UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

(Mark One)

☒ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2022

OR

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from ____________ to ____________

Commission file number: 0-20852

ULTRALIFE CORPORATION

(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation of organization)	**16-1387013** (I.R.S. Employer Identification No.)
2000 Technology Parkway Newark, New York 14513 (Address of principal executive offices) (Zip Code)	**(315) 332-7100** (Registrant's telephone number, including area code:)

Securities registered pursuant to Section 12(b) of the Act:

Common Stock, $0.10 par value per share (Title of each class)	**ULBI** (Trading Symbol)	**NASDAQ** (Name of each exchange on which registered)

Securities registered pursuant to Section 12(g) of the Act: **None**

Indicate by check mark whether the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.
Yes ☐ No ☒

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.
Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data file required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company,” and “emerging growth company” in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☐	Accelerated filer ☐
Non-accelerated filer ☒	Smaller reporting company ☒
	Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management’s assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☐

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. Yes ☐ No ☒

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b). Yes ☐ No ☒

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes☐ No☒

On June 30, 2022, the aggregate market value of the common stock held by non-affiliates as defined in Rule 405 under the Securities Act of 1933) of the registrant was approximately $44,418,638 (in whole dollars) based upon the closing price for such common stock as reported on the NASDAQ Global Market on June 30, 2022.

Indicate the number of shares outstanding of each of the issuer’s classes of common stock, as of the latest practicable date.

As of March 27, 2023, the registrant had 16,135,358 shares of common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Certain portions of the registrant’s definitive proxy statement relating to the Annual Meeting of Shareholders are specifically incorporated by reference in Part III, Items 10, 11, 12, 13 and 14 of this Annual Report on Form 10-K, except for the equity plan information required by Item 12 as set forth herein.

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PART I

The Private Securities Litigation Reform Act of 1995 provides a “safe harbor” for forward-looking statements. This report contains certain forward-looking statements and information that are based on the beliefs of management as well as assumptions made by and information currently available to management. The statements contained in this report relating to matters that are not historical facts are forward-looking statements that involve risks and uncertainties, including, but not limited to, changes in economic conditions including inflation and supply chain disruptions affecting our business, revenues and earnings adversely; the continued impact of COVID-19 causing delays in the manufacture and delivery of our mission critical products to end customers; our reliance on certain key customers; our efforts to develop new commercial applications for our products; reduced U.S. and foreign military spending including the uncertainty associated with government budget approvals; the unique risks associated with our China operations; breaches in information systems security and other disruptions in our information technology systems; potential disruptions in our supply of raw materials and components; fluctuations in the price of oil and the resulting impact on the demand for downhole drilling; our ability to retain top management and key personnel; our resources being overwhelmed by our growth; possible future declines in demand for the products that use our batteries or communications systems; safety risks, including the risk of fire; variability in our quarterly and annual results and the price of our common stock; rising interest rate increasing the cost of our variable borrowings; purchases by our customers of product quantities not meeting the volume expectations in our supply agreements; potential costs attributable to the warranties we supply with our products and services; our inability to comply with changes to the regulations for the shipment of our products; our ability to utilize our net operating loss carryforwards; our entrance into new end-markets which could lead to additional financial exposure; negative publicity concerning Lithium-ion batteries; possible impairments of our goodwill and other intangible assets; our exposure to foreign currency fluctuations; the risk that we are unable to protect our proprietary and intellectual property; rules and procedures regarding contracting with the U.S. and foreign governments; exposure to possible violations of the U.S. Foreign Corrupt Practices Act, the U.K. Bribery Act or other anti-corruption laws; known and unknown environmental matters; possible audits of our contracts by the U.S. and foreign governments and their respective defense agencies; our ability to comply with government regulations regarding the use of “conflict minerals”; technological innovations in the non-rechargeable and rechargeable battery industries; and other risks and uncertainties, certain of which are beyond our control.

Although we base these forward-looking statements on assumptions that we believe are reasonable when made, we caution you that forward-looking statements are not guarantees of future performance and that our actual results of operations, financial condition and liquidity and developments in the industries in which we operate may differ materially from those made in or suggested by the forward-looking statements contained herein. In addition, even if our results of operations, financial condition and liquidity and the development of the industries in which we operate are consistent with the forward-looking statements contained in this document, those results or developments may not be indicative of results or developments in subsequent periods. Given these risks and uncertainties, you are cautioned not to place undue reliance on these forward-looking statements. Any forward-looking statements that we make herein speak only as of the date of those statements, and we undertake no obligation to update those statements or to publicly announce the results of any revisions to any of those statements to reflect future events or developments. Comparisons of results for current and any prior periods are not intended to express any future trends or indications of future performance, unless expressed as such, and should only be viewed as historical data. When used in this report, the words “anticipate”, “believe”, “estimate”, “plan”, “intend”, “foresee”, “may”, “could”, “will”, “likely” or “expect” or words of similar import are intended to identify some, but not all, such forward-looking statements. For further discussion of certain of the matters described above and other risks and uncertainties, see “Risk Factors” in Item 1A of this Form 10-K Annual Report.

As used in this Form 10-K Annual Report, unless otherwise indicated, the terms the “Company”, “we”, “our” and “us” refer to Ultralife Corporation (“Ultralife”) and its wholly owned subsidiaries ABLE New Energy Co., Limited and its wholly owned subsidiary ABLE New Energy Co., Ltd (collectively “ABLE”); Ultralife UK LTD and its wholly owned subsidiary Accutronics Ltd (collectively “Accutronics”); Ultralife Batteries (UK) Ltd.; Southwest Electronic Energy Corporation and its wholly owned subsidiary, CLB, Inc. (collectively “SWE”); Ultralife Excell Holding Corp. (“UEHC”) and its wholly owned subsidiary Excell Battery Corporation USA (collectively “Excell Battery USA”), Ultralife Canada Holding Corp (wholly owned by UEHC, “UCHC”) and its wholly owned subsidiary Excell Battery Canada ULC (“Excell Battery Canada”), and its majority-owned joint venture Ultralife Batteries India Private Limited (“Ultralife India”).

Dollar amounts throughout this Form 10-K Annual Report are presented in thousands of dollars, except for per share amounts.

ITEM 1. BUSINESS

General

We offer products and services ranging from power solutions to communications and electronics systems to customers across the globe in the government, defense and commercial sectors. With an emphasis on strong engineering and a collaborative approach to problem solving, we design and manufacture power and communications systems including: rechargeable and non-rechargeable batteries, charging systems, communications and electronics systems and accessories, and custom engineered systems related to those product lines. We continually evaluate ways to grow, including the design, development and sale of new products, expansion of our sales force to penetrate new markets and territories, as well as seeking opportunities to expand through acquisitions.

We sell our products worldwide through a variety of trade channels, including original equipment manufacturers ("OEMs"), industrial and defense supply distributors, and directly to U.S. and foreign defense departments. We enjoy strong name recognition in our markets under our Ultralife® Batteries, Lithium Power®, McDowell Research®, AMTI™, ABLE™, ACCUTRONICS™, ACCUPRO™, ENTELLION™, SWE Southwest Electronic Energy Group™, SWE DRILL-DATA™, SWE SEASAFE™, Excell Battery Group and Criterion Gauge brands. We have sales, operations and product development facilities in North America, Europe and Asia.

We report our results in two operating segments: Battery & Energy Products and Communications Systems. The Battery & Energy Products segment includes: Lithium 9-volt, cylindrical, thin cell and other non-rechargeable batteries, in addition to rechargeable batteries, uninterruptable power supplies, charging systems and accessories. The Communications Systems segment includes: RF amplifiers, power supplies, cable and connector assemblies, amplified speakers, equipment mounts, case equipment, man-portable systems, integrated communication systems for fixed or vehicle applications and communications and electronics systems design. We believe that reporting performance at the gross profit level is the best indicator of segment performance. As such, we report segment performance at the gross profit level and operating expenses as Corporate charges. (See Note 10 in the notes to consolidated financial statements.)

Our website address is www.ultralifecorporation.com. We make available free of charge via a hyperlink on our website (see Investor Relations link on the website) our annual reports on Form 10-K, proxy statements, quarterly reports on Form 10-Q, current reports on Form 8-K, and any amendments to those reports and statements as soon as reasonably practicable after such material is electronically filed with or furnished to the Securities and Exchange Commission ("SEC"). We will provide copies of these reports upon written request to the attention of Philip A. Fain, CFO, Treasurer and Secretary, Ultralife Corporation, 2000 Technology Parkway, Newark, New York, 14513. Our filings with the SEC are also available through the SEC website at www.sec.gov or at the SEC Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549 or by calling 1-800-SEC-0330.

Battery & Energy Products

We manufacture and/or market a family of Lithium Manganese Dioxide (Li-MnO_2), Lithium Manganese Dioxide Carbon Monofluoride (Li-CFx/MnO2) hybrid and Lithium Thionyl Chloride (Li-SOCl2) non-rechargeable batteries including 9-volt, HiRate® cylindrical, ThinCell®, and other form factors. Applications for our 9-volt batteries include: smoke alarms, wireless security systems and intensive care monitors, among many other devices. Our HiRate® and ThinCell® Lithium non-rechargeable batteries are sold primarily to the military and to OEMs in industrial markets for use in a variety of applications including radios, emergency radio beacons, search and rescue transponders, pipeline inspection gauges, portable medical devices, wearable medical products, Bluetooth tracking devices and other specialty applications. Military applications for our non-rechargeable HiRate® batteries include: manpack and survival radios, night vision devices, targeting devices, chemical agent monitors and thermal imaging equipment. Our Lithium Thionyl Chloride batteries, sold under our ABLE and Ultralife brands as well as a private label brand, are used in a variety of applications including utility meters, wireless security devices, electronic meters, automotive electronics and geothermal devices. We believe that the chemistry of Lithium batteries provides significant advantages over other currently available non-rechargeable battery technologies. These advantages include: higher energy density, lighter weight, longer operating time, longer shelf life and a wider operating temperature range. Our non-rechargeable batteries also have relatively flat voltage profiles, which provide stable power. Conventional non-rechargeable batteries, such as alkaline batteries, have sloping voltage profiles that result in decreasing power output during discharge. While the price of our Lithium batteries is generally higher than alkaline batteries, the increased energy per unit of weight and volume of our Lithium batteries allow for longer operating times and less frequent battery replacements for our targeted applications.

We believe that our ability to design and produce lightweight, high-energy Lithium-ion and Nickel Metal Hydride (NiMH) rechargeable batteries and charging systems in a variety of custom sizes, shapes, and thicknesses offers substantial benefits to our customers. We market Lithium-ion and Nickel Metal Hydride rechargeable batteries comprising cells manufactured by qualified cell manufacturers. Our rechargeable products can be used in a wide variety of applications including communications, medical and other portable electronic devices.

Within this segment, we also seek to fund the development of new products that we hope will advance our technologies through contracts with both government agencies and private sector third parties.

We continue to be awarded development contracts with public and private customers resulting in intellectual property that we believe will enhance our efforts to commercialize new products that we develop. Revenues in this segment that pertain to product development may vary widely each year, depending upon the quantity and size of contracts awarded.

Revenues for this segment for the year ended December 31, 2022 were $119,995 and segment contribution (gross profit) was $26,154.

Communications Systems

Under our McDowell Research and AMTI brands, we design and manufacture a line of communications systems and accessories to support military communications requirements and under Ultralife Corporation brand provide system integration products and services.

The military systems include RF amplifiers, power supplies, power cables, connector assemblies, amplified speakers, equipment mounts, case equipment, man-portable systems and integrated communication systems for fixed or vehicle applications such as vehicle amplifier-adaptors (“VAA”) for multiple programs. These programs include Vehicle Installed Power Enhanced Rifleman Appliqué (“VIPER”) systems, U.S. Army Leader Radio Program, U.S. Army’s Security Force Assistance Brigades (“SFABs”) and SATCOM systems. All systems are packaged to meet specific customer needs in rugged enclosures to allow for their use in extreme environments. We market these products to all branches of the U.S. military and foreign defense organizations that we are permitted to sell our products to, as well as U.S. and international prime defense contractors.

