



American Battery Solutions

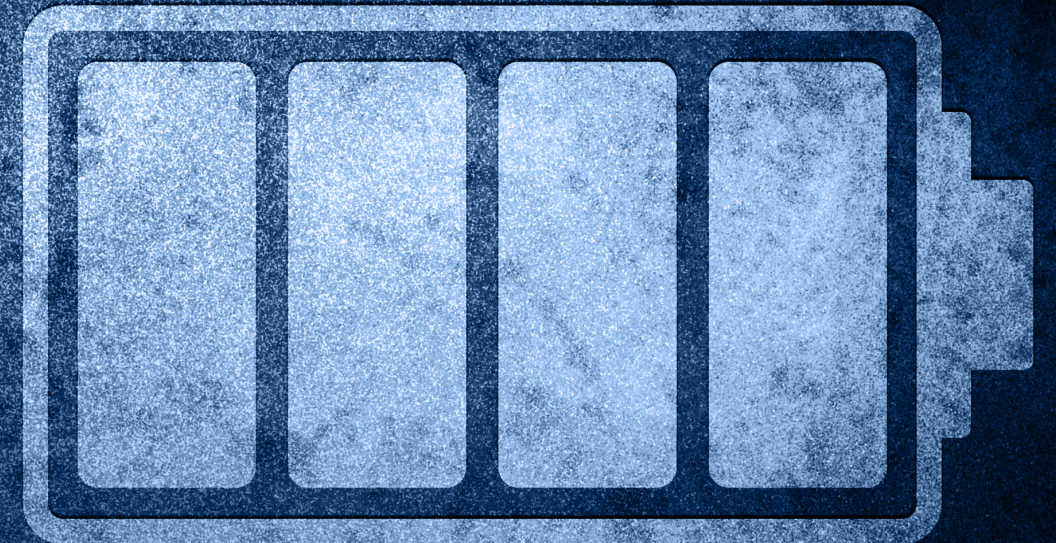
Your preferred leader for energy storage

At American Battery Solutions (ABS), our mission is to provide you with safe, innovative and cost-effective energy storage solutions to electrify a greener, more sustainable world. We apply our extensive automotive know-how in designing, developing and manufacturing advanced battery systems to new and up-and-coming markets in the transportation, industrial and commercial industries.

Our product offering includes low- and high-voltage mobility battery systems — designed and manufactured in the U.S.A. — as well as large-scale energy storage systems. Both standard, off-the-shelf products, as well as custom battery systems, are available.

www.americanbatterysolutions.com

Why Choose ABS?



World-Class Technology

Our low- and high-voltage mobility battery products feature high energy density in lightweight, low-volume packaging, extending their range and runtime. Highly scalable and modular in nature, they feature integrated Battery Management Systems (BMS) with automotive-grade AEC-Q components and fast-charge architectures.

Deep Technical Expertise

Our experienced engineering team identifies appropriate form factors, geometries and cell chemistries to meet your unique needs. Our battery pack designs are cell-agnostic, and we continue to adapt to evolving cell technologies and market dynamics.

Trusted Cell Supply

We maintain strategic partnerships with suppliers of world-class lithium-ion cells in cylindrical and prismatic form factors, making our cell supply trusted and secure and accelerating your time to market.

A Focus on Safety

Thanks to our state-of-the-art in-house testing capabilities, our battery systems undergo rigorous stress tests and incorporate multiple layers of safety. Key features include a robust structure that meets the highest-quality automotive SAE and ISO standards, along with integrated liquid cooling plates, battery disconnect units and much more.

Experienced Manufacturing

We have a 170,000-square-foot high-volume battery manufacturing facility located in Springboro, Ohio, where — for over 20 years — we’ve built more than 60,000 automotive batteries. Our advanced mobility manufacturing center has three high-volume production lines with more than 7 gigawatt hours (GWh) of building capacity.

Our Technical Capabilities

- Experience with multiple Li-ion chemistries
 - Nickel manganese cobalt (NMC)
 - Nickel cobalt aluminum (NCA)
 - Lithium iron phosphate (LFP)
 - Lithium-titanate oxide (LTO)
 - Solid state batteries (SSB) and future technologies
- Battery pack design
- Battery manufacturing
- Thermal management systems
- Battery management systems
- Testing and validation

ABS by the Numbers

- 300,000 square feet of innovation and manufacturing facilities
- 60,000 battery pack systems delivered through our facilities
- Over 200 team members across all locations
- Over 120 battery engineers across all locations
- Over 340 years of expertise in high-voltage battery production
- North American facility capacity of 7 GWh
- Zero emissions



ABS Product Lines



PROLIANCE Intelligent Battery Series™ *High voltage, modular and scalable*

These lithium-ion batteries offer high reliability and long life in rigorous applications. You can connect them in series or in parallel, increasing capacity and voltage, and replace single modules without having to update the entire system. Units come in 354- and 700-V options in 52 and 104 kWh energy increments. Designed for the battery circular economy, they also use highly recyclable materials. Our ABS common architecture allows us to develop custom solutions in addition to the off-the-shelf battery products.

