on the TU making it possible to grant access to data at the right level.

Modified: 15.05.2023 11:07 / gunnei Exchange Admin: SBB Infrastructure Dcs Admin: SBB DCS - account for SBB Cargo	
Valid: 01.01.1970 01:00 – 01.01.2070 01:00	● Approved for billing
Modified: 22/05/2023 14:25 / gunnei	● Active
Modified: 16.02.2023 09:50 / gunnei Exchange Admin: Deutsche Bahn	
Valid: 01.01.1970 01:00 – 01.01.2070 01:00	● Approved for billing
Modified: 17/02/2023 08:59 / gunnei	● Active
Modified: 09.03.2023 13:55 / lybjo Exchange Admin: DB Energie Vehicle Keeper: DB Cargo Ems Responsible: DB Netz	
Valid: 01.01.1970 01:00 – 01.01.2070 01:00	● Approved for billing
Modified: 08/03/2023 21:46 / lybjo	● Active

Exchanging outside of Eress partners

Exchanging also with the new format with Exchange partners in Europe

- Exchange classic is still live for some special cases also after the summer.
- No new connections towards the old Exchange.
- Exchange2.0 supports standard UTILTS and XML input.
- Exchange 2.0 supports only XML export to other interface partners.
- Connection interface agreed in IRS is currently SFTP.
- Exchanging towards other IRS Exchange partners June 2023.



Ready today for the railways of tomorrow

eres.eu