Commercial products offered to date under the Ultralife brand integrate information technology equipment and power conversion capability into rugged cases, supporting use in various industries. We market these products to automotive, cellular carriers and manufacturing industries.

Revenues for this segment for the year ended December 31, 2022 were $11,845 and segment contribution (gross profit) was $3,246.

Corporate

We report revenues and cost of sales for the above operating segments. The balance of income and expense, including but not limited to research and development expenses, and selling, general and administrative expenses, are reported as Corporate operating expenses.

Corporate had no revenues for the year ended December 31, 2022 and our Corporate operating expenses for the year ended December 31, 2022 were $29,271.

See Management’s Discussion and Analysis of Financial Condition and Results of Operations and the 2022 Consolidated Financial Statements and Notes thereto contained in this Form 10-K Annual Report for additional information on the expenses referred to above. For information relating to total assets by segment, revenues for the last two years by segment, and contribution by segment for the last two years, see Note 10 in the notes to consolidated financial statements.

History

Ultralife was formed as a Delaware corporation in December 1990. In March 1991, we acquired certain technology and assets from Eastman Kodak Company ("Kodak") relating to its 9-volt Lithium Manganese Dioxide non-rechargeable battery. In December 1992, we completed our initial public offering and became listed on NASDAQ.

In May 2006, we acquired ABLE New Energy Co., Ltd. ("ABLE"), an established manufacturer of Lithium batteries located in Shenzhen, China, which broadened our product offering, including a wide range of Lithium Thionyl Chloride and Lithium Manganese batteries, and provided additional exposure to new consumer markets.

In July 2006, we finalized the acquisition of substantially all the assets of McDowell Research, Ltd. ("McDowell"), a manufacturer of military communications accessories. This acquisition expanded our product distribution channels into the military communications area and strengthened our presence in global defense markets. During the second half of 2007, the operations of the Waco, Texas facility of McDowell were relocated to our Newark, New York facility. In January 2012, we relocated these operations to our Virginia Beach, Virginia facility in order to gain operational efficiencies.

In March 2008, we formed a joint venture, named Ultralife Batteries India Private Limited ("India JV"), with our distributor partner in India. The India JV assembles Ultralife power solution products and manages local sales and marketing activities, serving commercial, government and defense customers throughout India. We have invested cash into the India JV, as consideration for our 51% ownership stake in the India JV.

In March 2009, we acquired the tactical communications products business of Science Applications International Corporation. The tactical communications products business designs, develops and manufactures tactical communications products including: amplifiers, man-portable systems, cables, power solutions and ancillary communications equipment, which are sold by Ultralife under the brand name AMTI. The acquisition strengthened our communications systems business and provided us with direct entry into the handheld radio/amplifier market, complementing Ultralife's communications systems offerings.

In January 2016, we acquired Accutronics Limited ("Accutronics"), a U.K. corporation based in Newcastle-under-Lyme, U.K., a leading independent designer and manufacturer of smart batteries and charger systems for high-performance, feature-laden portable and handheld electronic devices. With a portfolio encompassing custom battery design, development and manufacturing for OEM's; standard smart batteries, chargers and accessories; and pre-engineered batteries and power solutions for specific applications, Accutronics primarily serves the portable medical device market throughout Europe. Medical applications include digital imaging, ventilators, anesthesia, endoscopy, patient monitoring, cardiopulmonary care, oxygen concentration and aspiration. We acquired Accutronics to advance our strategy of commercial revenue diversification, to expand our geographical penetration, and to achieve revenue growth from new product development. We are continuing to experience sales synergies between Accutronics and our existing commercial battery business as we cross-sell our existing products and the acquired Accutronics' products to our respective customer bases.

On May 1, 2019, we acquired Southwest Electronic Energy Corporation, a Texas corporation ("SWE"), and a leading designer and manufacturer of high-performance smart battery systems and battery packs to customer specifications using Lithium cells. SWE serves a variety of industrial markets, including oil and gas, remote monitoring, process control and marine, which demand uncompromised safety, service, reliability and quality. We acquired SWE as a bolt-on acquisition to further support our strategy of commercial revenue diversification by providing entry to the oil and gas exploration and production, and subsea electrification markets, which were previously unserved by Ultralife. Another key benefit of our acquisition of SWE includes obtaining a highly valuable technical team of battery pack and charger system engineers and technicians to add to our new product development-based revenue growth initiatives in our commercial end-markets particularly asset tracking devices, smart metering for utilities and other industrial applications.

On December 13, 2021, we acquired Excell Battery Canada Inc., a British Columbia corporation ("Excell Canada"), and 656700 B.C. Ltd., a British Columbia corporation ("656700") and its wholly owned subsidiary, Excell Battery Corporation USA, a Texas corporation ("Excell USA" and together with Excell Canada and 656700, collectively, "Excell"), which operate under the name Excell Battery Group, based in Canada with U.S. operations, a leading independent designer and manufacturer of high-performance smart battery systems, battery packs and monitoring systems to customer specifications. Excell serves a variety of industrial markets including downhole drilling, OEM industrial and medical devices, automated meter reading, ruggedized computers, and mining, marine and other mission critical applications which demand uncompromised safety, service, reliability and quality. We acquired Excell as an important component of our strategy to diversify commercial revenue and expand the end markets we serve. Acquiring Excell offers us opportunities to further scale our Battery & Energy Products business and drive the operating leverage of our business model, expand into OEM device verticals that we do not presently serve, enhance our contributed value to both our customers and realize cost synergies. Furthermore, Excell possesses experienced technical resources which we plan to utilize in progressing our global new product initiatives while adding a complementary line of highly engineered products both existing and in development that are costly for our customers to substitute with products of a competitor.

Products, Services and Technology

Battery & Energy Products '

A non-rechargeable battery is used until discharged and then replaced. The principal competing non-rechargeable battery technologies are Carbon Zinc, Alkaline and Lithium. We manufacture a range of non-rechargeable battery products based on Lithium Manganese Dioxide, Lithium Manganese Dioxide Carbon Monofluoride hybrid, and Lithium Thionyl Chloride technologies.

Non-Rechargeable Batteries

We believe that the chemistry of Lithium batteries provides significant advantages over currently available non-rechargeable battery technologies, which include: lighter weight, longer operating time, longer shelf life, and a wider operating temperature range. Our non-rechargeable batteries also have relatively flat voltage profiles, which provide more stable power. Conventional non-rechargeable batteries, such as Alkaline batteries, have sloping voltage profiles that result in decreasing power during discharge. While the prices for our Lithium batteries are generally higher than commercially available Alkaline batteries produced by others, we believe that the increased energy per unit of weight and volume of our batteries will allow longer operating time and less frequent battery replacements for our targeted applications. As a result, we believe that our non-rechargeable batteries are priced competitively with other battery technologies on a price per unit of energy or volume basis.

Our non-rechargeable products include the following product configurations:

9-Volt Lithium Battery. Our 9-volt Lithium battery delivers a unique combination of the highest-available energy density and stable voltage, which results in a longer operating life for the battery and, accordingly, fewer battery replacements. While our 9-volt battery price is generally higher than conventional 9-volt Carbon Zinc and Alkaline batteries, we believe the enhanced operating performance and decreased costs associated with longer battery life make our 9-volt battery more cost effective than conventional batteries on a cost per unit of energy or volume basis when used in a variety of applications.

We market our 9-volt Lithium batteries to OEM, distributor and retail markets including industrial electronics, safety and security, and medical. Typical applications include: smoke alarms, wireless alarm systems, bone growth stimulators, telemetry devices, blood analyzers, ambulatory infusion pumps and parking meters. A significant portion of the sales of our 9-volt battery is to major smoke alarm OEMs for use in their long-life smoke alarms. We also manufacture our 9-volt Lithium battery under private labels for a variety of companies. Additionally, we sell our 9-volt battery to the broader consumer market through national and regional retail chains and online retailers.

We believe our current 9-volt battery manufacturing capacity is adequate to meet forecasted customer demand over the next three years.

Cylindrical Batteries. Featuring high energy, wide temperature range, long shelf life and operating life, our cylindrical cells and batteries, based on Lithium Manganese Dioxide, Lithium Manganese Dioxide Carbon Monofluoride hybrid and Lithium Thionyl Chloride technologies, represent some of the most advanced Lithium power sources currently available. We market a wide range of cylindrical non-rechargeable Lithium cells and batteries in various sizes under both the Ultralife HiRate and ABLE brands. These include: D, C, 5/4 C, 1/2 AA, 2/3 A, CR123A and other sizes, which are sold individually as well as packaged into multi-cell battery packs, including our leading BA-5390 military battery, an alternative to the competing Li-SO_2 BA-5590 battery, a widely used battery type in the U.S. armed forces for portable applications. Our BA-5390 battery provides 50% to 100% more energy (mission time) than the BA-5590, and it is used in approximately 60 military applications. With the introduction of our Lithium Carbon Monofluoride hybrid chemistry, we now offer a D-cell that has 100% more energy than the competing Li-SO_2 D-cell.

We market our line of Lithium cells and batteries to the OEM market for commercial, defense, medical, asset tracking and search and rescue applications, among others. Significant commercial applications include oil and gas, pipeline inspection equipment, automatic re-closers and oceanographic and subsea devices. Asset tracking applications include Radio Frequency Identification ("RFID"), cellular, and Bluetooth systems. Among the defense uses are manpack radios, night vision goggles, chemical agent monitors and thermal imaging equipment. Medical applications include: Automated External Defibrillators ("AEDs"), infusion pumps, wearable patient monitoring and telemetry systems. Search and rescue applications include Emergency Locator Transmitters ("ELTs") for aircraft and Emergency Position Indicating Radio Beacons ("EPIRBs") for ships. Oil and gas applications include battery packs for downhole and directional drilling applications such as Measurement While Drilling ("MWD") and Logging While Drilling ("LWD") and pipeline inspection and monitoring.

Thin Cell Batteries. We manufacture a range of thin Lithium Manganese Dioxide batteries under the Thin Cell® brand. Thin Cell batteries are flat, lightweight batteries providing a unique combination of high energy, long shelf life, wide operating temperature range and very low profile. We are currently marketing these batteries to OEMs for applications such as displays, wearable medical devices, toll passes, theft detection systems, and RFID and Bluetooth tracking devices.

Rechargeable Batteries

In contrast to non-rechargeable batteries, after a rechargeable battery is discharged, it can be recharged and reused many times. Generally, discharge and recharge cycles can be repeated hundreds or thousands of times in rechargeable batteries depending on the technology of the battery. The achievable number of cycles (cycle life) varies among technologies and is an important competitive factor. All rechargeable batteries experience a small, but measurable, loss in energy capacity with each cycle. The industry commonly reports cycle life in the number of cycles a battery can achieve until 80% of the battery’s initial energy capacity remains. In the rechargeable battery market, the principal competing technologies are Nickel Metal Hydride and Lithium-ion (including Lithium polymer) batteries. Rechargeable batteries are used in many applications, such as military radios, laptop computers, mobile telephones, portable medical devices, wearable devices and many other commercial, defense and consumer products.

Three important performance characteristics of a rechargeable battery are design flexibility, energy density and cycle life. Design flexibility refers to the ability of rechargeable batteries to be designed to fit a variety of shapes and sizes of battery compartments. Thin profile batteries with prismatic geometry provide the design flexibility to fit the battery compartments of today's electronic devices. Energy density refers to the total amount of electrical energy stored in a battery divided by the battery’s weight and volume as measured in watt-hours per kilogram and watt-hours per liter, respectively. High energy density batteries generally are longer lasting power sources providing longer operating time and necessitating fewer battery recharges. High energy density and long achievable cycle life are important characteristics for comparing rechargeable battery technologies. Greater energy density will permit the use of batteries of a given weight or volume for a longer time period. Accordingly, greater energy density will enable the use of smaller and lighter batteries with energy comparable to those currently marketed. Lithium-ion batteries, by the nature of their electrochemical properties, are capable of providing higher energy density than comparably sized batteries that utilize other chemistries and, therefore, tend to consume less volume and weight for a given energy content. Long achievable cycle life, particularly in combination with high energy density, is suitable for applications requiring frequent battery recharges, such as cellular telephones and notebook computers, and allows the user to charge and recharge many times before noticing a difference in performance. We believe that our Lithium-ion batteries generally have high energy density and a long cycle life.

