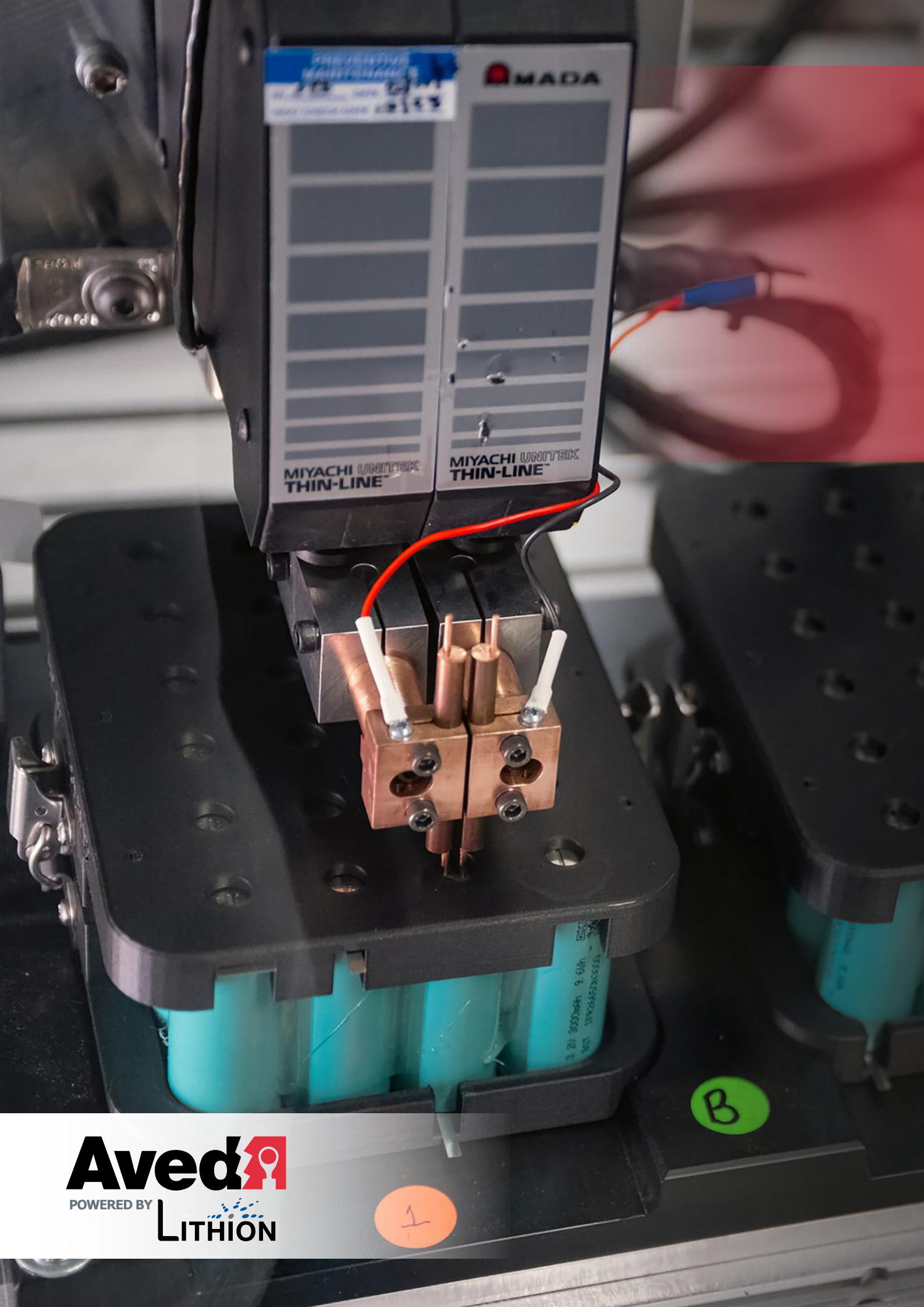


QUALITY, OPPORTUNITY, RESPONSIBILITY





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Written by Allison Dempsey

Established in 1979, Aved Electronics has made a name for itself over the decades as a dependable manufacturing partner for OEMs in high-reliability industries. Today, operating from its recently expanded 80,000-square-foot manufacturing facility in Lowell, Massachusetts, Aved continues to invest in the people, technologies, and infrastructure needed to support the next generation of high-reliability products. The expanded facility reflects the company's long-term commitment to serving OEMs developing increasingly sophisticated medical, robotics, industrial, and defense technologies.

