


# ALB Data Dev for Battery Electrochemistry

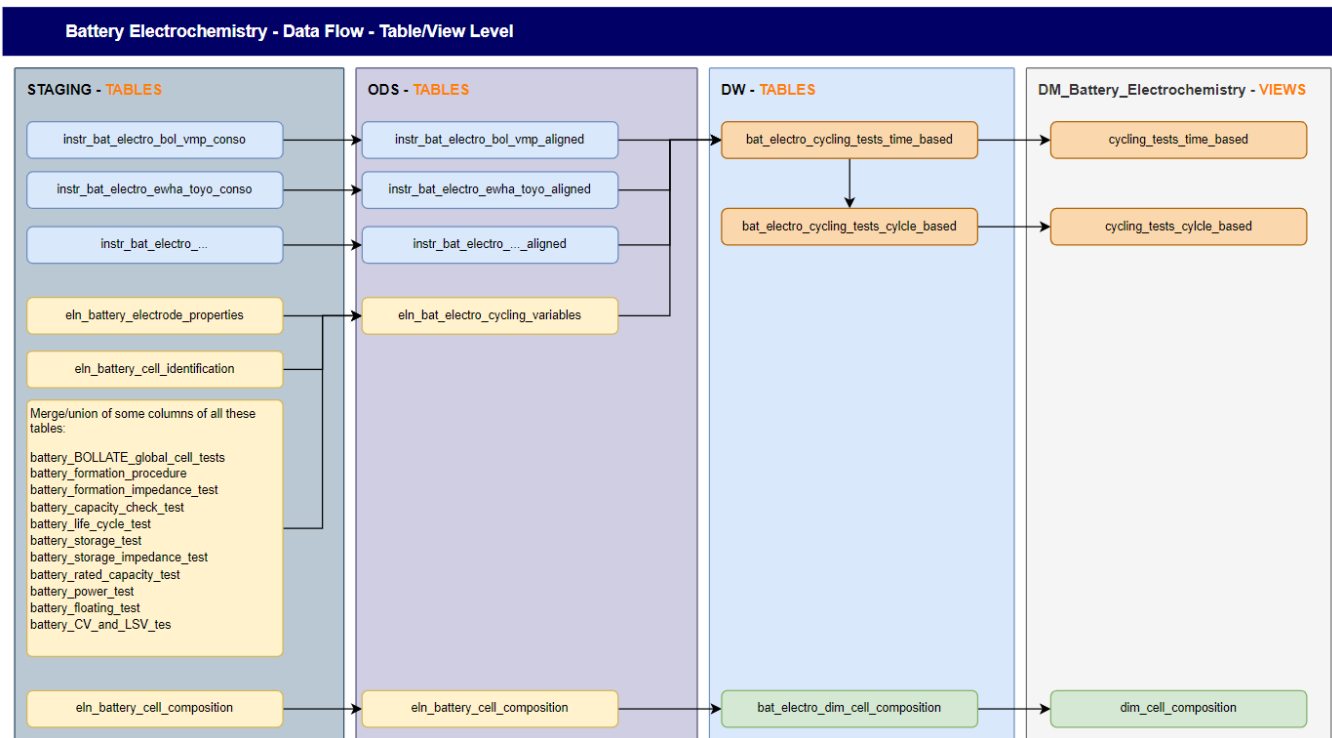
This page presents the data development documentation for Battery Electrochemistry for all sites.

 The standard ETL areas and processes are described on [ALB Data Dev Architecture - General](#).

## Summary

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## Data flow diagram



 All the schemas are available on google drive for further edition:

## Data Ingestion

## Data Sources

## ELN

### Simplified Flow

ELN API <Extraction> Local JSON File

## Spreadsheets

Source	Spreadsheet	Description	Data Status*
ELN EWHA BOLLATE	ELN current template	This is a standard ELN spreadsheet for <b>all sites</b>	<span>HOT</span>
ELN BOLLATE	ELN historic template	This is a ancient format for ELN spreadsheet for BOLLATE. The data is still necessary but new spreadsheet won't be created.	<span>HOT</span>
ELN Battery mapping	ELN historic template	This is a ancient format for ELN spreadsheet for EWHA. The data is still necessary but new spreadsheet won't be created.	<span>HOT</span>
ELN MuSigma	pré-ELN	This spreadsheet has EWHA data before starting using ELN. There is no new data being added to it. All data is already ingested.	<span>COLD</span>
ELN Separator data Mapping	?	Existing spreadsheet to be loaded to BQ	<span>?</span>

\*Data Status: HOT: Data currently being updated at the source. It should be loaded regularly. COLD: No data changes at the source. It should be loaded just once.

