

VOLTAIQ



NAATBatt Member Overview and Update

NAATBatt Annual Conference

February 7-10, 2022

The Value of Battery Data

Brief Introduction

Purchasing

- Which suppliers should we purchase materials or cells from?
- What is the composition of the cells we received?

Operation

- Does this cell perform well at extreme temperatures?
- What constraints should be included in the battery management system design?

Battery testing and data analysis are conducted to make data-driven decisions during battery development.

Testing and analysis are conducted to answer questions throughout development.

Cell design

- Which chemistry is suitable for the application?
- What cell design will be optimal for the application?

Performance

- Why are these cells failing earlier than expected?



The Big Data Challenge of Battery Development

Brief Introduction

Big data is difficult to manage and time-consuming to analyze.

Challenges:

- Volume of data
- Velocity of data
- Variety of data sources and formats
- Number of features and parameters being tracked

**80/20
Rule**

80% of a data scientist's time is spent preparing data for analysis, leaving 20% to actually perform analysis



The Voltaiq Solution

Brief Introduction

What we do:

Automate data management:

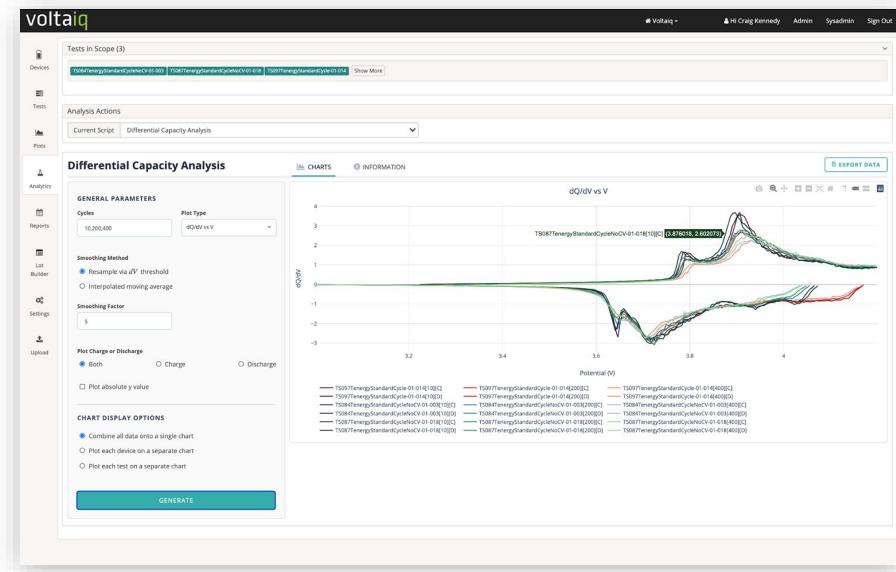
- Collection
- Conversion to a common format
- Calculations of features
- Organization and labeling

Provide a battery-data specific application to enable:

- Rapid, powerful searching
- Instant interactive plotting
- Seamless sharing and collaboration
- Streamlined dQ/dV, HPPC, Rate Study, and correlative analysis

Collaborate with customers to improve their workflows:

- Share best practices

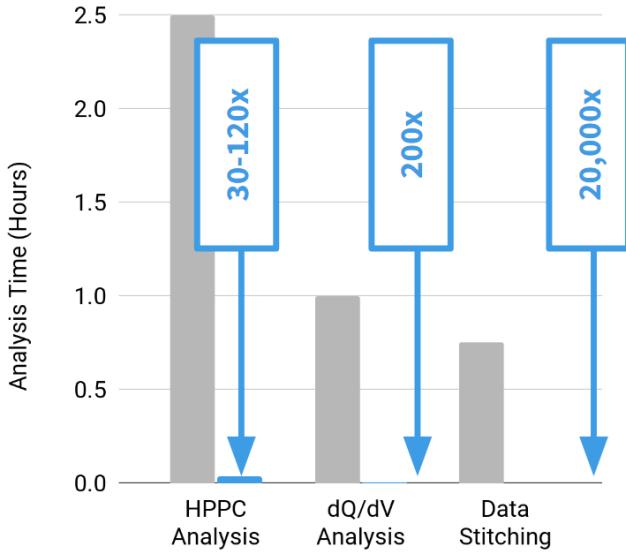


The benefits of streamlining battery data management, analysis, and sharing:

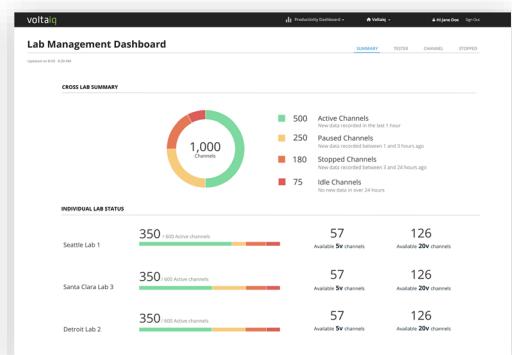
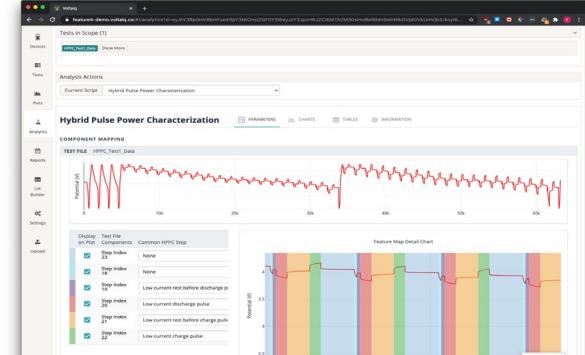
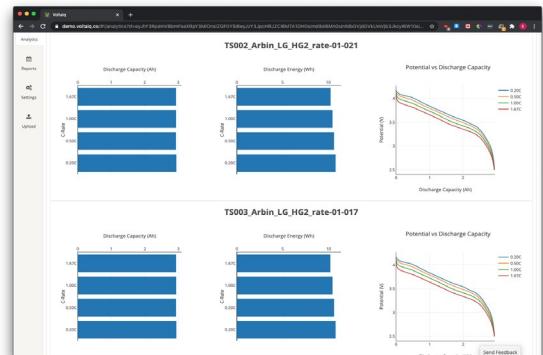
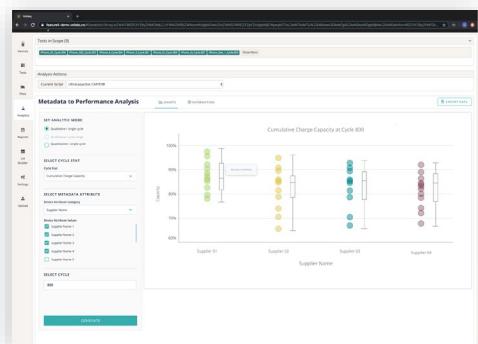
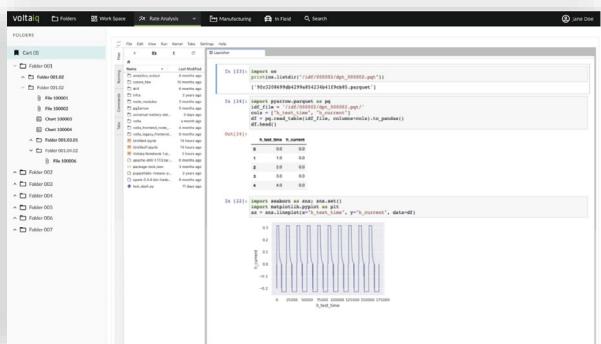
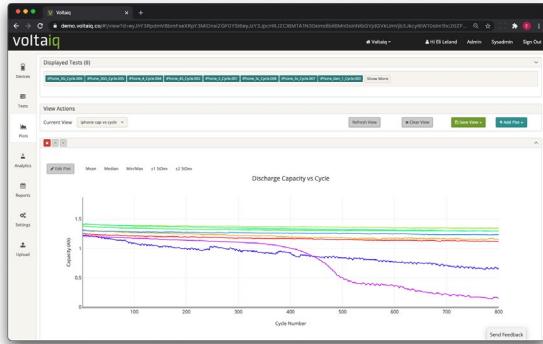
- Make data-informed decisions
- Accelerate product development
- Efficient use of engineering resources
- Perform industry-standard analysis across the organization
- Improve collaboration with colleagues, partners, and clients
- Lead more effective meetings

Sample Workflow Acceleration

Without Voltaiq With Voltaiq



Thank you





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