Aved—as part of the Lithion Battery family, a North American business that produces state-of-the-art battery packs, cells, and energy storage devices, and provides high-performance solutions for critical applications worldwide—designs and produces custom battery packs, cable assemblies, and electro-mechanical systems for medical diagnostic, therapeutic, and surgical equipment, along with high-reliability solutions for robots, security systems, and military operations. Additionally, every Lithion brand can expand, adapt, and meet shifting market demands thanks to its Henderson, Nevada, plant's fully automated pack production line, prismatic cell manufacture, and internal design, testing, and engineering expertise.

Leading the way in electro-mechanical integration, complex cable construction, and customized battery systems created specifically for humanoid and next-generation robotics, Aved helps robotics inventors bring their ambitious ideas to life, from early prototype development to scalable production.

Humanoids can move, think, and operate with precision and endurance thanks to the sophisticated, reliable power and connectivity technologies developed by Aved's technical experts.

Embracing the quality, safety, repeatability, and dependability so crucial to humanoid robotics, Aved's innovations include spearheading the creation of intelligent humanoid systems built to operate, adapt, and endure. Recently, the company has been expanding its presence in surgical navigation, robotics, and next-generation medical technologies.

"The medical technology industry is undergoing a remarkable transformation," says Erick Lee Young, Senior Director, Sales, explaining that advances in surgical navigation, robotic-assisted procedures, portable diagnostics, connected healthcare devices, and artificial intelligence are redefining how care is delivered and improving outcomes for patients around the world. "At Aved Electronics, we see this evolution not only as an opportunity, but as a responsibility to help bring these life-changing technologies to market with the quality, reliability, and precision they demand."

Medical devices have become increasingly sophisticated over the past decade, and today's systems integrate advanced electronics, intelligent software, sensors, wireless connectivity, and complex power architectures into compact, highly reliable platforms. Whether supporting surgical navigation systems, robotic-assisted surgery, portable imaging equipment, or wearable medical devices, manufacturers require partners that understand the unique challenges associated with developing and producing products intended for critical healthcare environments. »

▶“One of Aved’s greatest strengths is our commitment to quality,” says Young. “As an ISO 13485-certified manufacturer, we operate under one of the most stringent quality management standards in the world.”

ISO 13485 was specifically developed for medical device manufacturing and places rigorous requirements on risk management, traceability, process control, documentation, validation, and continuous improvement. For medical OEMs, compliance with this standard provides confidence that products are being manufactured within a framework specifically designed to support patient safety and regulatory expectations.

More than a contract manufacturer, Aved positions itself as a strategic partner throughout the product lifecycle. Its value proposition is centered on helping customers reduce risk, accelerate development, and maintain uninterrupted supply from concept through production. By engaging early in the design process, Aved combines engineering expertise, transparent pricing, disciplined program management, and advanced manufacturing capabilities to help customers bring complex products to market faster while minimizing technical and supply chain challenges.

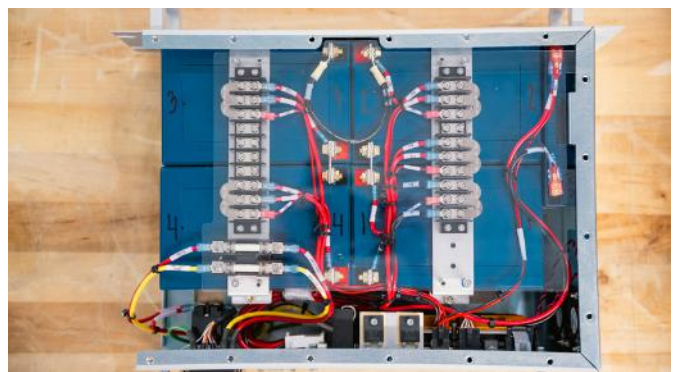
“This commitment to quality has enabled Aved to become a trusted manufacturing partner to some of the most respected

names in medical technology,” Young stresses. “From early concept development through full-scale production, we become an extension of our customers’ engineering, supply chain, and operations teams. Our objective is not simply to manufacture products, but to help customers solve complex technical challenges, reduce program risk, and successfully commercialize innovative technologies.”

