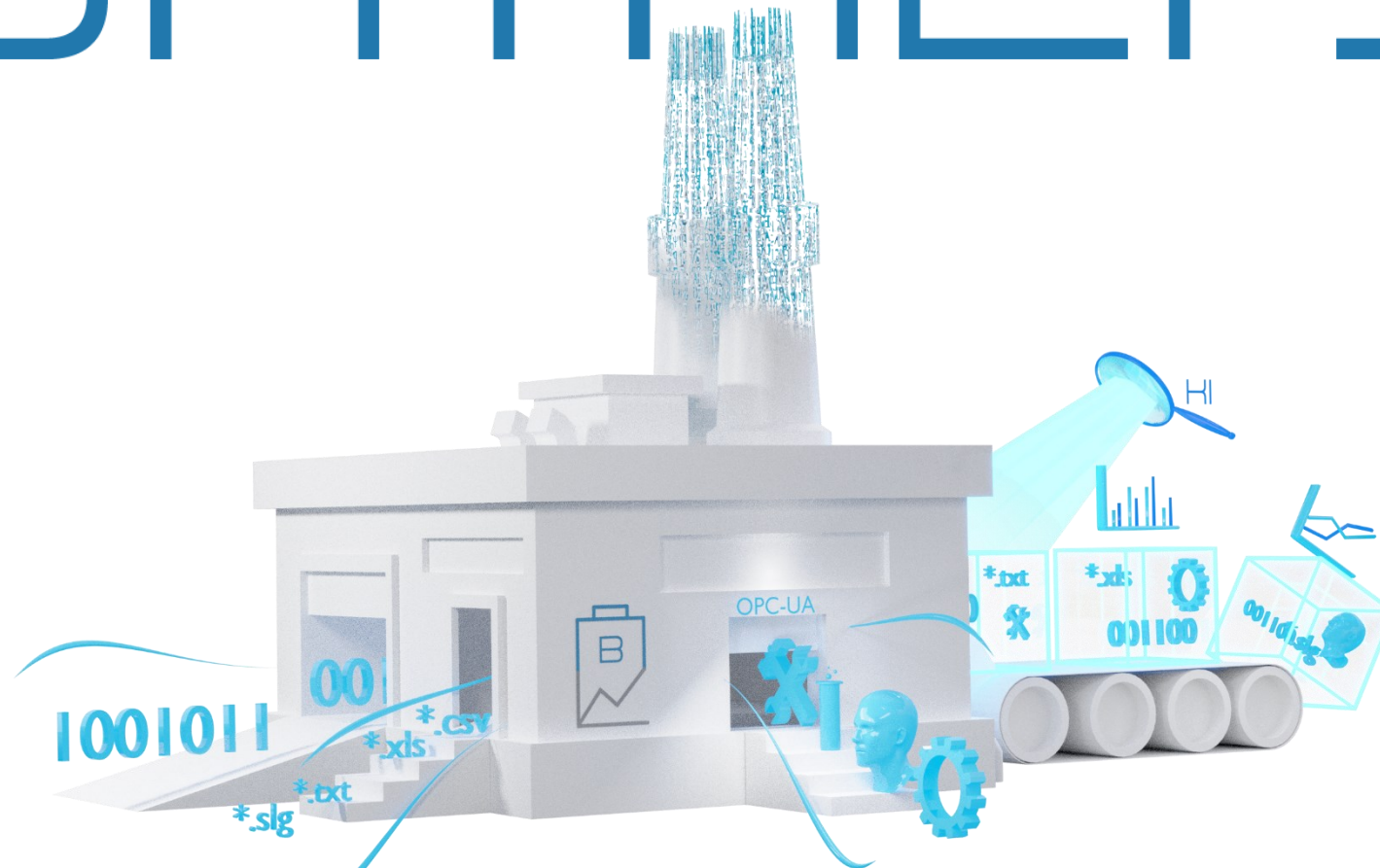




# BATALYSE



## Refining Data - Enabling AI



# Overview



- 1) Value proposition
- 2) Batalyse software system
- 3) Features - Collect

Features – Data Analysis

Features – Mind

- 4) Test options and demo servers
- 5) License system
- 6) Hardware requirements (Collect/Mind)
- 7) Escrow option