Lithium-ion Cells and Batteries. We market a variety of Lithium-ion cells and rechargeable batteries comprised of cells manufactured by qualified cell manufacturers. These products are used in a wide variety of applications including communications, medical and other portable electronic devices.

Battery Charging Systems and Accessories. To provide our customers with complete power system solutions, we offer a wide range of rugged military and commercial battery charging systems and accessories including smart chargers, multi-bay charging systems and a variety of cables.

Multi-Kilowatt Module. Our Multi-Kilowatt Module Lithium-ion battery system is a large format battery utilizable for energy storage, battery back-up, and remote power applications. This product is a direct replacement of 1.25 kWh and larger capacity lead acid batteries in 24V or 48V applications. It can be connected in multiples to obtain higher-voltages and is capable of over 3,000 cycles while maintaining 80% of its capacity.

Technology Contracts. Our technology contract activities involve the development of new products or the enhancement of existing products through contracts with both government agencies and private sector third parties.

Communications Systems

Under our McDowell Research and AMTI brands, we design and manufacture a line of communications systems and accessories to support military communications systems, including RF amplifiers, power supplies, power cables, connector assemblies, amplified speakers, equipment mounts, case equipment, man-portable systems and integrated communication systems for fixed or vehicle applications such as vehicle amplifier-adaptors. We package all systems to meet specific customer needs in rugged enclosures to allow their use in extreme environments and under our Ultralife Corporation brand provide system integration products and services for commercial requirements.
We offer a wide range of military communications systems and accessories designed to enhance and extend the operation of communications equipment such as vehicle-mounted, manpack and handheld transceivers. Our communications products include the following product configurations:

RF Amplifiers. These amplifiers are used to extend the range of manpack and handheld tactical transceivers, and our RF amplifiers include both mounted and dismounted versions and many related accessories and kits which can be used on mobile or fixed site applications.

Integrated Systems. Our integrated systems include: vehicle mounted systems; SATCOM systems; rugged, deployable case systems; and multiband transceiver kits. These systems provide enhanced capabilities which enable communications operators to provide links to support Command, Control, Communications, Computers, Cyber and Intelligence, Surveillance and Reconnaissance (“C5ISR”).

Power Systems. Our power systems include: AC/DC power supplies with battery backup for tactical manpack radios and power adaptors and chargers. We can provide power supplies for virtually all tactical communications devices.

The commercial products to date are integration of information technology capability into rugged cases, supporting use of high computing capability in various configurations. We market these products to automotive, cellular carriers and manufacturing industries.

Communications and Electronics. Our communications and electronics services include the design, integration, and fielding of portable, mobile and fixed-site communications systems.

Sales and Marketing

We employ a staff of sales and marketing personnel in North America, Europe and Asia. We sell our products and services directly to commercial customers, including OEMs, as well as government and defense agencies in the U.S. and abroad and have contractual arrangements with sales agents who market our products on a commission basis in defined territories. Every effort is made to adjust future prices when and if possible, but the ability to adjust prices is generally based on market conditions.

We also distribute some of our products through domestic and foreign distributors and retailers. These sales are generated primarily from customer purchase orders. We have several long-term contracts with the U.S. government and other customers. These contracts do not commit the customers to specific purchase volumes, nor to specific timing of purchase order releases, and they include fixed price agreements over various periods of time. In general, we do not believe our sales are seasonal, although we may sometimes experience seasonality for some of our military products based on the timing of government fiscal budget expenditures.

A significant portion of our business comes from sales of products and services to U.S. and foreign governments through various contracts. These contracts are subject to procurement laws and regulations that specify policies and procedures for acquiring goods and services. The procurement laws and regulations also contain guidelines for managing contracts after they are awarded, including conditions under which contracts may be terminated, in whole or in part, at the government’s convenience or for default. Failure to comply with applicable procurement laws or regulations can result in civil, criminal or administrative proceedings involving fines, penalties, suspension of payments, or suspension or debarment from government contracting or subcontracting for a period of time. Even if a contract is awarded to us there is no guarantee that the government will order any product under the contract.

We have one major customer, a large global defense primary contractor, which comprised 17% of our total revenues in 2022, and 20% of our total revenues in 2021. There were no other customers that comprised greater than 10% of our total revenues during these years.

In 2022, sales to U.S. and foreign customers were approximately $67,914 and $63,926, respectively. In 2021, sales to U.S. and foreign customers were approximately $48,819 and $49,448, respectively.

Battery & Energy Products

We target sales of our non-rechargeable products to manufacturers of security and safety equipment, medical devices, search and rescue equipment, specialty instruments, oil and gas downhole drilling and pipe inspection equipment, point of sale equipment and metering applications, as well as users of military equipment. Our strategy is to develop sales and marketing alliances with OEMs and governmental agencies that utilize our batteries in their products, commit to cooperative research and development or marketing programs, and recommend our products for design-in or replacement use in their products. We are addressing these markets through direct contact by our sales and technical personnel, use of sales agents and stocking distributors, manufacturing under private labels, and promotional activities.

We seek to capture a significant market share for our products within our targeted OEM markets, which we believe, if successful, will result in increased product awareness and sales at the end-user or consumer level. We are also selling our 9-volt battery to the consumer market through retail distribution channels. Most military procurements are done directly by the specific government organizations requiring products, based on a competitive bidding process. Additionally, we are typically required to successfully meet contractual specifications and to pass various qualifications testing for the products under contract by the military. Our inability to pass these tests for our new products in a timely fashion could have a material adverse effect on future growth prospects. When a government contract is awarded, there is a government procedure that permits unsuccessful companies to formally protest the award if they believe they were unjustly treated in the government's bid evaluation process. A prolonged delay in the resolution of a protest, or a reversal of an award resulting from such a protest, could have a material adverse effect on our business, financial condition and results of operations.

We market our products to defense organizations in the U.S. and other countries. In September 2019, we were awarded an indefinite-delivery/indefinite-quantity contract from the U.S. Government's Defense Logistics Agency for up to five years, with the potential to generate revenue of $14,422, to provide our BA-5368 batteries. In May 2021 we were awarded an indefinite-delivery/indefinite-quantity contract from the U.S. Army for purchases of Conformal Wear Batteries not to exceed $168,000 during the three-year base award period with the potential for up to an additional $350,000 should the six one-year options be exercised. We are scheduled to complete First Article Testing under this contract in the second half of 2023. In December 2021, we were awarded an indefinite-delivery/indefinite-quantity contract not to exceed $9,900 for the U.S. Government's Defense Logistics Agency for our lithium manganese dioxide, non-rechargeable BA-5390 batteries. The award consists of a three-year base contract with two one-year option periods.

We target sales of our Lithium-ion rechargeable batteries and charging systems to OEM customers, as well as distributors and resellers focused on our target markets. We respond to Requests for Proposals ("RFPs") to design products for OEMs, and believe that our design capabilities, product characteristics and solution integration will encourage OEMs to incorporate our batteries into their product offerings, resulting in revenue growth opportunities for us.

We continue to expand our marketing activities as part of our strategic plan, a comprehensive forward-looking document which sets forth our strategic growth plans, tactical actions and financial projections over a rolling three-year period, to increase sales of our battery and energy products for commercial, standby, defense and communications applications, as well as hand-held devices, wearable devices and other electronic portable equipment. A key part of this expansion includes increasing our design and assembly capabilities as well as building our international network of distributors and value-added distributors.

At December 31, 2022 and 2021, our backlog related to Battery & Energy Products was approximately $88,600 and $55,300, respectively. The 60% year-over-year increase in our Battery & Energy Products backlog at December 31, 2022 primarily resulted from the demand for our medical, government & defense and oil & gas batteries, which in some cases includes orders pushed into 2023 because of the supply chain disruptions experienced in 2022.

The 2022 year-end backlog is primarily related to orders that are expected to ship throughout 2023 and does not include future shipments under the indefinite-delivery/indefinite-quantity Defense Logistics Agency award for BA-5390 batteries ($9,900) and the U.S. Army award for Conformal Wearable Batteries ($168,000).

Communications Systems

We target sales of our communications systems, which include power solutions and accessories to support communications systems such as RF amplifiers, power supplies, power cables, connector assemblies, amplified speakers, equipment mounts, case equipment and integrated communication systems, to military OEMs and U.S. and allied foreign militaries. We sell our products directly and through authorized distributors to OEMs and directly to defense contractors and U.S. and foreign militaries. We market our products to defense organizations and OEMs in the U.S. and internationally.

Sales targets for commercial products include integrated systems for information technology equipment to support fixed, mobile and deployable locations. We sell our products directly to commercial businesses in the U.S.

At December 31, 2022 and 2021, our backlog related to Communications Systems orders was approximately $22,400 and $8,400, respectively. The 167% increase in our Communications Systems backlog at December 31, 2022 is primarily a result of purchase orders received in 2022 to supply a global defense prime with our Vehicle Amplifier-Adaptors for the U.S. Army’s Leader Radio program and to supply an international defense contractor with our amplifiers and radio vehicle mounts for an ongoing allied country government/defense modernization program. The 2022 year-end backlog is related to orders that are expected to ship throughout 2023.

Patents, Trade Secrets and Trademarks

We use our patented and unpatented proprietary information, know-how and trade secrets to maintain and develop our competitive position. Despite our efforts to protect our proprietary information, there can be no assurance that others will neither develop the same or similar information independently nor unlawfully obtain access to our proprietary information, know-how and trade secrets. In addition, there can be no assurance that we would prevail if we asserted our intellectual property rights against third parties, or that third parties will not successfully assert infringement claims against us in the future. We believe, however, that our success depends more on the knowledge, ability, experience and technological expertise of our employees, than on the legal protection that our patents and other proprietary rights may or will afford.

We hold thirty-six patents issued in the U.S., six patents issued in the European Union member states, four patents issued in the European Union, four patents issued in India, four patents issued in Japan, four patents issued in South Korea, four patents issued in the United Kingdom, three patents issued in Canada, three patents issued in China, three patents issued in Taiwan, two patents issued in Norway, one patent issued in Australia, one patent issued in Hong Kong, one patent issued in Iceland, and one patent issued by the World Intellectual Property Organization. We believe our patents protect technology that makes automated production more cost-effective and protects important competitive features of our products. However, we do not consider our business to be dependent on patent protection.

As part of our employment commencement process, our employees are required to enter into agreements providing for confidentiality of certain information and the assignment of rights to inventions made by them while employed by us. These agreements also contain certain non-competition and non-solicitation provisions which are effective during the employment term and for varying periods thereafter depending on position and location. There can be no assurance that we will be able to enforce these agreements. All of our employees agree to abide by the terms of a Code of Ethics policy that provides for the confidentiality of certain information received during the course of their employment. Nevertheless, the enforceability of such agreements is subject to public policy limitations that vary from state to state and country by country so we cannot assure that they will be enforceable in accordance with their terms, if at all.

Trademarks are an important aspect of our business. We sell our products under a number of trademarks, that we own. The following are registered trademarks of ours: Ultralife®, Ultralife Thin Cell®, Ultralife HiRate®, Ultralife & design®, Ultra®, LithiumPower®, LithiumPower & Design®, SmartCircuit®, Smart Circuit®, Smart Circuit & design®, We Are Power®, AMTI®, ABLE™, ACCUTRONICS®, ACCUPRO®, ENTELLION®, Intelligent Power Vault®, McDowell Research®, RPS®, POW-R BMS®, POW-R TOTE®, POW-R-BMS®, SWE Southwest Electronic Energy Group®, SWE DRILL-DATA®, SWE DRILL-DATA®, SWE DRILL-DATA OBSERVER®, SWE SEASAFE®, SWE SEASAFE (& DESIGN)®, SWE SEASAFE + DIRECT®, SWE SOUTHWEST ELECTRONIC ENERGY GROUP ADVANCED BATTERY SOLUTIONS & DESIGN®, and THE NEW POWER GENERATION®.

