

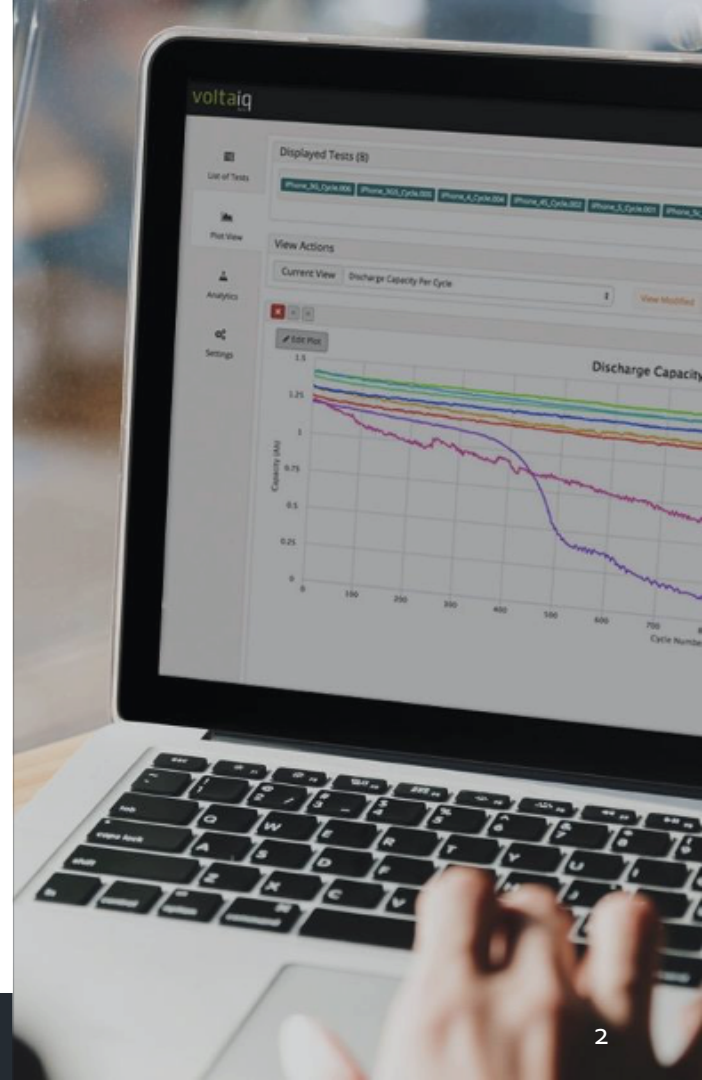


Battery Tech Workshop Par 3: Accelerating Second Life & Recycling

Advanced Clean Transportation | August 20, 2020
Tal Sholklapper, CEO and Co-Founder

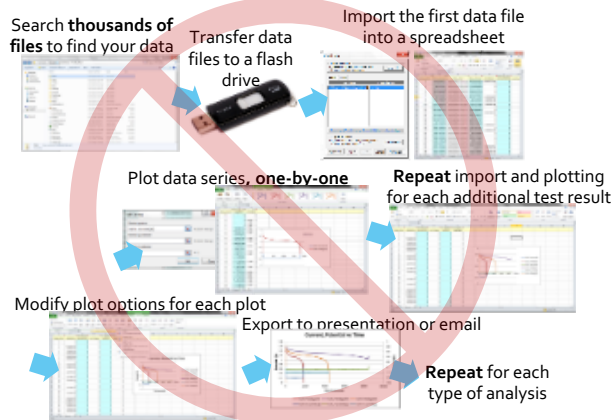
Voltaiq company snapshot

- **Battery Intelligence™** software company founded in 2012 by battery engineers, software developers, and data scientists
- Voltaiq engagement with key markets:
 - Transportation
 - Consumer electronics
 - Battery OEMs & suppliers
 - Energy storage
 - Leading startups, universities, and third-party test labs



The Voltaiq Battery Intelligence software platform automates and accelerates battery analysis, driving on-time product launches

