

Automated data processing in R&D, QM and production

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INTRODUCTION

In the realm of research and development, various data types and file structures often pose a time-consuming challenge for data preparation. Batalyse addresses this issue by automating data processing and management, providing a streamlined solution for any test device and file structure.

EXPERIMENTAL

The Batalyse software suite comprises independent yet seamlessly combinable modules: "Collect", "Data Analysis", and "Mind".



Gather

Automatically collect your files from test device computers, other databases or via OPC-UA.



All-in one - Electrochemistry Compatible with Arbin, AVL, Basytec, Biologic, Ivium, Keysight, Maccor, Neware, PEC, Solartron,...



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Categorize Categorize your files automatically using your individual settings.



Automated evaluation

Use dedicated evaluation computer(s) to evaluate the test files for your whole team.



Product Passport

Receive detailed background information for any product by QR code.



Monitor

Monitor ongoing tests and schedule their evaluation.



Find, sort and filter

Filter your tests for used materials and sort for el.chem. performance.



Standardize / calculate Harmonize your file structures. Apply your own



Specimen Library

Save and manage your battery/fuel cell/RFB specimen parameters.



Automated Reports

Create individual templates. and immediately receive a Power Point presentation.



User rights management

The intern should not see data you see?! Manage individual user group rights.



API Use third party software or own code to access your data.



Visualize

formulas.

Display any raw/result data tables and graphs via your web browser.



Process Flow Graphs

Document work processes by dynamically created process chain flow graphs.



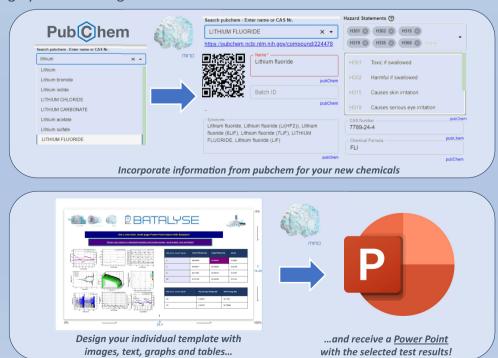
Data security

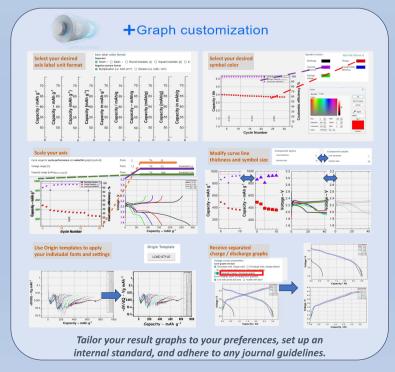
Batalyse has NO access to your data and results! Offline licenses guarantee highest data protection.

Collect is a database tool designed to gather, standardize, and categorize your data automatically. It saves and links raw data, result tables, and result graphs, including a library for specimens and test plans. Users have the flexibility to apply their own nomenclature to extract additional information from the file name and manage user rights. The system allows easy filtering and sorting of test files based on electrochemical performance. Through an API, specific production batch test files can be extracted and analyzed by an AI, identifying correlations between performance and process parameters.

Data Analysis independently evaluates and benchmarks electrochemical files, regardless of the applied test device or file format. It generates over 100 customizable result diagrams in the language of your choice. When combined with "Collect," Data Analysis automates the evaluation process, uploading all result diagrams and tables to the database.

Mind serves as a comprehensive Lab Information and Management System (LIMS), integrating multiple databases such as chemicals, hazardous substances, products, projects, processes, and test/result data. When acquiring new chemicals, the system automatically incorporates information from "PubChem." Efficiently identify lab chemicals through custom labels, complete with QR codes for easy recognition. Document and illustrate your work using process chains, providing convenient access to all relevant information. Automate report generation and receive ready-touse PowerPoint presentations. The system also includes a product passport feature, showcasing selected information for external customers while thoroughly documenting all details for internal users.





CONCLUSION

The Batalyse software automates data processing for R&D, QM and production of batteries, redox flow batteries (RFB), fuel cells, and electrolysis. It seamlessly links and structures all data and information, allowing convenient access through an API. This integration facilitates the identification of correlations between process parameters and MINISTERIUM FÜR WIRTSCHAFT, ARBEIT UND TOURISMUS product quality using artificial intelligence (AI).