Manufacturing and Raw Materials

We manufacture our products from raw materials and component parts that we purchase. Our manufacturing facility in Newark, New York is ISO 9001 and ISO 13485 certified. Our Canadian manufacturing facilities in Calgary and Mississauga are ISO 9001 certified and ISO 13485 certified. Our manufacturing facility in Shenzhen, China is ISO 9001, ISO 1401 and ISO 13485 certified. Our manufacturing facility in Missouri City, Texas is ISO 9001 and ISO 13485 certified. Our manufacturing facilities in the

United Kingdom are ISO 9001 and ISO 13485 certified. Our manufacturing facility in Virginia Beach, Virginia is ISO 9001 certified.

We expect our future raw material purchases to fluctuate based on global demand for our products, our knowledge regarding the timing of customer orders, the related need to build inventory in anticipation of orders and actual shipment dates. The prices and availability of raw materials were impacted by COVID/supply chain disruptions in 2022 and may continue to be affected in 2023.

Battery & Energy Products

Our Newark, New York and Shenzhen, China facilities have the capacity to produce cylindrical cells, 9-volt batteries, 3-volt battery and thin cells. Capacity, however, is also affected by demand for particular products, and product mix changes can produce bottlenecks in an individual operation, constraining overall capacity. We have acquired new machinery and equipment in areas where production bottlenecks have occurred in the past and we believe that we have sufficient capacity in these areas. We continually evaluate our requirements for additional capital equipment, and we believe that planned increases will be adequate to meet foreseeable customer demand.

Certain materials used in our products, other than rechargeable battery cells, are available only from a single source or a limited number of sources. Additionally, we may elect to develop relationships with a single or limited number of sources for materials that are otherwise generally available. Although we believe that alternative sources may in some cases be available to supply materials that could replace materials we use and that, if necessary, we would be able to redesign our products to make use of an alternative material provided extensive customer testing and recertification are not required, any interruption in our supply from any supplier that serves currently as our sole source could delay product shipments and adversely affect our financial performance and relationships with our customers. Although we have experienced interruptions of product deliveries by sole source and other suppliers in 2022 resulting in the delay of shipments to future periods, we cannot assure that these interruptions and delays will not have an adverse effect on us in the future.

Generally, the raw materials and components utilized for our rechargeable batteries are readily available from many sources. Although we believe that alternative sources are available to supply materials and components that could replace materials or components we use, any interruption in our supply from any supplier that serves currently as our sole source could delay product shipments and adversely affect our financial performance and relationships with our customers.

Our Newark, New York facility has the capacity to produce significant volumes of batteries and energy products. This operation generally manufacturers non-rechargeable battery cells, non-rechargeable and rechargeable battery packs, and chargers and is limited only by physical space and is not constrained by manufacturing equipment capacity which can accommodate significant additional volumes of product. Similarly, our China and United Kingdom facilities also have capacity to produce significant quantities of non-rechargeable batteries and rechargeable battery packs beyond current volumes and are not constrained by manufacturing equipment capacity. Our Missouri City, Texas facility has the capacity to produce significant quantities of non-rechargeable battery packs and is not constrained by manufacturing equipment capacity. We are in the process of assessing the capacity our Excell facilities in Houston, Texas and in Calgary, Mississauga and Vancouver, Canada to determine constraints associated with human capital resources or manufacturing equipment.

The total carrying value of our Battery & Energy Products inventory, including raw materials, work in process and finished goods, amounted to $32,771 and $25,677 as of December 31, 2022 and 2021, respectively. The year-over-year 28% increase primarily reflects an increase in materials, including rechargeable cells, required to fulfill the backlog for our batteries primarily used in the medical devices, government & defense and oil & gas sectors. Management continuously monitors inventory levels in an effort to optimize such levels.

Communications Systems

In general, we believe that the raw materials and components utilized by us for our communications and commercial accessories and systems, including RF amplifiers, power supplies, cables, repeaters and integration kits and systems, are available from many sources. Although we believe that alternative sources are available to supply materials and components that could replace materials or components we use, any interruption in our supply from any supplier that serves currently as our sole source or any significant increase in lead times to provide components could delay product shipments and adversely affect our financial performance and relationships with our customers.

Our Virginia Beach, Virginia facility has the sufficient capacity to produce communications products and systems to meet current demand. This operation generally assembles products and is limited only by physical space and is not constrained by manufacturing equipment capacity.

The total carrying value of our Communications Systems inventory, including raw materials, work in process and finished goods, amounted to $8,421 and $7,512 as of December 31, 2022 and 2021, respectively. The year-over-year 12% increase is due to the procurement of longer lead time components to meet the commitment dates of our backlog orders. Management continuously monitors inventory levels in an effort to optimize such levels.

Research and Development

We devote significant resources to research and development activities to improve the technological capabilities of our products and to design new products for customers' applications. We conduct our research and development in Newark, New York; Virginia Beach, Virginia; Tallahassee, Florida; Missouri City, Texas; Newcastle-under-Lyme, United Kingdom; and Shenzhen, China. During 2022 and 2021, we expended $7,874 and $8,042, respectively, on research and development, including $793 and $1,216, respectively, on customer sponsored research and development activities, which are included in cost of products sold. The year-over-year decrease in customer sponsored research and development is due to the timing of key projects and helped to offset our increased costs for the hiring of engineering resources to support new product development in our Battery & Energy Products business segment, including the inclusion of a full year of operations for Excell which was acquired on December 13, 2021.

We expect that research and development expenditures in the future could increase by 10% or more over 2022 levels, based on current initiatives. These current initiatives include completing the development and testing of new battery and power solutions in our facilities in Newark, New York, Houston and Missouri City, Texas, Canada and Newcastle-under-Lyme, UK; our Thionyl Chloride battery project in China and new product initiatives for our Communications Systems business. Our expectation is that new product development is one of the factors that will drive our growth. As in the past, we will continue to make funding decisions for our research and development efforts based upon demand for customer applications.

Battery & Energy Products

We continue to internally develop non-rechargeable cells and batteries with the goal of broadening our product offering to our customers.

We continue to internally develop our rechargeable product portfolio, including batteries, battery management systems, cables and charging systems, as our customers' needs for portable power continue to grow and new technologies become available.

The U.S. government sponsors research and development programs, which Ultralife participates in, designed to improve the performance and safety of existing battery systems and to develop new battery systems.

Communications Systems

We continue to internally develop a variety of communications accessories and systems for the global defense and commercial markets to meet the ever-changing demands of our customers.

Safety; Regulatory Matters; Environmental Considerations

Certain materials utilized in our batteries may pose safety problems if improperly used, stored, or handled. We have designed our batteries to minimize safety hazards both in manufacturing and in use. Our batteries are subject to the regulations noted below, among others.

The transportation of non-rechargeable and rechargeable Lithium batteries is regulated in the U.S. by the Department of Transportation's Pipeline and Hazardous Materials Safety Administration ("PHMSA"), and internationally by the International Civil Aviation Organization ("ICAO") and corresponding International Air Transport Association ("IATA"), Dangerous Goods Regulations and the International Maritime Dangerous Goods Code ("IMDG"), and other country specific regulations. These regulations are based on the United Nations Recommendations on the Transport of Dangerous Goods Model Regulations and the United Nations Manual of Tests and Criteria. We currently ship our products pursuant to PHMSA, ICAO, IATA, IMDG and other country specific hazardous goods regulations. The regulations require companies to meet certain testing, packaging, labeling, marking and shipping paper specifications for safety reasons. We have not incurred, and do not expect to incur, any significant costs in order to comply with these regulations. We believe we comply with all current U.S. and international regulations for the shipment of our products, and we intend and expect to comply with any new regulations that are imposed. We have established our own testing facilities to ensure that we comply with these regulations. However, if we are unable to comply with any such new regulations, or if regulations are introduced that limit our or our customers' ability to transport our products in a cost-effective manner, this could have a material adverse effect on our business, financial condition and results of operations.

The European Union's Restriction of Hazardous Substances Directive (the "EU RoHS Directive") places restrictions on the use of certain hazardous substances in electrical and electronic equipment. All applicable products sold in the European Union market must pass RoHS compliance. While this directive does not apply to batteries and does not currently affect our defense products, should any changes occur in the directive that would affect our products, we intend and expect to comply with any new regulations that are imposed. However, we cannot ensure that the cost of complying with such new regulations would not have a material adverse effect on us. We believe our commercial chargers are substantially in compliance with the EU RoHS Directive.

The European Union's Battery Directive "on batteries and accumulators and waste batteries and accumulators" (the "EU Battery Directive") is intended to cover all types of batteries regardless of their shape, volume, weight, material composition or use. It is aimed at reducing mercury, cadmium, lead and other metals in the environment by minimizing the use of these substances in batteries and by treating and re-using old batteries. The EU Battery Directive applies to all types of batteries except those used to protect European member states' security, for military purposes, or sent into space. To achieve these objectives, the EU Battery Directive prohibits the marketing of some batteries containing hazardous substances. It establishes schemes aimed at high levels of collection and recycling of batteries with quantified collection and recycling targets. The EU Battery Directive sets out minimum rules for producer responsibility and provisions with regard to labeling of batteries and their removability from equipment. The EU Battery Directive requires product markings for batteries and accumulators to provide information on capacity and to facilitate reuse and safe disposal. We currently ship our products pursuant to the requirements of the EU Battery Directive.

The EU Battery Directive requires producers or importers of particular classes of electrical goods to be financially responsible for specified collection, recycling, treatment and disposal of past and future covered products. This directive assigns levels of responsibility to companies doing business in European Union markets based on their relative market share. This directive calls on each European Union member state to enact enabling legislation to implement the directive. As additional European Union member states pass enabling legislation our compliance system should be sufficient to meet such requirements. Our current estimated costs associated with our compliance with these directives based on our current market share are not significant. However, we continue to evaluate the impact of these directives as European Union member states implement guidance, and actual costs could differ from our current estimates.

China's "Management Methods for Restricted Use of Hazardous Substances in Electrical and Electronic Products" ("China RoHS 2") provides a regulatory framework including hazardous substance restrictions similar to those imposed by the EU RoHS Directive. China RoHS 2 applies to methods for the control and reduction of pollution and other public hazards to the environment caused during the production, sale, and import of electrical and electronic products ("EEP") in China. The regulatory framework of China RoHS 2 also now references the updated marking and labeling requirements under Standard SJ/T 11364-2014. The methods under China RoHS 2 only apply to EEP placed in the marketplace in China. We believe *our compliance system is sufficient to meet our requirements under China RoHS 2. Our current estimated costs associated with our compliance with this regulation based on our current market share are not significant. However, we continue to evaluate the impact of this regulation, and actual costs could differ from our current estimates.*

National, state and local laws impose various environmental controls on the manufacture, transportation, storage, use and disposal of batteries and of certain chemicals used in the manufacture of batteries. Although we believe that our operations are in material compliance with current environmental regulations, there can be no assurance that changes in such laws and regulations will not impose costly compliance requirements on us or otherwise subject us to future liabilities, costs and expenses. There can be no assurance that additional or modified regulations relating to the manufacture, transportation, storage, use and disposal of materials used to manufacture our batteries or restricting disposal of batteries will not be imposed or that such regulations will not have a material adverse effect on our business, financial condition and results of operations. In 2022 and 2021, we spent $264 and $208, respectively, on environmental compliance, including costs to properly dispose of potentially hazardous waste.

Since non-rechargeable and rechargeable Lithium battery chemistries react adversely with water and water vapor, certain of our manufacturing processes must be performed in a controlled environment with low relative humidity. Our Newark, New York and Shenzhen, China facilities contain dry rooms or glove box equipment, as well as specialized air-drying equipment.

In addition to the environmental regulations previously described, our products are subject to U.S. and international laws and regulations governing international trade and exports including but not limited to the International Traffic in Arms Regulations (“ITAR”), the Export Administration Regulations (“EAR”) and trade sanctions against embargoed countries.

The ITAR is a set of U.S. government regulations that control the export and import of defense-related articles and services on the United States Munitions List. These regulations implement the provisions of the Arms Export Control Act, and are described in the Code of Federal Regulations. The Department of State Directorate of Defense Trade Controls interprets and enforces ITAR. Its goal is to safeguard U.S. national security and further U.S. foreign policy objectives.