# 1) Customer - Value proposition



- automate test data evaluation for batteries and fuel cells - directly download your test results
- filter and sort your tests for every material/component within the cell
- collect and categorize files automatically from your test device computers
- save your data in independent profiles for specific teams or projects
- document lab work/production in process chain illustrations and access/illustrate all connected data
- control who has access to your data with a role and rights management system
- access your refined data by API: select tests with good (or bad) performance and have your AI correlate it with corresponding process parameters

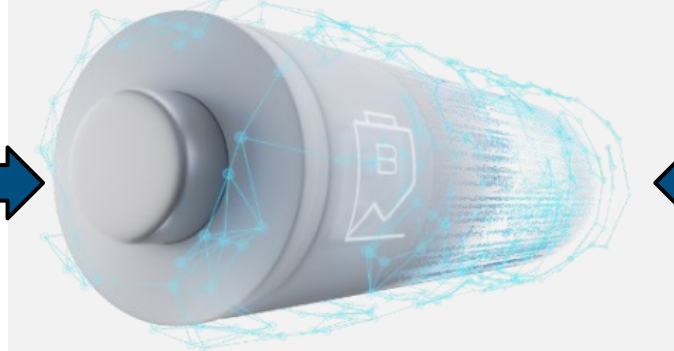


## 2) Batalyse Software System



COLLECT

Gather, store, categorize, share data/metadata/information



DATA ANALYSIS

Analyses/benchmarks batteries and fuel cell test data



MIND

Lab information and management system (LIMS)

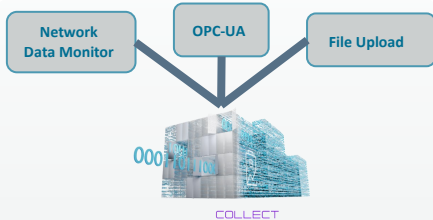
Collect, Data Analysis and Mind can be applied stand-alone or combined



# 3) Features - Collect



# BATALYSE



Gather your data automatically

Data Type (main)	Data Type (sub)
--Please Select--	--Please Select--
Electrochemistry	Cycle Test

Categorize your data automatically

- QM
- R&D
- Production

Independent of industry sector

.txt, .png, .csv, .bmp, .jpg, .sac, .iad, .mdc, .imd, .asc, .qmp, .xlsx, .xlsm, .htm, .mpr, .mgr, .fit, .mpp, .mps, .mmp, .sta, .docx, .pdf, .pptx, .ppt, .doc, .xls, .vsd, .tif, .tiff, .msg, .zip, .mp4, .db, .mpt, .ini, .lnk, .opj, .f4v, .xlt, .dot, .dat, LOG1, .regtrans-ms, .dat, .log, .exe, .xml, .html, .mgr, .mpb, .elt,.....

Saves many data formats

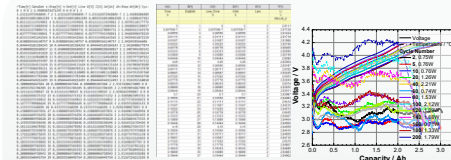


Create password protected data containers for work groups/projects

Arbin	AVL	BaSyTec	BioLogic	Bitrode
Digatron	ElCell	FuelCon	Gamry	Graphtec
Ivium	Keysight	Lanhe	Maccor	Modulab
Neware	Originalys	PEC	Scienlab	Thyssen Krupp

supported systems

Universal access point for various test devices



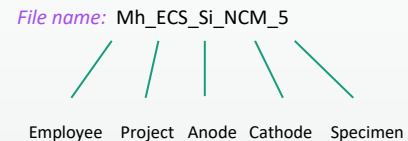
Saves raw data, result tables and result projects/graphs

Employee Initials	Process Number	Project Name	Project Number	Specimen Number	Supplier Name
Search...	Search	Search	Search	Search...	Search
Electrolyte Conductive Salt	Electrolyte Concentration	Electrolyte Solvent	Electrolyte Concentration	Electrolyte Additive	Electrolyte Additive Concentration
Search	Search	Search	Search	Search	Search

Sort and filter your test/analysis/production data



Store and manage all data centrally. Avoid isolated data islands!