INDUSTRY-STANDARD ANALYSIS



VOLTAIQ-POWERED ANALYSIS



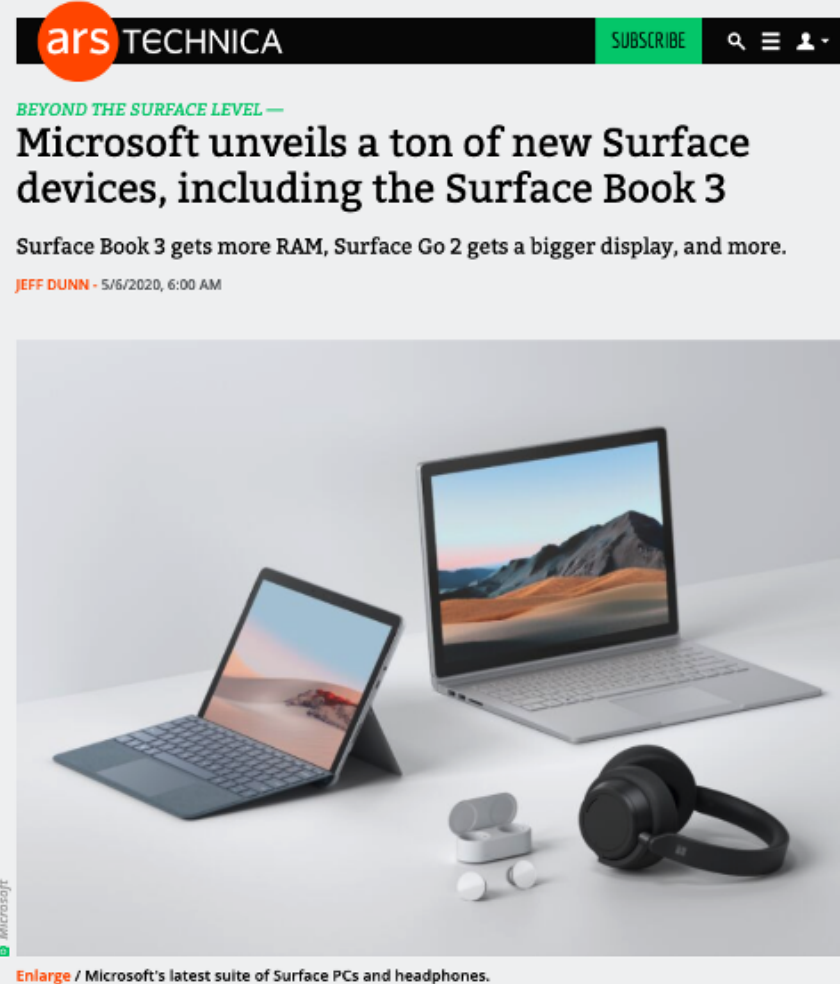
Key benefits

- Automated data aggregation from any source
- Automated data “harmonization” to a common format
- Automated battery KPI extraction
- Powerful search
- Point-and-click analysis
- Management dashboards
- Seamless sharing and collaboration

"The ability for my engineers to see the tester data and respond to it remotely has proven very useful and valuable during this time of stay in place (work from home). This has made our lives a little easier in this time. Our lab operations are continuing as usual."

- Jeff Bruce, Director of Battery Technology, Microsoft

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Electric vehicle and consumer electronics market leaders use Voltaiq Battery Intelligence software to drive progress and profits

VOLTAIQ VALUE PROPOSITION

- 1 Ensure a high-quality supply of battery cells**
Qualify suppliers and cell designs rapidly, track every cell through its life
- 2 Ensure on-time product launches**
Automate and accelerate battery analysis up to 1000x
- 3 Improve product performance**
Iterate faster, optimize better, with best-in-class battery analytics
- 4 Minimize financial risks and unlock value**
Reduce warranty returns and recalls, unlock second-life value



Voltaiq automates data aggregation and analysis across the battery lifecycle, providing value at every stage

- Accelerate new chemistry development
- Accelerate vendor qualification and cell validation
- Automate analysis for modeling, BMS teams
- Compare cell, pack test data to in-vehicle performance
- Optimize yields in production
- Predictive maintenance
- Optimize warranty reserves and residual values

The Voltaiq platform



A single, unified system • Battery-specific analysis
Fastest time-to-insight • Global team collaboration