The related EAR are enforced and interpreted by the Bureau of Industry and Security in the Commerce Department. The Department of Defense is also involved in the review and approval process. Inspections in support of import and export laws are performed at border crossings by Customs and Border Protection, an agency of the Department of Homeland Security.

Products and services developed and manufactured in our foreign locations are subject to the export and import controls of the nation in which the foreign location operates.

We believe we are in material compliance with these domestic and international export regulations. However, failure of compliance could have a material adverse effect on our business through possible fines, denial of export privileges, or loss of customers. Further, while we are not aware of any proposed changes to these regulations, any change in the scope or enforcement of export or import regulations or related legislation could have a material adverse effect on our business through increased costs of compliance or reduction in the international growth prospects available to us.

Based upon our current sales volumes, our future estimated costs associated with our compliance with ITAR, EAR, and the foreign export and import controls are not significant. However, we continue to evaluate the impact of these regulations, and actual costs could differ from our current estimates.

Battery & Energy Products

Our non-rechargeable battery products incorporate Lithium metal, which reacts with water and may cause fires if not handled properly. In the past, we have experienced fires that have temporarily interrupted certain manufacturing operations. We believe that we have adequate fire suppression systems and insurance, including business interruption insurance, to protect against the occurrence of fires and fire losses in our facilities.

Our 9-volt battery, among other sizes, is designed to conform to the dimensional and electrical standards of the American National Standards Institute. Authorized certification bodies such as Underwriters Laboratories, Intertek and SGS have certified several of our products.

Communications Systems

We are not currently aware of any regulatory requirements regarding the disposal of our communications products.

Corporate

The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 Section 1502 (the “Dodd-Frank Act”) requires public companies to disclose whether tantalum, tin, gold and tungsten, commonly known as “conflict minerals,” are necessary to the functionality or production of a product manufactured by a public company and if those elements originated from armed groups in the Democratic Republic of Congo or adjoining countries. To comply with the Dodd-Frank Act, as implemented by SEC rules, we are required to perform due diligence inquiries of our suppliers to determine whether or not our products contain such minerals and from which countries and source (smelter) the minerals were obtained. Our annual report on Form SD was filed by the statutory due date of May 31, 2022 for the 2021 calendar year and we continue to utilize appropriate measures with our suppliers to better ascertain the origin of the conflict minerals in our products.

Competition

Competition in both the battery and communications systems markets is, and is expected to remain, intense. The competition ranges from development stage companies to major domestic and international companies, many of which have financial, technical, marketing, sales, manufacturing, distribution and other resources significantly greater than ours. We compete against companies producing batteries as well as companies producing communications systems. We compete on the basis of design flexibility, performance, price, reliability and customer support. There can be no assurance that our technologies and products will not be rendered obsolete by developments in competing technologies or services that are currently under development or that may be developed in the future or that our competitors will not market competing products and services that obtain market acceptance more rapidly than ours.

While we cannot assure that other entities will not attempt to take advantage of the growth of the battery market, the Lithium battery cell industry has certain technological and economic barriers to entry. The development of technology, equipment and manufacturing techniques and the operation of a facility for the automated production of Lithium battery cells require large capital expenditures, which may deter new competitors from commencing production. Through our experience in battery cell manufacturing, we have also developed significant production and design expertise in the non-rechargeable battery market, which we believe would be difficult for new competitors to reproduce without substantial time and expense.

Employees

As of December 31, 2022, we employed a total of 547 permanent and temporary employees: 424 in production, 78 in sales and administration, and 45 in research and development. None of our employees are represented by a labor union.

ITEM 1A. RISK FACTORS

Our business faces many risks. As such, prospective investors and shareholders should carefully consider and evaluate all of the risk factors described below as well as other factors discussed in this Form 10-K Annual Report and in our other filings with the SEC. Any of these factors could adversely affect our business, financial condition and results of operations. Additional risks and uncertainties that are not currently known to us or that are not currently believed by us to be material may also harm our business operations and financial results. These risk factors may change from time to time and may be amended, supplemented, or superseded by updates to the risk factors contained in periodic reports on Form 10-Q and Form 10-K that we file with the SEC in the future.

Company Risk Factors

Changes in economic conditions, including inflation and supply-chain disruptions have affected and may continue to affect our business, revenues and earnings adversely.

The disruptions resulting from supply chain and logistics complications were more pronounced on the Company in 2022, in large part because of a sharp uptick for our more-advanced rechargeable battery packs which increased the need for highly sought-after components, including various electronic components, PC boards, chip sets and certain metals to name a few. Major contributing factors resulting in the year-over-year reduction in our gross margin from 25.1% in 2021 to 22.3% in 2022 included the following: (1) Rapid cost inflation on raw materials and key components not entirely aligned with the timing of customer price increases - In 2022 we experienced more frequent weekly or sometimes daily input cost increases from our vendors this year versus more periodic customer price increases causing an inevitable lag in cost/price alignment. Going forward, to reduce this lag, we are initiating more frequent customer price increases closely aligned to cost increases, subject to our customers' willingness to accept of the price increases. (2) Incremental fees to source and expedite critical components – In 2022 increases in demand with tight shipment schedules from both government/defense and medical customers, in some cases went beyond the wherewithal of our vendors to obtain key materials in a timely manner, necessitating the one-time use of brokers at a much higher cost and with more complex logistic, and further complicating the timely matching of higher costs with customer price increases. To minimize the use of costly brokers going forward, we have now extended the forward time horizon of our sales and operations planning ("S&OP") process with customers and suppliers. Should a demand surge with expedited timing again necessitate more costly sourcing alternatives, we will work closely with our customers to fund all or a large portion of the incremental costs on a timely basis, subject to our customers' willingness to share in these costs. (3) Internal manufacturing inefficiencies – As a result of irregular component availability and lead time extensions, in 2022 we experienced continuous production-line start-ups, shut-downs and changeovers resulting in labor inefficiencies, higher scrap and decreased absorption of overhead. Most notable were delays in the supply of rechargeable cells for our fulfillment of a large medical order, as the vendor changed their focus to supplying large format cells for electric vehicles ("EV"). We have now qualified another vendor to meet the strict FDA requirements of our designed-in batteries. (4) Increased and uncertain lead times impacting timely deliveries – In 2022 more mundane yet vital components, such as epoxy, label and boxes, trickled in well past the expected dates reducing productivity and increasing costs to expedite shipments.

Going forward, we will use our global supply chain more effectively to secure alternate vendors to minimize these occurrences. Although the Company has focused a great deal of time and effort on improving gross margins, supply-chain disruptions, which could continue into 2023 and despite our best efforts, we may not be able to offset and/or minimize the unfavorable impact these disruptions may continue to cause on business and financial results.

The COVID-19 pandemic and other illnesses has caused and may continue to create significant economic and social disruption and uncertainty around the world, may impact the health of our employees, and that of our suppliers and customers causing delays in the manufacture and delivery of our mission critical products to end customers, and may disrupt business with our collaborative business partners and service providers, which may continue to adversely impact our operating results.

The novel coronavirus disease of 2019 (COVID-19) has created significant economic disruption and uncertainty around the world. As we enter the third year of the pandemic, our workforce, customers and vendors still face the risk of the emergence of new strains, availability of effective treatment, and potential regulatory and macroeconomic effects stemming from such impacts. Except for certain situations in China, lockdowns, shelter-in-place restrictions, and vaccine mandates, prevalent during the initial stages of the pandemic, have now been lifted for most companies. While we have maintained normal business operations at virtually all our facilities throughout the pandemic, the related supply chain disruptions including increased lead times on key components experienced within our business and by our customers and vendors, continue to impact our work schedules and timing of shipments. The lingering impact of these conditions, potentially exacerbated by the emergence of new strains, on our business and financial results is uncertain and will depend on many evolving factors which we continue to monitor but cannot predict, including the resistance to treatments and current vaccinations, and the duration and scope of any new pandemic variants, the resulting actions taken by governments, businesses and individuals, and the flow-through impact on operations and supply chains.

A significant portion of our revenues is derived from certain key customers.

We have one customer, L3Harris Technologies, a large global defense primary contractor, which comprised 17% of our total revenues in 2022 and 20% of our total revenues in 2021. There were no other customers that comprised greater than 10% of our total revenues during these years. While we consider our relationship with our major customer to be good, the reduction, delay or cancellation of orders from this customer or any delays in payments beyond their payment terms, for any reason, would reduce our revenue and operating income and could materially and adversely affect our business, operating results and financial condition in other ways.

Our efforts to develop new products or new commercial applications for our products could be prolonged or could fail.

Although we develop certain products for new commercial applications, we cannot assure that these new products will be accepted due to the highly competitive nature of our industries. There are many new product and technology entrants into the markets we sell our products to, and we must continually reassess the markets in which our products can be successful and seek to engage customers in those markets that will adopt our products for use in their products. In addition, these customers must be successful with their products in their markets for us to gain increased business. Increased competition, failure to gain customer acceptance of products, the introduction of competitive technologies or failure of our customers in their markets all may have an adverse effect on our business and reduce our revenue and operating income.

Reductions or delays in U.S. and foreign military spending could have a material adverse effect on our business, financial condition and results of operations.

A significant portion of our revenues is derived from contracts with U.S. and foreign militaries or OEMs that supply U.S. and foreign militaries. In the years ended December 31, 2022 and 2021, $38,795 or 29% and $34,751 or 35%, respectively, of our revenues were comprised of sales made directly or indirectly to U.S. and foreign militaries.

While significant gains have been made in commercial markets with our business, we are still highly dependent on sales to U.S. Government customers. The amounts and percentages of our net revenue that were derived from sales to U.S. Government customers, including the Department of Defense, whether directly or through prime contractors, was approximately $33,064 or 25% in 2022 and $26,870 or 27% in 2021. Therefore, any significant disruption or deterioration of our relationship with the U.S. Government or any prime defense contractor could significantly reduce our revenue. Our competitors continuously engage in efforts to expand their business relationships with the U.S. Government and will continue these efforts in the future, and the U.S. Government may choose to use other contractors or suppliers.

Budget and appropriations decisions made by the U.S. Government, including possible future sequestration periods or other similar formulaic reductions in federal expenditures, are outside of our control and have long-term consequences for our business. A decline in U.S. military expenditures could result in a reduction in the military's demand for our products, which could have a material adverse effect on our business, financial condition and results of operations.

Our operations in China are subject to unique risks and uncertainties, including political shifts, tariffs and trade restrictions.

Our operating facility in China presents unique risks including, but not limited to, changes in local regulatory requirements, changes in labor laws, local wage laws, environmental regulations, taxes and operating licenses, compliance with U.S. regulatory requirements, including the Foreign Corrupt Practices Act, uncertainties as to the application and interpretation of local laws and enforcement of contract and intellectual property rights, currency restrictions, currency exchange controls, fluctuations in the value of currency to the U.S. dollar and currency revaluations, eminent domain claims, civil unrest, power outages, water shortages, labor shortages, labor disputes, increase in labor costs, rapid changes in government, economic and political policies, political or civil unrest, war, acts of terrorism, or the threat of boycotts, other civil disturbances, the impact of the imposition of tariffs by the U.S. Government on 9-volt batteries that we manufacture in China as well as any retaliating trade policies or restrictions, and an outbreak of a contagious disease variant, related to COVID-19 or not, which may cause us or our suppliers and/or customers to temporarily suspend operations in the affected city or region. Any such disruptions could depress our earnings and have other material adverse effects on our business, financial condition and results of operations.

Breaches in security, whether cyber or physical, and related disruptions and/or our inability to prevent or respond to such breaches, could diminish our ability to generate revenues or contain costs, compromise our assets, and negatively impact our business in other ways.