Among the most exciting areas of growth within healthcare is the continued expansion of surgical robotics and navigation systems. These technologies are enabling greater procedural accuracy, reduced recovery times, and improved patient outcomes, and as adoption increases, the supporting electronics and power systems become increasingly critical. “Reliability is not simply a design objective; it is an absolute requirement,” says Young.

In addition to its growing presence within medical technology, Aved is collaborating with several leading developers of next generation humanoid robotic systems. “These partnerships include supporting advanced battery technologies, power systems, and complex electronic assemblies that enable robots to operate safely, efficiently, and reliably. While humanoid robotics remains an emerging industry, the pace of innovation is extraordinary, and we believe many of the engineering principles developed within medical devices will directly influence the future of intelligent robotics,” Young shares.

“We believe the future of healthcare will be defined by greater connectivity, increased automation, advanced robotics, and more personalized patient care.”



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“Our partnership with Lithion Battery provides customers with a unique level of vertical integration. By combining custom battery design, advanced electronics manufacturing, cable assemblies, electromechanical integration, testing, and scalable production under one organization, Aved is able to simplify development, reduce risk, and accelerate time to market.”

As medical devices and robotic systems become increasingly mobile, intelligent, and autonomous, energy storage and power management will continue to play a central role in enabling innovation. “Looking ahead, we believe the future of healthcare will be defined by greater connectivity, increased automation, advanced robotics, and more personalized patient care,” he adds.

To that end, Aved remains committed to investing in the capabilities, technologies, and partnerships necessary to support that future. “By combining stringent medical quality standards with advanced manufacturing expertise, we are helping customers bring the next generation of medical technologies from concept to reality—ultimately improving lives and advancing healthcare worldwide.”

Behind every successful product launch is a manufacturing partner capable of scaling alongside its customers. Whether supporting prototype builds, design verification, regulatory

testing, or high volume production, Aved’s engineering and manufacturing teams work collaboratively to ensure products transition efficiently through every stage of development while maintaining the quality and traceability demanded by high reliability markets.

Other services include high-reliability battery applications, custom battery pack manufacturing, testing and compliance expertise, contract technicians, O- lithium-ion regulatory compliance submissions, design for manufacturability (DFM Review), and pack integration.

For accurate battery module and pack testing, Aved employs a number of Chroma 17020 systems, as well as a variety of automated wire processing machinery with sizes ranging from 30 AWG to 4/0. Aved uses a wide variety of connector methods and is fully equipped with almost all termination alternatives, along with utilizing serialized controlled Cirrus, Chroma, and bespoke test stands as needed to test and certify all of its products.

In terms of the critical role of intelligent battery pack design in modern medical and portable device development, the company takes its position seriously, with custom battery packs, cable assemblies, and electro-mechanical systems for medical diagnostic, therapeutic, and surgical equipment. ►►

► In order to maximize performance and packaging requirements for medical and mobility applications, the company has offered custom-engineered battery packs made in accordance with OEM specifications with the cell type and battery chemistry of its medical and high-reliability battery packs optimized in terms of voltage, cycles, pulse rates, capacity, charging, temperature, and packaging, as needed. Aved also performs end-of-line verification, simulates battery usage, records performance data, characterizes the battery, and provides resolute, serialized test data for each battery pack, making it perfect for critical care applications.

“The company has intentionally expanded its focus toward high-reliability markets where quality, performance, and consistency are critical.”

These specialized battery packs are FDA and IEC 62133 compliant self-aware smart packs with strong electronics and quick charge times of one hour to 85 percent when needed. Depending on the application, they can run between -30°C and +20°C, give clean voltage with an average deviation of less than five percent, operate at 1000 cycles or more, produce high pulses up to 100 A, and have capacities ranging from 24 V to 200 V (10 A/hr to 100 A/hr) and 4 kW.