DATA



Cell research & development

DATA



Pack design

DATA



System integration

DATA



Manufacturing

DATA



In-field use

DATA






Second Life / Recycling


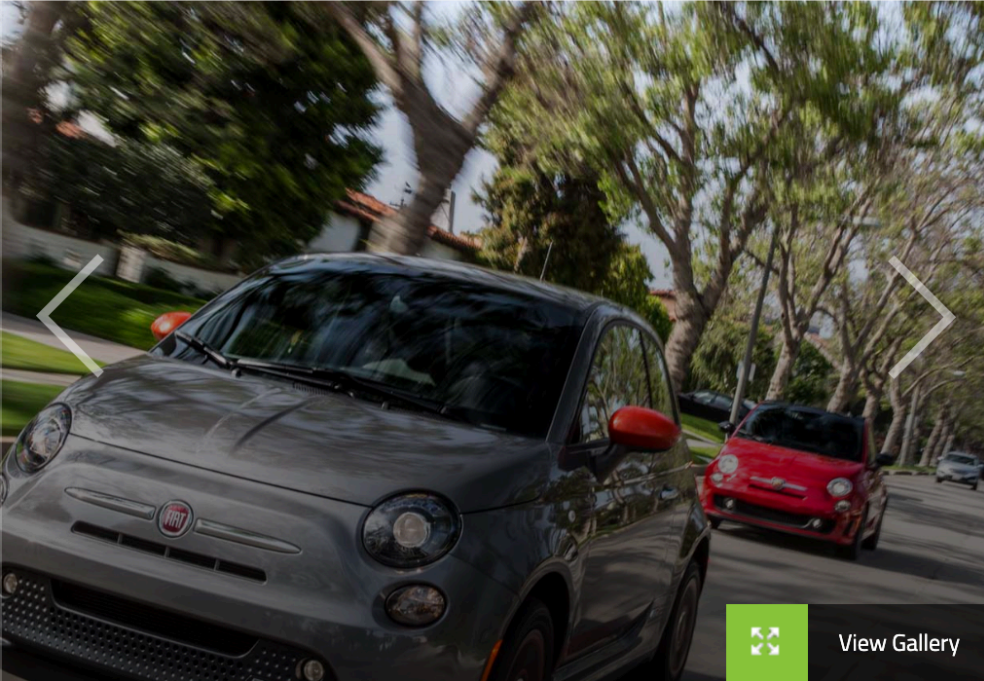
LIFECYCLE STAGE

"iSeeCars found that the Fiat 500e had the steepest value plunge among EVs. Its average three-year-old used price was just \$10,358—a depreciation of nearly 70 percent from its original price. The BMW i3 after three years cost just \$19,784, which was a 63-percent cut from its original price. The Nissan Leaf and Volkswagen e-Golf also posted steep value losses of nearly 60 percent over three years... The Fusion Energi is worth just \$15,983 after three years."

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 **GREEN CAR REPORTS**

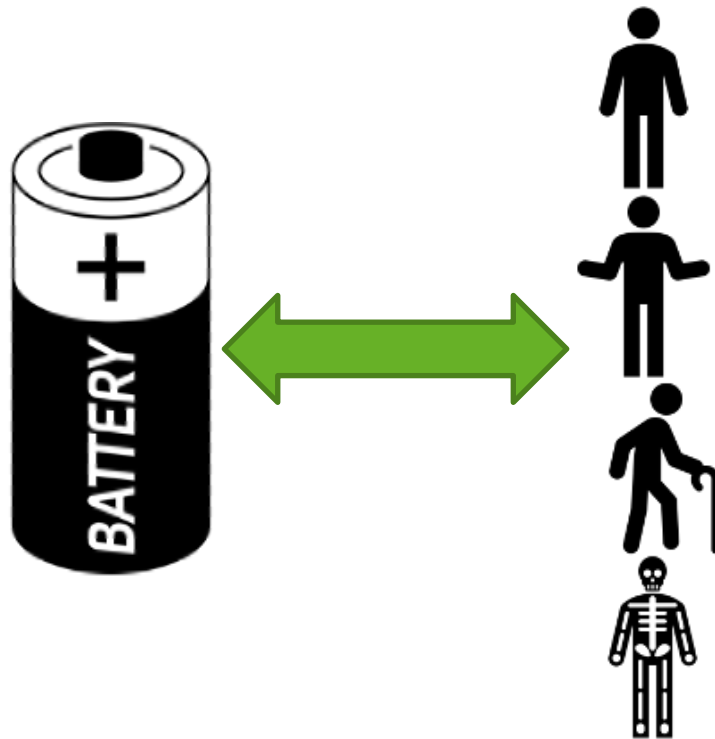
Home / News / Electric Cars

 View Gallery

Beyond Tesla, electric cars lose value faster than other vehicles

A battery's lifetime is highly path dependent on nature and nurture

- Batteries are like living organisms — their performance and lifetime depends on how well or how poorly you treat them
- If you treat them well they can last for a long time
- But, if you treat them poorly — over discharge, store or operate at elevated temperatures, charge too fast — they'll age quickly
- A simple BMS only controls a battery within limits, it doesn't control how it's used within them



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You're already sitting on a gold mine of data. **Put that data to work** with Voltaiq and the industry's leading Battery Intelligence System





voltaiq
Battery Intelligence

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