We face certain security threats, including threats to our information technology infrastructure, attempts to gain access to our proprietary or classified information, and threats to physical and cyber security. Our information technology networks and related systems are critical to the operation of our business and essential to our ability to successfully perform day-to-day operations. The risks of a security breach, cyber-attack, cyber intrusion, or disruption, particularly through actions taken by computer hackers, foreign governments and cyber terrorists, have increased as the number, intensity and sophistication of attempted attacks and intrusions from around the world have increased. Although we have acquired and developed systems and processes designed to protect our proprietary or classified information, they may not be sufficient to prevent security breach, cyber-attack, cyber intrusion, or disruption, and the failure to prevent these types of events could disrupt our operations, require significant management attention and resources, and could negatively impact our reputation among our customers and the public, which could have a negative impact on our financial condition, and weaken our results of operations and liquidity. In 2017, we formed a cyber security executive management committee (the "Committee") with oversight responsibility to minimize the risk of security breaches, cyber-attacks, cyber intrusions, or disruptions. In 2018, this Committee with the assistance of outside security consultants completed a comprehensive Systems Security Plan ("SSP") and a Plan of Action & Milestones ("POAM") in compliance with the requirements of National Institute of Standards and Technology ("NIST") Special Publication 800-171, Protecting Controlled Unclassified Information in Nonfederal Information Systems and Organizations. In 2019, the Company made further progress in implementing many of the security measures in our SSP and POAM, including increasing the security awareness across our employee base. In 2020 through 2022, we continued to make substantial progress towards achieving full implementation of all NIST 800-171 security standards, as well as the requirements under the Cybersecurity Maturity Model Certification (CMMC) framework released by the Department of Defense in 2020. The Committee continues to review all key aspects of cyber security utilizing our outside security consultants to ensure a robust plan is in place and provides quarterly updates to our Board. Despite these measures, we cannot eliminate the risk of such security breaches and the potential adverse impacts these breaches may have on our business and financial results. Accordingly, for 2022 we maintained our cyber-security insurance policy to help mitigate the impact of a cyber-security incident.

As reported on Form 8-K filed on March 2, 2023, during performance of their daily information technology security procedures on January 25, 2023, our Information Technology Team ("IT Team") discovered an unauthorized entry into our information technology systems for our Newark, New York and Virginia Beach, Virginia locations. The accounts in question were immediately disabled by our IT Team, and the Company's Information Security Committee met promptly, taking swift action, including the immediate notification of our cyber-security insurance carrier. Shortly thereafter, with assistance of recommendations from our cyber-security carrier, we engaged external incident response professionals to assist with our assessment, recovery and response. On February 7, the Company received an electronic communication allegedly from a third-party, known for nefarious ransomware attacks, claiming responsibility for the incident, and discussions with that third party commenced through experienced cyber-security professionals engaged by the Company.

This incident caused a partial disruption of our business operations at these locations, which resulted in production and shipping downtime of approximately two weeks. The Company has now restored its information technology systems, and production has been resumed in both locations. We do not believe that any other Company locations were affected by this incident, and these other locations have continued their normal operations. The full scope of the costs and related impacts of this incident on our first quarter 2023 results, including the extent to which the Company's cyber-security insurance will offset the costs of the professionals we engaged and of the interruption to our business, is currently under review. The Company's deductible for its cyber-security insurance is $100,000.

Based on the recovery of our systems, review of the files affected, as well as the Company's prompt response to and assessment of the incident, no ransom or other amount has been or is expected to be paid to the third-party. However, there may be additional currently unknown ramifications from the intrusion into our information systems. We continue to monitor our information systems for any irregularities.

In addition to the impact of COVID-19, our supply of raw materials and components could be disrupted or delayed due to business conditions, weather, or other factors not under our control, or the cost of those raw materials and components may materially increase.

Certain materials and components used in our products are available only from a single or a limited number of suppliers. As such in the present situation, some materials and components have been in short supply resulting in limited availability and/or increased costs. Additionally, we may elect to develop relationships with a single or limited number of suppliers for materials and components that are otherwise generally available. Due to our supplying defense products to the U.S. government, we could receive a government preference to continue to obtain critical supplies to meet military production needs. However, if the government did not provide us with a government preference in such circumstances or if the suppliers are not able to meet the necessary demand for the components, the difficulty in obtaining supplies could have a material adverse effect on our business, financial condition and results of operations. We believe that alternative suppliers are available to supply materials and components that could replace materials and components currently used and that, if necessary, we may be able to redesign our products to make use of such alternatives provided that the costs and timing of our customers recertifying the alternate materials and components where necessary is not deemed prohibitive to our customers or us. Nevertheless, any interruption in the supply from any supplier that serves as a sole source could delay product shipments and have a material adverse effect on our business, financial condition and results of operations. We have experienced interruptions of product deliveries by sole source and other suppliers in the past, most notably in 2022 and 2021, and we cannot guarantee that we will not experience a continuation of material interruption of deliveries from sole source or other suppliers in the future. The present supply chain disruptions and increased component lead times resulting from COVID-19 and its after-effects have been exacerbated by the increased demand for Lithium-based cells from the electric vehicle manufacturers. While the latter has resulted in increased supply of such cells, meeting such demand may result in delays or even the discontinuation of the cells required for our products. Accordingly, these circumstances require us to regularly monitor all aspects of our supply chain and share the updates with our customers, to ensure that any potential supply interruptions are understood with all efforts taken to minimize.

As we look forward to potential rising demand for electrification, our lead times for certain critical components from our suppliers could be extended even further, resulting in shipping delays causing us to miss contractual timelines. Our internal purchasing process is focused on the current economic environment, and lead times in the current environment are considered when placing orders from our vendors, but we cannot control the ability of our vendors or potential vendors to meet our delivery dates.

Additionally, we could continue to face prolonged, increasing pricing pressure from our suppliers due to rising costs incurred by these suppliers that could be passed on to us in higher prices for our raw materials. These increased prices could increase our cost of business, lower our margins and have other materially adverse effects on our business, financial condition and results of operations, particularly, if our pass through of these price increases is not accepted by our customers.

Fluctuations in the demand, supply and price of oil and gas and the resulting volatility in the level of downhole drilling could have a material adverse effect on our business, financial condition and results of operations.

Fluctuations in the demand, supply and pricing encountered in the oil and gas industry, have placed financial strain on the producers and the companies that provide oilfield services and equipment to those producers. The cyclicality in this industry, whether driven by geopolitical developments; international tensions; supply and demand economics; the introduction of new global, national, and industry-specific regulations; U.S. administration policies; and technology, appears to be a trend. A significant downturn in the price of oil may result in a decrease in downhole drilling and adversely impact on our financial results. In response, we would expect we would be able to mitigate a portion, but not all of this risk by diversifying our product offerings.

Our ability to recruit and retain experienced, competent management is critical to the success of the business, and the loss of top management and key personnel could significantly harm our business, and ability to implement our succession plan.

The continued service of our officers and executive team is key to the successful implementation of our business model and growth strategy designed to deliver sustainable, consistent profitability. A top management priority has been the development and implementation of a formal written succession plan to mitigate the risks associated with the loss of senior executives. This formal succession plan is updated annually and presented to our Board of Directors. There is no guarantee that we will be successful in our efforts to effectively implement our succession plan.

Because of the specialized, technical nature of our business, we are highly dependent on certain members of our management, sales, engineering and technical staffs. The loss of one or more of these employees could have a material adverse effect on our business, financial condition and results of operations. Our ability to effectively pursue our business strategy will depend upon, among other factors, the successful retention of our key personnel, recruitment of additional highly skilled and experienced managerial, sales, engineering and technical personnel, and the integration of such personnel obtained through business acquisitions. We cannot assure that we will be able to retain or recruit this type of personnel. An inability to hire sufficient numbers of people or to find people with the desired skills could result in greater demands being placed on limited management resources which could delay or impede the execution of our business plans and have other material adverse effects on our business, financial condition and results of operations.

Our growth and expansion strategy could strain or overwhelm our resources.

Rapid growth of our business could significantly strain management, operations and technical resources. If we are successful in obtaining rapid market growth of our products, we may be required to deliver large volumes of products to customers on a timely basis at a reasonable cost. For example, demand for our new or existing products combined with our ability to penetrate new markets and geographies or secure a major project award, could strain the current capacity of our manufacturing facilities and require a substantial increase in our direct labor workforce in a tight job market, and require additional capital resources, equipment and time to meet the required demand. We cannot assure, however, that our business will grow rapidly or that our efforts to expand manufacturing and quality control activities will be successful or that we will be able to satisfy commercial scale production requirements on a timely and cost-effective basis. While we had the highest backlog in Company history at December 31, 2022, this does not mean that rapid growth and demand for our products in all cases will be met by our resources without delay. Although we have highly experienced technical and engineering employees, we cannot assure you that we will be able to fulfil the orders of our customers for our products, without delay.
The failure to manage growth and expansion effectively could have an adverse effect on our business, financial condition, and results of operations.

A decline in demand for products using our batteries or communications systems could reduce demand for our products and/or our products could become obsolete resulting in lower revenues and profitability.

A substantial portion of our business depends on the continued demand for products using our batteries and communications systems sold by our customers, including OEMs. Our success depends significantly upon the success of those customers' products in the marketplace. We are subject to many risks beyond our control that influence the success or failure of a particular product or service offered by a customer, including:

- competition faced by the customer in its particular industry,
- market acceptance of the customer's product or service,
- the engineering, sales, marketing and management capabilities of the customer,

- technical challenges unrelated to our technology or products faced by the customer in developing its products or services, and
- the financial and other resources of the customer.

The market for our products is characterized by changing technology and evolving industry standards, often resulting in product obsolescence or short product lifecycles. Although we believe that our products utilize state-of-the-art technology, there can be no assurance that competitors will not develop technologies or products that would render our technologies and products obsolete or less marketable. Many of the companies with which we compete have substantially greater resources than we do, and some have the capacity and volume of business to be able to produce their products more efficiently than we can. In addition, these companies are developing or have developed products using a variety of technologies that are expected to compete with our technologies. Furthermore, we have noted an increase in foreign competition, especially in Asia, over the last several years which tends to compete on price in the battery industry. If these companies successfully market their products in a manner that renders our technologies obsolete, this would reduce our revenue and operating income and could have other material adverse effects on our business, financial condition and results of operations.

We are subject to certain safety risks, including the risk of fire, inherent in the manufacture, use and transportation of Lithium batteries.

Due to the high energy inherent in Lithium batteries, our Lithium batteries can pose certain safety risks, including the risk of fire. We incorporate procedures in research, development, product design, manufacturing processes and the transportation of Lithium batteries that are intended to minimize safety risks, but we cannot assure that accidents will not occur or that our products will not be subject to recall for safety concerns. Although we currently carry insurance policies which cover loss of plant and machinery, leasehold improvements, inventory and business interruption, any accident, whether at the manufacturing facilities or from the use of the products, may result in significant production delays or claims for damages resulting from injuries or death. While we maintain what we believe to be sufficient casualty liability coverage to protect against such occurrences, these types of losses could reduce our available cash and our operating and net income and have other material adverse effects on our reputation, business, financial condition and results of operation.

Our quarterly and annual results and the price of our common stock could fluctuate significantly.

Our future operating results and the price of our common stock may vary significantly from quarter-to-quarter and from year-to-year depending on factors such as the timing and shipment of significant orders, new product introductions, the transition of new products to higher-volume production, major project wins, U.S. and foreign government demand, delays in customer releases of purchase orders, delays in receiving raw materials from vendors and other supply-chain disruptions, the mix of distribution channels through which we sell our products and services and general economic conditions. Due to such variances in operating results, we have sometimes failed to meet, and in the future may not meet, market expectations regarding our future operating results.

In addition to the uncertainties of quarterly and annual operating results, future announcements concerning us or our competitors, including technological innovations or commercial products, litigation or public concerns as to the safety or commercial value of one or more of our products, or the impact of economic or geopolitical factors on any of the markets segments we participate in may cause the market price of our common stock to fluctuate substantially, all of which may be unrelated to our operating results.

Rising interest rates will increase the cost of our variable borrowing and will affect our earnings adversely.

The Company’s Amended Credit Agreement, among other things, provides for a 5-year, $10,000 senior secured term loan (the “Term Loan Facility”) and extends the term of the $30,000 senior secured revolving credit facility (the “Revolving Credit Facility”, and together with the Term Loan Facility, the “Amended Credit Facilities”) through May 30, 2025. Up to six months prior to May 30, 2025, the Revolving Credit Facility may be increased to $50,000 with the Bank’s concurrence.