The list of the spreadsheets/tables extracted from JSON files coming from ELN can be found in the Data Mapping of the next section.

## Related documents

Document Name	Link
Battery - ELN Data Model	<a href="https://app.diagrams.net/#G1sD6OqKnBzSR_SrGvzlhEI7s5F5vUGQqD">https://app.diagrams.net/#G1sD6OqKnBzSR_SrGvzlhEI7s5F5vUGQqD</a>
Battery - ELN Template Documentation	

## Instruments/Cyclers

### Simplified Flow

Lab server <Copy> Local CSV/XML/TXT file

## Files

Cyclers	Site	Description	Status
Maccor	EWHA		<span>HOT</span>
Maccor	Bollate		<span>HOT</span>
BioLogics	EWHA		<span>HOT</span>
BioLogics BCS	Bollate		<span>HOT</span>
BioLogics VMP3	Bollate		<span>HOT</span>
Arbin	EWHA		<span>HOT</span>
Arbin OLD	Bollate		<span>COLD</span>
Arbin (LPT)	Bollate		<span>HOT</span>
PNE	EWHA		<span>HOT</span>
Toyo	EWHA		<span>HOT</span>
Biologic SP150 & SP300 (VSP)	Bollate		<span>HOT</span>
BioLogics BCS	AUB		<span>HOT</span>

BioLogics BCS	BRU		HOT
BioLogics VMP	AUB		HOT
BioLogics VMP	BRU		HOT
BioLogics MPG	AUB		HOT
BioLogics MPG	BRU		HOT
BioLogics SP	AUB		HOT
BioLogics MTZ	AUB		HOT

\*Data Status: HOT: Data currently being updated at the source. It should be loaded regularly. COLD: No data changes at the source. It should be loaded just once.

### SFTP/File Location - Aubervilliers and NOH data

The instrument files are, most of them, **manually** added to a Google Driver's folder or a folder in lab servers.

The spreadsheet **Where to find instrument files?** has the full list of instrument folders and location:

### SFTP/File Location - EWHA

<https://docs.google.com/document/d/12FtHrijv22d1IM8FPXrYxx8nQVM4UeZIW8-ges3IYUQ/edit#>

### SFTP/File Location - Bollate

## Data Mapping

No data mapping needed as the data is copied exactly as the source.

## Data Preparation or Parsing



### Simplified Flow

Local CSV/XML/TXT file <Load> Cloud Storage/Staging BigQuery

## Data Mapping

The spreadsheet below presents all data transformation between the raw files (extracted files) and a BigQuery delta table. Some files are unstructured and semi-structured. This steps aims to structure the files in the target table format and checking if the column's type (schema) are conformed expected.

(old one)

## Data Integration or Computing

The data integration phase for batteries follows the standard approach describe on [ALB Data Dev Architecture - General](#).



### Simplified Flow

Staging BigQuery <Transform> ODS BigQuery

## Data Mapping

The spreadsheet below presents all data transformations between the tables on Staging and ODS. This steps aims to add some calculations and intelligence to the data. Not all tables will need passing through this step.

### Raw Data Pairing (all sites)

This spreadsheet shows how to align all cyclers in just one common table schema:

## Data Presentation (DW/DM)

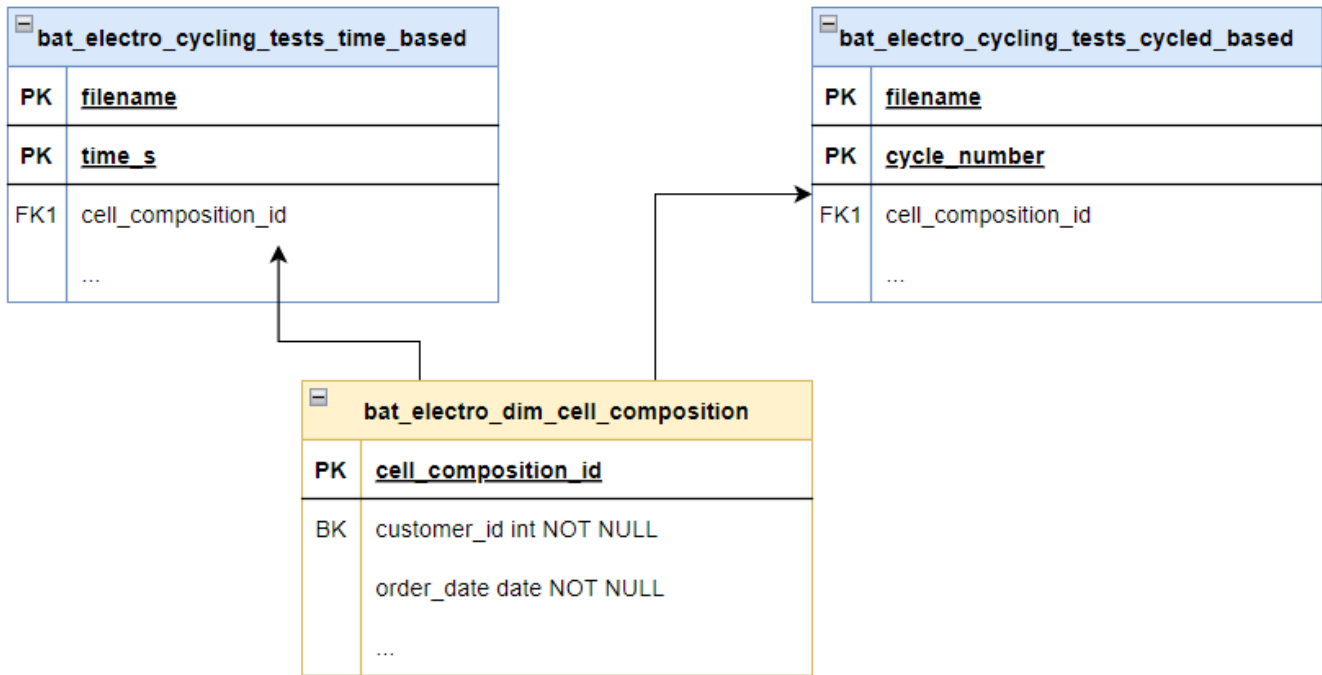
**Simplified Flow**

ODS BigQuery <Transform> DW BigQuery <Expose> DM\_Battery\_Electrochemistry BigQuery

## Data Mapping

## Data Model

The following data model presents the tables present on DW dataset and the relation between them:



For the DM dataset (DM\_Battery\_Electrochemistry), we have the views on the top of the tables before. As defined in the convention, there is no need of the abbreviation "bat\_electro". No need either of Talend jobs.

## Orchestrating Jobs

All the jobs are run in sequence under the follow job and project name on TAC/Talend Cloud:










Project	Job/Flow
RnI_ACN_Battery	F000_RnI_ACN_Battery_
RnI_Battery_ELN	
RnI_Battery	
RnI_Battery_BOLLATE	

For scheduling details check the Operational documentation.

## Talend









### ELN

Project: Rnl\_Battery\_ELN

- ▼  **Job Designs**
- ▼  **Standard**
- ▼  Rnl\_Battery\_ELN
  - >  Reference
  - >  Rnl\_Battery\_ELN
  - >  Rnl\_Battery\_ELN\_BOL\_EWHA
  - >  Rnl\_Battery\_ELN\_BOLLATE
  - >  Rnl\_Battery\_ELN\_EWHA
  - >  Rnl\_Battery\_ELN\_IDBS

### Instruments

Project: Rnl\_Battery (EWHA)








- ▼  **Job Designs**
- ▼  **Standard**
- >  Archive
- ▼  Rnl\_Battery\_EWHA
  - >  EWHA\_Battery\_RNI\_BioLogic
  - >  EWHA\_Battery\_RNI\_Maccor
  - >  EWHA\_Battery\_RNI\_PNE
  - >  EWHA\_Battery\_RNI\_Toyo

Project: Rnl\_Battery\_BOLLATE

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GIT: Rnl\_Battery\_Bollate/master (Local Mode)

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- ▼  **Job Designs**
- ▼  **Standard**
- ▼  Rnl\_Battery\_Bollate
  - >  Rnl\_Battery\_BOL\_Arbin
  - >  Rnl\_Battery\_BOL\_Biologic\_BCS
  - >  Rnl\_Battery\_BOL\_Biologic\_VMP
  - >  Rnl\_Battery\_BOL\_Maccor