When it comes to driving strategic growth through innovation, advanced manufacturing, and expansion into high-reliability markets, Aved's vision is clear. Growth in today's manufacturing environment is no longer driven solely by capacity or cost competitiveness; increasingly, it is driven by the ability to support complex technologies, navigate evolving supply chains, and help customers successfully bring products from concept to commercialization. At Aved Electronics, this philosophy is central to its growth strategy.

Over the past several years, the company has intentionally expanded its focus toward high-reliability markets where quality, performance, and consistency are critical. Industries such as medical devices, robotics, defense, and industrial automation continue to advance rapidly, creating demand for manufacturing partners capable of supporting increasingly sophisticated products and technologies.

Of course, a key component of Aved's strategy is identifying emerging technologies early and building relationships with the companies developing them. Advancements in electrification, battery technology, artificial intelligence, and automation are creating new opportunities across multiple industries and driving demand for integrated electronic assemblies and custom power solutions.





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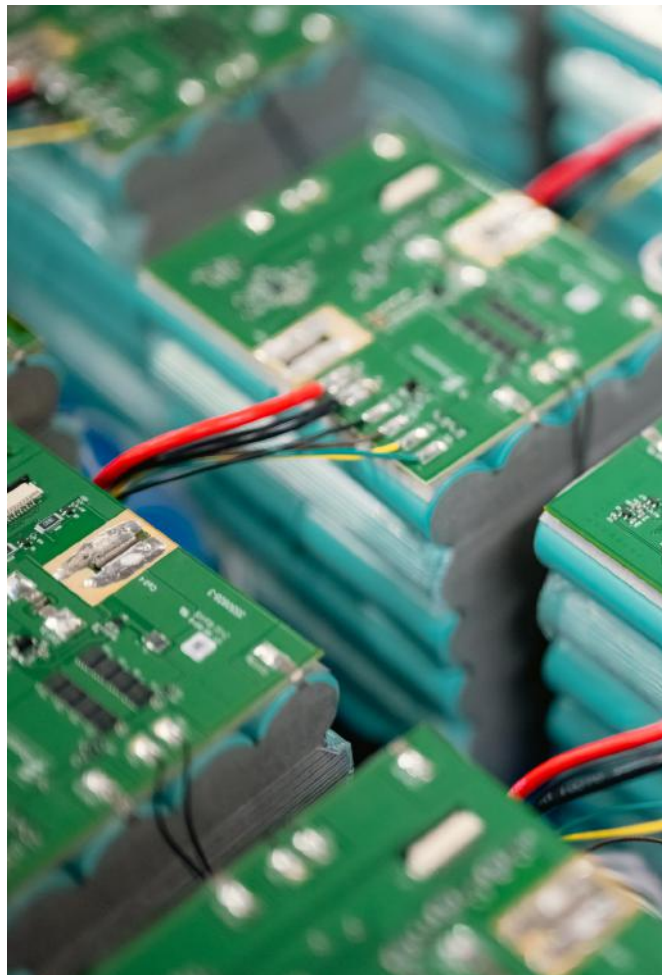
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“Equally important is our commitment to long-term partnerships,” says Young. “The strongest customer relationships begin well before production starts. Aved’s value proposition is rooted in helping customers reduce risk, accelerate development, and maintain uninterrupted supply throughout the product lifecycle. By engaging early, we combine engineering expertise, transparent pricing, disciplined program management, advanced manufacturing capabilities, and a resilient supply chain to support customers from design through full-scale production. Rather than acting solely as a contract manufacturer, we become an extension of our customers’ engineering and operations teams, helping solve challenges before they become obstacles.”

As medical technology, robotics, artificial intelligence, and advanced automation continue to evolve, manufacturers will increasingly seek partners capable of delivering more than production capacity. They will need organizations that can provide engineering insight, supply chain resilience, regulatory expertise, and scalable manufacturing solutions. By continuing to invest in advanced capabilities, strategic partnerships, and high-reliability markets, Aved is well positioned to help customers transform innovative ideas into commercially successful products while creating long-term value for the industries it serves. ■





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