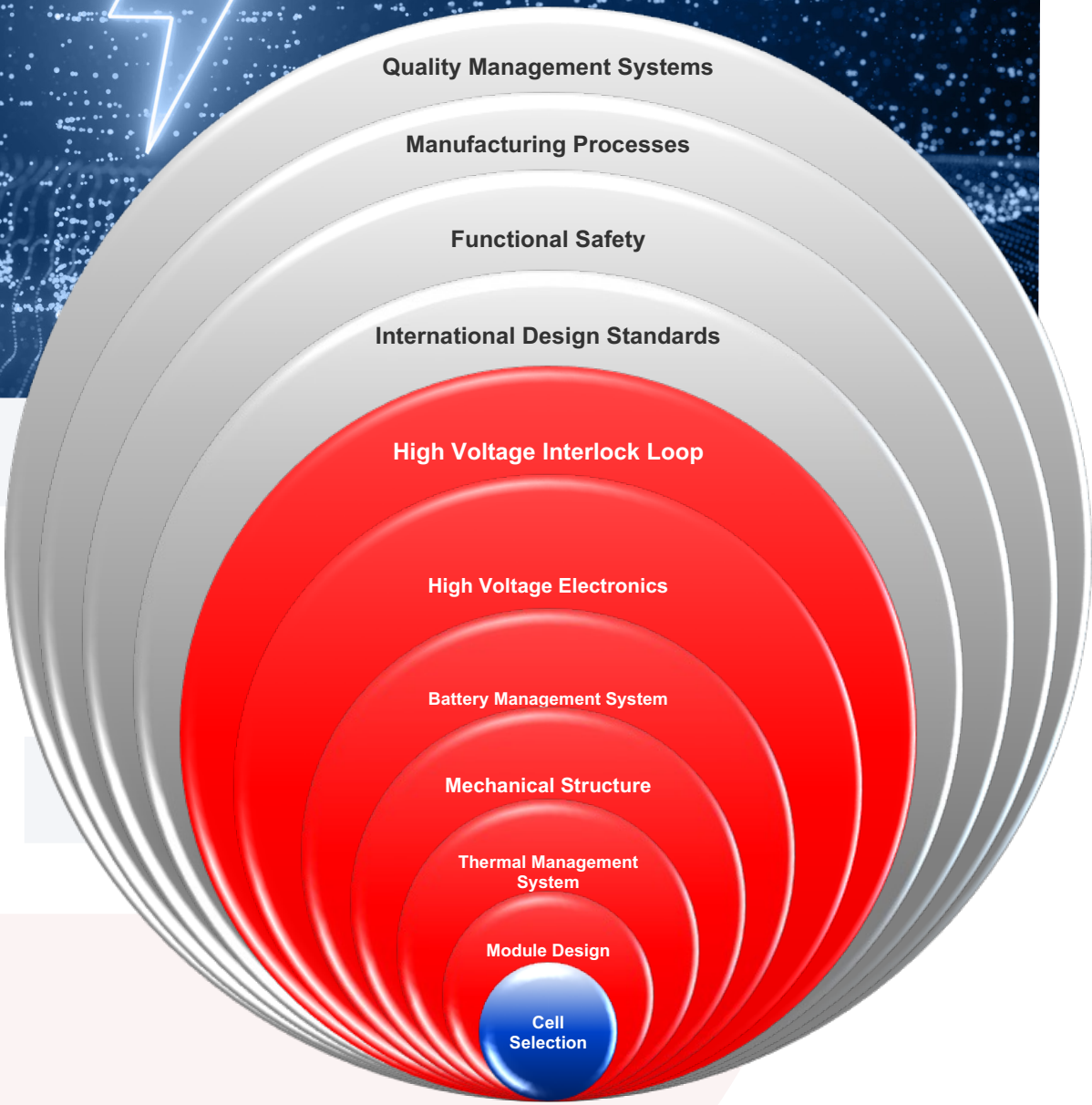
ABS Product Lines



ALLIANCE Intelligent Battery Series™ *Low voltage, versatile and reliable*

As scalable building blocks, these standardized lithium-ion batteries feature robustness, safety and high performance across many applications. Available in 24- and 48-V options in 3 kilowatt-hour (kWh) energy increments, these batteries are an ideal drop-in replacement for lead-acid batteries. They can even be handled like lead-acid batteries — no “white glove” treatment required. Low-voltage systems can be connected in parallel and feature twice the cyclic capacity as their market competitors.

Our Multi-Layered Approach to Safety



Quality Management











Our quality mission is to deliver battery systems that are safe, reliable and meet your requirements, delivering automotive quality and industrial robustness.

Design Quality

- Automotive Advanced Product Quality Planning (APQP)
- Design Failure Mode and Effect Analysis (DFMEA)
- Process Failure Mode and Effects Analysis (PFMEA)
- Design Verification Plan and Report (DVP&R)
- Design reviews
- Control plans
- Production Part Approval Process (PPAP)

Manufacturing Quality

- 100% cell inspection
- Torque controls – sequencing, angle, traceability
- 100% leak testing
- 100% EOL testing
- Parts traceability
- Wire bonding and flying probe – 100% inspection of connections
- In-line sensors
- Vision systems

Key Barriers	ABS Solutions	Key Benefits
 SAFETY	Tiered levels of automotive grade functional safety including thermal propagation protection, overcharge/discharge protection	 Safe
 PERFORMANCE	Highest energy density solutions in their class, utilizing the highest energy cells available on the market	 More energy = longer range
 LIFE	Designed to match the life of the vehicle using long-life, high-quality cells	 Eliminates the need for a mid-cycle replacement. Offers excellent total cost of ownership for fleet users
 HIGH COSTS	Common designs with consolidating lower volumes programs to allow for volume cell pricing	 Highly competitive market-based pricing
 ENVIRONMENTAL	Designed for recyclability using highly recyclable materials & partnering with material recyclers	 Designed for the battery circular economy



Electrifying the Future

As the world shifts to an electric future, we are well positioned to tackle challenges related to battery safety, performance, life, cost and sustainability. Already, our battery solutions feature tiered levels of automotive-grade functional safety and superior energy density using the highest-quality, longest-lasting cells on the market. And, our batteries are designed for recyclability, minimizing their environmental impact so you can power the future of clean energy.

Chat With an Expert

Want to learn more about our standard and custom battery products? We can help you find a solution to meet your unique energy needs.

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