Upon closing of the Excell Acquisition on December 13, 2021, the Company drew down the full amount of the Term Loan Facility and $10,980 under the Revolving Credit Facility. As of December 31, 2022, the Company had $8,167 outstanding principal on the Term Loan Facility, of which $2,000 is due to be paid in 2023 and included in current portion of long-term debt on the balance sheet, and $13,330 outstanding on the Revolving Credit Facility. The related interest rates on our borrowings are variable as disclosed in Note 3 to our consolidated financial statements. While it is in the best interests of the Company to reduce the amount of debt quickly, those funds in some cases have been diverted to purchase raw material and component inventory above historical levels in order satisfy commitments to our customers in light of the significant increase in our backlog and the longer lead times and other supply chain disruptions. Accordingly, any increase in interest rates will adversely impact the Company's reported financial results.

Our customers may not meet the volume expectations in our supply agreements.

We sell most of our products and services through supply agreements and contracts. While supply agreements and contracts contain volume-based pricing based on expected volumes, we cannot assure that adjustments to reflect volume shortfalls will be made under current industry practices because pricing is rarely adjusted retroactively when contract volumes are not achieved. Every effort is made to adjust future prices accordingly, but our ability to adjust prices is generally based on market conditions and we may not be able to adjust prices in various circumstances. This could have an adverse impact in the form of lost revenue or decreasing margins.

We may incur significant costs or liabilities to satisfy obligations under the terms of the warranties we supply and the contractual terms under which we sell our products and services.

We typically offer standard warranties against product defects that range from ninety (90) days to three (3) years from the date of purchase. We also offer separately priced extended warranty contracts on certain Communications Systems products. Warranty costs expected to be incurred are estimated based on the Company's experience and recorded as costs of products sold. There is no assurance that future warranty claims will be consistent with our estimates, and in the event we experience a significant increase in warranty claims, there is no assurance that our reserves will be sufficient. Excessive warranty claims could have a material adverse effect on our business, financial condition and results of operations.

Any inability to comply with changes to the regulations for the shipment of our products could limit our ability to transport our products to customers in a cost-effective manner and reduce our operating income and margins.

The transportation of Lithium batteries is regulated by the International Civil Aviation Organization ("ICAO") and corresponding International Air Transport Association ("IATA") Dangerous Goods Regulations and the International Maritime Dangerous Goods Code ("IMDG") and in the U.S. by the Department of Transportation's Pipeline and Hazardous Materials Safety Administration ("PHMSA"). These regulations are based on the United Nations Recommendations on the Transport of Dangerous Goods Model Regulations and the United Nations Manual of Tests and Criteria. We currently ship our products pursuant to ICAO, IATA and PHMSA hazardous goods regulations. These regulations require companies to meet certain testing, packaging, labeling and shipping specifications for safety reasons. We have not incurred, and do not expect to incur, any significant costs in order to comply with these regulations. We believe we comply with all current U.S. and international regulations for the shipment of our products, and we intend and expect to comply with any new regulations that are imposed. We have established our own testing facilities to ensure that we comply with these regulations. If, however, we are unable to comply with any such new regulations, or if regulations are introduced that limit our ability to transport our products to customers in a cost-effective manner, this could reduce our operating income and margins, and have other material adverse effects on our business, financial condition and results of operations.

Our ability to use our net operating loss and tax credit carryforwards in the future may be limited, which could increase our tax liabilities and reduce our cash flow and net income.

At December 31, 2022, we had approximately $41,000 of U.S. net operating loss carryforwards and $2,600 of U.S. tax credit carryforwards available to offset future taxable income. We continually assess the carrying value of these assets based on the relevant accounting standards. Based on our latest assessment at December 31, 2022, we believe it is more likely than not that our U.S. deferred tax assets will be fully realized. However, failure to achieve our business targets could result in future charges to our income tax provision if any of the net operating loss or tax credit carryforwards are not utilized. See discussion in Management's Discussion & Analysis beginning on Page 26.

Our entrance into new markets could lead to additional exposure to financial risk or increased liability, and our failure to enter into those markets could lead to negative customer perception or loss of business from existing customers.

Our new products supporting our commercial diversification strategy will likely result in the introduction of our products in new end markets that we have not participated in before. These new market opportunities may carry certain risks that we may not have experienced in the past or that we may not be fully aware of. While we perform extensive due diligence in the launch of our products in new end markets and mitigate our risks with our contracts and insurance coverage, we may not be fully aware of the risks that may exist until we gain more experience in these markets.

Negative publicity concerning Lithium-ion batteries may negatively impact the industries or markets we operate in.

We are unable to predict the impact, severity or duration of negative publicity related to fire/mishandling of Lithium-ion batteries or the environmental impact of their disposal, and how it may impact the industries or markets we serve. Ongoing negative attention being given to Lithium-ion batteries that are used in certain cellular phones or are integrated into the power systems of new commercial aircraft and electric motor vehicles may have an impact on the Lithium-ion battery industry as a whole, regardless of the design or usage of those batteries. The residual effects of such events could have an adverse effect on our business, financial condition, and results of operations.

Any impairment of goodwill and/or other indefinite-lived intangible assets could adversely impact our results of operations.

Our goodwill and other indefinite-lived intangible assets are subject to an impairment test on an annual basis. Additionally, goodwill and other indefinite-lived intangible assets are assessed for impairment whenever events and circumstances indicate that impairment may exist. Any excess carrying value of goodwill and/or other intangible assets resulting from an impairment assessment must be written off in the period of determination. In addition, from time to time, we may acquire a business which will require us to record goodwill and/or other indefinite-lived intangible assets based on the allocation of the total consideration transferred to consummate the acquisition to the identified tangible and intangible assets acquired and liabilities assumed based on their respective estimated fair values. We may subsequently experience unforeseen circumstances related to past or future acquisitions which may adversely impact the forecasted cash flows or other assumptions used to value these assets. Future determinations that the estimated fair value of our goodwill and/or indefinite-lived intangible assets is less than their respective carrying values may result in significant (non-cash) impairment charges which could have a material adverse impact on future results of operations.

We are subject to foreign currency fluctuations.

We maintain manufacturing operations in North America, the United Kingdom and China, and we export products to various countries. We purchase materials and sell our products in foreign currencies, and therefore currency fluctuations may impact our pricing of products sold and materials purchased. Sales to non-U.S. customers make up a significant percentage of our total revenues. For example, the percentage of our business with customers outside of the U.S. was 48% in 2022 and 50% in 2021. A future strengthening of the U.S. dollar relative to our customers' currencies could make our products relatively more expensive and, may adversely affect our sales levels and reduce profitability. In addition, our United Kingdom and China subsidiaries maintain their books in local currency and the translation of the subsidiary financial statements into U.S. dollars for our consolidated financial statements could have an adverse effect on our consolidated financial results due to changes in local currency value relative to the U.S. dollar. With the rapid pace of geopolitical events, it is difficult at this time to assess any future impact of currency fluctuation on the Company's financial results, despite our proactive efforts to minimize the short-term risks of currency fluctuations. Accordingly, currency fluctuations could have a material adverse effect on our business, financial condition and results of operations by increasing our expenses and reducing our income. Finally, we maintain certain domestic U.S. cash balances denominated in foreign currencies, and the U.S. dollar equivalent of these balances fluctuates with changes in the foreign exchange rates between these currencies and the U.S. dollar.

A finding that our proprietary and intellectual property rights are not enforceable or invalid could allow our competitors and others to produce competing products based on our proprietary and intellectual property or limit our ability to continue to manufacture and market our products.

We believe our success depends more on the knowledge, ability, experience and technological expertise of our employees than on the legal protection of patents and other proprietary rights. However, we claim proprietary rights in various unpatented technologies, know-how, trade secrets and trademarks relating to our products and manufacturing processes. We cannot guarantee the degree of protection these various claims may or will afford, or that competitors will not independently develop or patent technologies that are substantially equivalent or superior to our technology. We protect our proprietary rights in our products and operations through contractual obligations, including nondisclosure agreements with certain employees, customers, consultants and strategic partners. There can be no assurance as to the degree of protection these contractual measures may or will afford. We have had patents issued and have patent applications pending in the U.S. and elsewhere. We cannot assure (1) that patents will be issued from any of these pending applications, or that the claims allowed under any issued patents will be sufficiently broad to protect our technology, (2) that any patents issued to us will not be challenged, invalidated or circumvented, or (3) as to the degree or adequacy of protection any patents or patent applications may or will afford. Further, if we are found to be infringing upon third party patents, we cannot assure that we will not be subjected to significant liability for damages or that we will be able to obtain licenses with respect to such patents on acceptable terms, if at all. The failure to obtain necessary licenses could delay product shipments or the introduction of new products, and costly attempts to design around such patents could foreclose the development, manufacture or sale of products, all of which could materially adversely affect our business and the results of operations.

We are subject to the contract rules and procedures of the U.S. and foreign governments. These rules and procedures create significant risks and uncertainties for us that are not usually present in contracts with private parties.

We continue to develop battery products and communications systems to meet the needs of the U.S. and foreign governments. We compete in solicitations for awards of contracts. The receipt of an award, however, does not always result in the immediate release of an order and does not guarantee in any way any given volume of orders. Any delay of solicitations or anticipated purchase orders by, or future failure of, the U.S. or foreign governments to purchase products manufactured by us could have a material adverse effect on our business, financial condition and results of operations. In these scenarios we are also typically required to successfully meet contractual specifications and to pass various qualification-testing for the products under contract. Our inability to pass these tests in a timely fashion, or to meet delivery schedules for orders released under contract, could have a material adverse effect on our business, financial condition and results of operations.

Additionally, when a U.S. government contract is awarded, there is a government procedure that permits unsuccessful companies to formally protest such award if they believe they were unjustly treated in the evaluation process. As a result of these protests, the government is precluded from proceeding under these contracts until the protests are resolved. A prolonged delay in the resolution of a protest, or a reversal of an award resulting from such a protest could have material adverse effects on our business, financial condition and results of operations.

We could be adversely affected by violations of the U.S. Foreign Corrupt Practices Act ("FCPA"), the U.K. Bribery Act or other anti-corruption laws.

The FCPA, U.K. Bribery Act and other anti-corruption laws generally prohibit companies and their intermediaries from making improper payments (to foreign officials and otherwise) and require companies to keep accurate books and records and maintain appropriate internal controls. Our training program and policies mandate compliance with such laws. We operate in some parts of the world that have experienced governmental corruption to some degree, and, in certain circumstances, strict compliance with anti-bribery laws may conflict with local customs and practices. If we are found to be liable for violations of anti-corruption laws (either due to our own acts or our inadvertence, or due to the acts or inadvertence of others, including employees of our third-party partners or agents), we could suffer from civil and criminal penalties or other sanctions, incur significant internal investigation costs and suffer reputational harm.

We may incur significant costs because of known and unknown environmental matters.

National, state and local laws impose various environmental controls on the manufacture, transportation, storage, use and disposal of batteries and of certain chemicals used in the manufacture of batteries. We use and generate a variety of chemicals and other hazardous by-products in our manufacturing operations. These environmental laws govern, among other things, air emissions, wastewater discharges and the handling, storage and release of wastes and hazardous substances. Such laws and regulations can be complex and are subject to change. Although we believe that our operations are in substantial compliance with current environmental regulations and that there are no environmental conditions that will require material expenditures for clean up at our present or former facilities or at facilities to which we have sent waste for disposal, there can be no assurance that changes in such laws and regulations will not impose costly compliance requirements on us or otherwise subject us to future liabilities. There can be no assurance that additional or modified regulations relating to the manufacture, transportation, storage, use and disposal of materials used to manufacture our batteries or restricting disposal of batteries will not be imposed, or as to how these regulations will affect us or our customers. Such changes in regulations could reduce our operating income and margins and have other material adverse effects on our business, financial condition and results of operations. We could incur substantial costs as a result of violations of environmental laws, including clean-up costs, fines and sanctions and third-party property damage or personal injury claims. Failure to comply with environmental requirements could also result in enforcement actions that materially limit or otherwise affect the operations of the facilities involved. Under certain environmental laws, a current or previous owner or operator of an environmentally contaminated site may be held liable for the entire cost of investigation, removal or remediation of hazardous materials at such property. This liability could result whether or not the owner or operator knew of, or was responsible for, the presence of any hazardous materials.