Define/apply your own file nomenclature

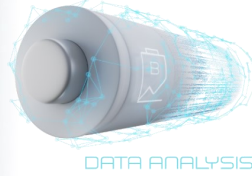
- Create data containers
- Add network folders to be monitored
- Set file delete permission
- Change passwords
- Adjust automated file categorization
- Choose columns to be displayed
- ....
- Manage database settings



No access to your data – your test data stays in-house



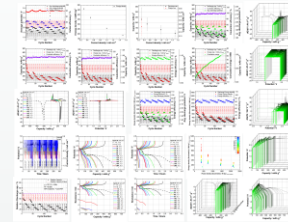
# 3) Features - Data Analysis



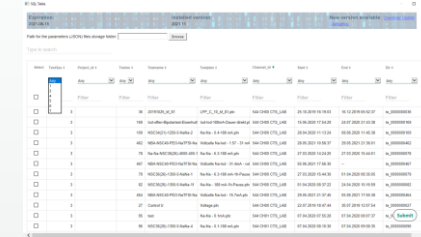
# BATALYSE

Arbin	AVL	BaSyTec	BioLogic	Bitrode
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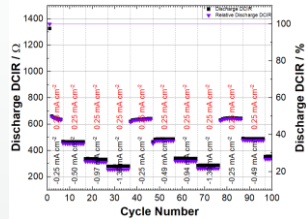
supported systems



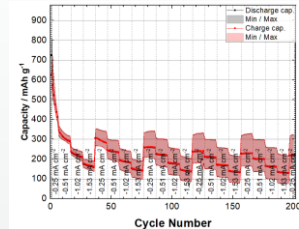
Dozens of result diagrams



Connect to SQL test data servers



Many options for automated diagram labelling



Compare/benchmark your tests

Cell Format

Not set
  Lab / Custom cell
  Pouch cell
  18500 cell
  21700 cell
  PHEV 1 cell
  PHEV 2 cell
  BEV 1 cell
  BEV 2 cell

External dimensions

Cylindrical
  Rectangular
  Round

Diameter: 47 [mm] 18.6 [mm] 18 [mm]  
 Height: 64 [mm] 65.4 [mm] 67 [mm]  
 Width: 45 [mm] 66 [mm] 67 [mm]  
 Length: 400 [mm] 420 [mm] 430 [mm]

Basic parameters

Absolute Weight
  Area Weight

Working electrode coating weight: 300 [mg]
  Theoretical Capacity (Active Material): 200 [mAh/g]
  Normal capacity (Total): 25 [mAh/g]
  Active Material weight: 20000 [mg]
  Auto Determine Full Capacity: 1 [Cycle]

Add and manage specimen parameters



Supported diagram languages



### Combined with Collect:

- Automate test data evaluation
- Download test results
- Upload/share your modified results with team



Save evaluation time!



No access to your test data – your test data stays in-house



[batalyse.com/download](https://batalyse.com/download) or [Origin File Exchange](#)

Admin free, easy install – Drag and drop, no additional hardware required



# 3) Features - Mind



# BATALYSE



**Automate lab/production work documentation**



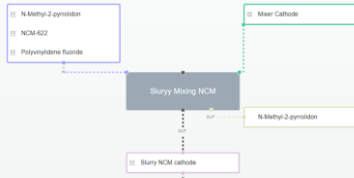
**Link data of multiple sources projects, tests, products, materials...**



**Save knowledge and observations**



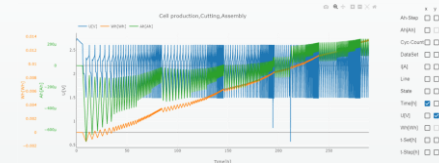
**Control / share / restrict access to your data**



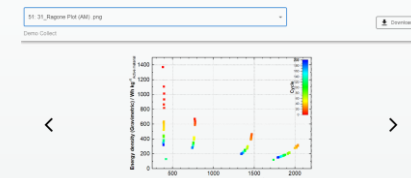
**Illustrate your work in process chains**



**Access all data/information by the process chain**



**Directly display raw data**



**Directly display result data**

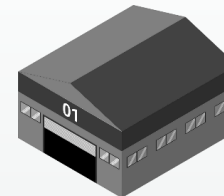
## Sync/transfer your databases

- employee active directory
- raw materials
- chemicals
- products
- hazardous substances database



