

Cell Testing Service Overview

SEI offers standard and custom cell-testing services built on 100+ test channels, 1,000+ experiments performed and 20+ collaborative projects and customers. Testing covers capacity, rate, cycle life, temperature, impedance and safety across a broad range of pouch-cell formats, with cell skin-temperature monitoring and expansion (volume-change) measurement. Test plans and service agreements are tailored to each customer.

Testing Capabilities

- **Cell fabrication:** custom pouch-cell fixtures for flexible form factors.
- **Electrochemical testing:** capacity, rate and cycle life, including elevated- and subzero-temperature cycling; EIS; ionic conductivity.
- **Material characterization:** XRD, BET, TGA, SEM with EDS, and particle-size analysis.
- **Data and analytics:** KPI-based evaluation and custom plotting.

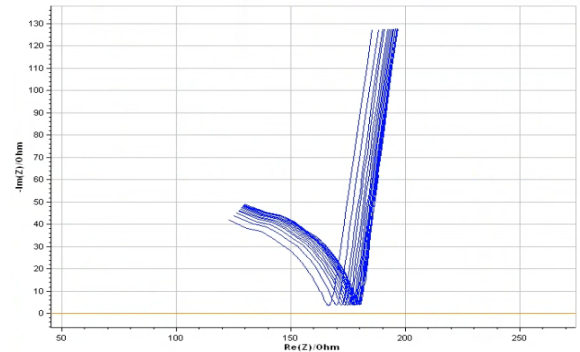
Data Processing, Analysis and Reporting

- **KPI evaluation:** data assessed against your KPIs, with comprehensive reports on request.
- **Custom plotting:** data plotted to your format, ready for internal evaluation and reporting.
- **Data management and machine learning:** electronic data management and ML-based analysis to accelerate predictive modeling and materials discovery.

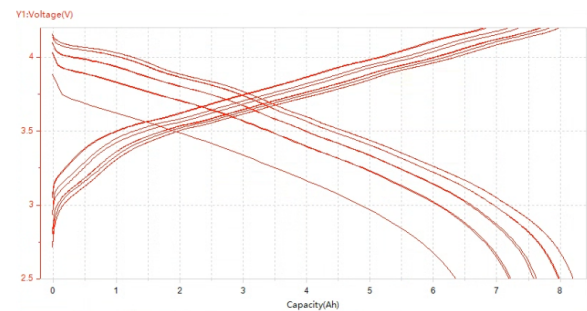
Why Choose SEI?

- Advanced Li-ion and Na-ion battery developer with 10+ patents and research funding from the U.S. DoD, DOE, NASA and the CEC.
- ML-enabled data pipeline for predictive cell-performance modeling, shortening test timelines.
- High-throughput, multi-channel testing for parallel validation.
- Integrated materials-to-cell approach: SEI's solid-state battery expertise informs test protocols and data interpretation.
- R&D lab and pilot production line geared toward commercial manufacturing.
- Full R&D service range: battery materials development, advanced characterization and tailored testing to shorten development timelines.

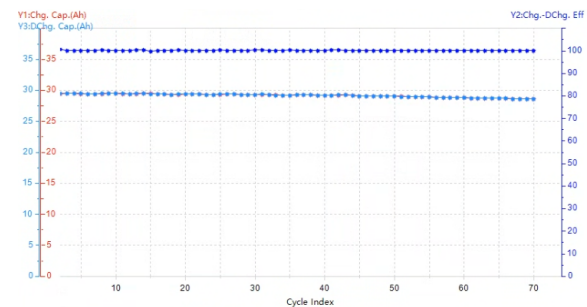
Contact us to learn how SEI can help you reach your roadmap targets.



EIS for Ionic Conductivity Measurement



Rate Test of Pouch Cells



Cycling Performance Test of Pouch Cells



Battery Analyzers and Testing Chambers

Cell Testing & Analysis Service — Service Details

Test Menu and Turnaround

Test	Typical conditions	Lead time
Capacity and rate	0.05 C – 10 C	4–6 weeks
Cycle life	Customer protocol (typically up to 1,000 cycles)	4–6 weeks + test duration
Temperature cycling	Elevated and subzero temp.: from –70 °C to +120 °C	4–6 weeks + test duration
EIS and ionic conductivity	10μHz – 7 MHz	4–6 weeks
Safety testing	Customer requirements (e.g., impact/crush, thermal soak)	4–6 weeks
Material characterization	XRD, BET, TGA, SEM/EDS, particle size	4–6 weeks
Data analysis and reporting	KPI evaluation, custom plots, ML modeling	4–6 weeks

Equipment

Area	Equipment
Cell cycling	100+ cell channels on SEI-designed stations; up to 5 V and up to 500 A for pouch cells
Monitoring	Cell skin-temperature sensing; volume-change measurement for cell expansion
Environment	Environmental chambers from –80 °C to +150 °C
Electrochemical analysis	EIS; ionic conductivity; BioLogic SP-200 potentiostat
Material characterization	XRD, BET, TGA, SEM with EDS, particle-size analyzer
Fixtures	Custom pouch-cell fixtures for a range of form factors

Quality, Data and Engagement

- Quality management system and internal QA policy modeled on ISO 9001; ISO 9001 implementation in progress.
- Each milestone is planned, executed and documented with the customer: test facilities, procedures and conditions, data package, data presentation and interpretation, and go/no-go criteria.
- Equipment calibrated and verified; data held in SEI's electronic data management system.
- All work under NDA; raw data and reports delivered to the client.
- Engagement options: per test, per channel-month, or project-based agreement.

Customer Deliverables

Raw and processed test data; KPI-based evaluation and custom plots; technical analysis and summary reports; customer-defined test protocols and reporting formats.

Track Record

- More than 1,000 experiments performed across more than 20 collaborative projects and customers.
- Semi/solid-state pouch cell engineering prototypes (samples and test results) delivered to defense and aerospace customers, including Airbus Defence and Space (Feb. 2026) and Leonardo DRS (Aug. 2026).

Contact for R&D Service Inquiries

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