COLLECT

**Sync all test, analysis, production data**



**Manage your warehouse, inquiries, suppliers...**



**No access to your data – your test data stays in-house**



## 4) Test options and demo server

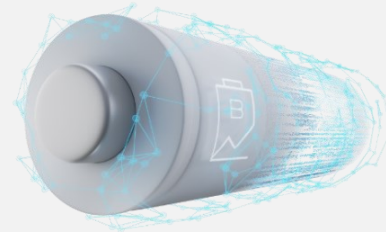


### Test Batalyse software free of costs and without obligation:




COLLECT

- Mail [contact@batalyse.com](mailto:contact@batalyse.com)
- We introduce “Collect” to you, create an account and send you the login data
- [Login](#)



DATA ANALYSIS

- Download the latest version: [batalyse.com/download](http://batalyse.com/download)
- Drag and drop “Batalyse.opx” into Origin 
- Select any button in the Batalyse toolbar, add your mail adress, accept disclaimer and click request license
- We contact you by mail when the license is active



MIND

- Mail [contact@batalyse.com](mailto:contact@batalyse.com)
- We introduce “Mind” to you, create an account and send you the login data
- [Login](#)





## 5) License system

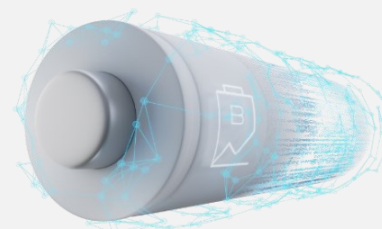


- 1-year licenses include service and updates
- One time-costs for installation/setup of **Collect** and Mind
- Choose license options to best fit your requirements



COLLECT

- Costs for every installed server and additional data containers
- Specific optional features can be added at additional cost e.g. automated battery data evaluation



DATA ANALYSIS

- Costs per license or for each evaluation
- Licenses are connected to specific Origin registration numbers



MIND

- Costs for every installed server or for every user
- Specific optional features can be added at additional cost e.g. automated test reports

### Discount options:

- Purchase of two or more Batalyse software modules
- Permission to advertise with customer name and logo
- Discount for start-ups / public research
- Discount of 2.5 and 5.0 % for 2 or 3 years license duration



## 6) Hardware Requirements



	<b>Application Server (Collect and/or Mind)</b>	<b>MySQL Server (Collect)</b>	<b>MongoDB Server (Mind)</b>
<b>OS / Environment</b>	Docker	(Ubuntu) Linux / Windows	(Ubuntu) Linux / Windows
<b>Replication / Backup</b>	Optional, via Kubernetes or Docker Swarm (in development)	Possible, improves read performance for multiple users and provides backup	3-server replica set is recommended for better availability and as a backup
<b>Disk space</b>	If Collect is used, depends mostly on the amount of binary data saved + ~5GB for the applications	Depends on the amount of tabular data	Depends mostly on the amount / size of attachments / pictures
<b>CPU</b>	4 cores recommended when using for Collect+Mind, otherwise 2	2 cores	2 cores
<b>RAM</b>	Min. 8 GB	Min. 8 GB	Min. 8 GB



## 7) Source Code - Insurance / Escrow Service



- The source code (respectively the encryption password) of Batalyse software can optionally be deposited at an escrow service in case of an annual turnover of 20,000 € or more.
- In case of insolvency of Batalyse GmbH during an ongoing license agreement, the trustee can provide access to the source code. Thus, the latest version of Data Analysis can be used for an unlimited time period and can be further developed on this basis.
- **In this case Batalyse-Data Analysis may only be used internally and for own use. A transfer to third parties or commercial distribution is prohibited.**
- Annual costs for the Escrow Service: approx. 3,000 €



# Contact



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- “Data Analysis” Tutorial Videos: <https://batalyse.com/tutorials>
- File Upload Server: [Feedback / Bugs](#)
- Wiki/Manual: [wiki.batalyse.com](http://wiki.batalyse.com)
- LinkedIn: [linkedin.com/company/batalyse](https://www.linkedin.com/company/batalyse)



Thank you for your time and interest.  
We're looking forward to cooperating with you!