The EU RoHS Directive places restrictions on the use of certain hazardous substances in electrical and electronic equipment. All applicable products sold in the European Union market after July 1, 2006 must comply with EU RoHS Directive. While this directive does not apply to batteries and does not currently affect our defense products, should any changes occur in the directive that would affect our products, we intend and expect to comply with any new regulations that are imposed. Our commercial chargers comply with this directive. Additional European Union directives, entitled the Waste Electrical and Electronic Equipment (“WEEE”) Directive and the Directive "on batteries and accumulators and waste batteries and accumulators", impose regulations affecting our non-defense products. These directives require producers or importers of particular classes of electrical goods to be financially responsible for specified collection, recycling, treatment and disposal of past and future covered products. These directives assign levels of responsibility to companies doing business in European Union markets based on their relative market share. These directives call on each European Union member state to enact enabling legislation to implement the directive. As additional European Union member states pass enabling legislation our compliance system should be sufficient to meet such requirements. Our current estimated costs associated with our compliance with these directives based on our current market share are not significant. However, we continue to evaluate the impact of these directives as European Union member states implement guidance, and actual costs could differ from our current estimates.

The EU Battery Directive is intended to cover all types of batteries regardless of their shape, volume, weight, material composition or use. It is aimed at reducing mercury, cadmium, lead and other metals in the environment by minimizing the use of these substances in batteries and by treating and re-using old batteries. This directive applies to all types of batteries except those used to protect European member states’ security, for military purposes, or sent into space. To achieve these objectives, the EU Battery Directive prohibits the marketing of some batteries containing hazardous substances. It establishes processes aimed at high levels of collection and recycling of batteries with quantified collection and recycling targets. The directive sets out minimum rules for producer responsibility and provisions with regard to labeling of batteries and their removability from equipment. Product markings are required for batteries and accumulators to provide information on capacity and to facilitate reuse and safe disposal. We currently ship our products pursuant to the requirements of the directive. Our current estimated costs associated with our compliance with these directives based on our current market share are not significant. However, we continue to evaluate the impact of these directives as European Union member states implement guidance, and actual costs could differ from our current estimates.

The China RoHS 2 directive provides a regulatory framework, including hazardous substance restrictions which are similar to those imposed by the EU RoHS Directive, and applies to methods for the control and reduction of pollution and other public hazards to the environment caused during the production, sale, and import of EEP in China affecting a broad range of electronic products and parts. The regulatory framework of China RoHS 2 also now references the updated marking and labeling requirements under Standard SJ/T 11364-2014. The methods under China RoHS 2 only apply to EEP placed in the marketplace in China. We believe our compliance system is sufficient to meet our requirements under China RoHS 2. Our current estimated costs associated with our compliance with this regulation based on our current market share are not significant. However, we continue to evaluate the impact of this regulation, and actual costs could differ from our current estimates.

A number of domestic and international communities are prohibiting the landfill disposal of batteries and requiring companies to make provisions for product recycling. Of particular note are the EU Batteries Directive and the New York State Rechargeable Battery Recycling Law. We are committed to responsible product stewardship and ongoing compliance with these and future statutes and regulations. The compliance costs associated with current recycling statutes and regulations are not expected to be significant at this time. However, we continue to evaluate the impact of these regulations, and actual costs could differ from our current estimates and additional laws could be enacted by these and other states which entail greater costs of compliance.

The U.S. and foreign governments can audit our contracts with their respective defense and government agencies and, under certain circumstances, can adjust the economic terms, delivery schedule or other terms of those contracts.

A portion of our business comes from sales of products and services to the U.S. and foreign governments through various contracts. These contracts are subject to procurement laws and regulations that lay out policies and procedures for acquiring goods and services. The procurement laws and regulations also contain guidelines for managing contracts after they are awarded, including conditions under which contracts may be terminated, in whole or in part, at the government's convenience or for default. Failure to comply with the procurement laws or regulations can result in civil, criminal or administrative proceedings involving fines, penalties, suspension of payments, or suspension or disbarment from government contracting or subcontracting for a period of time, which could have a material adverse effect on the Company.

Compliance with government regulations regarding the use of "conflict minerals" may result in increased costs and risks to the Company.

As part of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (the "Act"), the SEC has promulgated disclosure requirements regarding the use of certain minerals, which are mined from the Democratic Republic of Congo and adjoining countries, known as conflict minerals. We are required to perform due diligence inquiries of our supply chain and publicly disclose whether we manufacture (as defined in the Act) any products that contain conflict minerals and could incur significant costs related to implementing a process that will meet the mandates of the Act. Additionally, customers typically rely on us to provide critical data regarding the parts they purchase, including conflict mineral information. Our material sourcing is broad-based and multi-tiered, and we may not be able to easily verify the origins for conflict minerals used in the products we sell. We have many suppliers, and each provides conflict mineral information in a different manner, if at all. Accordingly, because our supply chain is complex, we may face reputational challenges if we are unable to sufficiently verify the origins of conflict minerals used in our products. Additionally, customers may demand that the products they purchase be free of conflict minerals. This may limit the number of suppliers that can provide products in sufficient quantities to meet customer demand or at competitive prices.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

As of December 31, 2022, we own two buildings in Newark, New York comprising approximately 250,000 square feet, which serve operations primarily in the Battery & Energy Products operating segment. Our corporate headquarters are located in our Newark, New York facility. We own one building in Missouri City, Texas comprising 69,000 square feet, which houses our SWE and Excell USA operations, and lease approximately 97,000 square feet in two buildings on one campus in Shenzhen, China, including a dormitory facility, approximately 25,000 square feet in six buildings in a contiguous area in Newcastle-under-Lyme, United Kingdom, and approximately 24,000 square feet in three facilities for our Excell Canada operations located in and Calgary, Mississauga and Vancouver, Canada, all which serve operations in the Battery & Energy Products operating segment. We lease approximately 32,500 square feet in a facility in Virginia Beach, Virginia, which serves operations in the Communications Systems operating segment. We also lease sales and administrative offices, as well as manufacturing and production facilities, in India, which serve operations in the Battery & Energy Products operating segment. Our research and development efforts for Battery & Energy Products are conducted at our Newark, New York; Missouri City, Texas; Newcastle-under-Lyme, United Kingdom; Shenzhen, China; and Canada facilities, while our research and development efforts for our Communications Systems products are conducted in our leased facilities in Tallahassee, Florida and in Virginia Beach, Virginia. We believe that our facilities are adequate and suitable for our current needs.

ITEM 3. LEGAL PROCEEDINGS

We are subject to legal proceedings and claims that arise from time to time in the normal course of business. We believe that the final disposition of any such matters will not have a material adverse effect on the Company's financial position, results of operations or cash flows. However, recognizing that legal matters are subject to inherent uncertainties, there exists the possibility that ultimate resolution of these matters could have a material adverse impact on the Company's financial position, results of operations or cash flows. We are not aware of any such situations at this time.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Market Information

Ultralife's common stock is listed on the NASDAQ Global Market under the symbol "ULBI."

Holders

As of March 1, 2023, there were approximately 5,000 registered holders of record of our common stock.

Purchases of Equity Securities by the Issuer

There were no purchases of our common stock by the Company during the years ended December 31, 2022 and December 31, 2021.

Dividends

We have never declared or paid any cash dividends on our capital stock. Pursuant to our current credit facility, we are precluded from paying any dividends. We intend to retain earnings, if any, to finance future operations and expansion and, therefore, do not anticipate paying any cash dividends in the foreseeable future. Any future payment of dividends will depend upon our financial condition, capital requirements and earnings, as well as upon other factors that our Board of Directors may deem relevant.

ITEM 6. [RESERVED]

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis should be read in conjunction with the accompanying consolidated financial statements and notes thereto appearing in Item 8 of this Form 10-K.

The financial information in this Management's Discussion and Analysis of Financial Condition and Results of Operations is presented in thousands of dollars, except for share and per share amounts. All figures presented below represent results from continuing operations, unless otherwise specified.

General

We offer products and services ranging from power solutions to communications and electronics systems to customers across the globe in the government, defense and commercial sectors. With an emphasis on strong engineering and a collaborative approach to problem solving, we design, manufacture, install and maintain power and communications systems including rechargeable and non-rechargeable batteries, communications and electronics systems and accessories and custom engineered systems. We sell our products internationally through a variety of trade channels, including original equipment manufacturers ("OEMs"), industrial and defense supply distributors and directly to U.S. and international defense departments.

We report our results in two operating segments: Battery & Energy Products and Communications Systems. The Battery & Energy Products segment includes: Lithium 9-volt, cylindrical, thin cell and other non-rechargeable batteries, in addition to rechargeable batteries, uninterruptable power supplies, charging systems and accessories such as cables. The Communications Systems segment includes RF amplifiers, power supplies, power cables, connector assemblies, amplified speakers, equipment mounts, case equipment, man-portable systems and integrated communication systems for fixed or vehicle applications such as vehicle amplifier-adaptors ("VAA") for multiple programs. We believe that reporting performance at the gross profit level is the best indicator of segment performance. As such, we report segment performance at the gross profit level and operating expenses as Corporate charges.

We continually evaluate ways to grow, including opportunities to expand through mergers, acquisitions and joint ventures, which we believe can broaden the scope of our products and services, expand operating and market opportunities and provide the ability to enter new lines of business synergistic with our portfolio of product offerings.

In January 2016, we acquired Accutronics Limited ("Accutronics"), a U.K. corporation based in Newcastle-under-Lyme, U.K., a leading independent designer and manufacturer of smart batteries and charger systems for high-performance, feature-laden portable and handheld electronic devices. We acquired Accutronics to advance our strategy of commercial revenue diversification, to expand our geographic penetration, and to achieve revenue growth from new product development.

On May 1, 2019, we acquired Southwest Electronic Energy Corporation, a Texas corporation ("SWE"), and a leading designer and manufacturer of high-performance smart battery systems and battery packs to customer specifications using Lithium cells. SWE serves a variety of industrial markets, including oil and gas, remote monitoring, process control and marine, which demand uncompromised safety, service, reliability and quality. We acquired SWE as a bolt-on acquisition to further support our strategy of commercial revenue diversification by providing entry to the oil and gas exploration and production, and subsea electrification markets, which were previously unserved by us. Another key benefit includes obtaining a highly valuable technical team of battery pack and charger system engineers and technicians to add to our new product development-based revenue growth initiatives in our commercial end-markets particularly asset tracking, smart metering and other industrial applications.

On December 13, 2021, we acquired Excell Battery Canada Inc., a British Columbia corporation ("Excell Canada") and 656700 B.C. Ltd., a British Columbia corporation ("656700") and its wholly owned subsidiary, Excell Battery Corporation USA, a Texas corporation ("Excell USA" together with Excell Canada and 656700, collectively, "Excell"), which operate under the name Excell Battery Group, based in Canada with U.S. operations, Excell is a leading independent designer and manufacturer of high-performance smart battery systems, battery packs and monitoring systems to customer specifications. Excell serves a variety of industrial markets including downhole drilling, OEM industrial and medical devices, automated meter reading, and mining, marine and other mission critical applications which demand uncompromised safety, service, reliability and quality. We acquired Excell as an important component of our strategy to diversify commercial revenue and expand the end markets we serve. Acquiring Excell offers us opportunities to further scale our Battery & Energy Products business and drive the operating leverage of our business model, expand into OEM device verticals that we do not presently serve, enhance our contributed value to our customers and realize cost synergies. Furthermore, Excell possesses experienced engineering and technical resources which we plan to utilize in progressing our global new product initiatives while adding a complementary line of highly engineered products that are costly to switch out.

Currently, we do not experience significant seasonal sales trends in either of our operating segments, although sales to the U.S. Department of Defense and other international defense organizations can be sporadic based on the needs of those particular customers and allocated funding levels.

The COVID-19 pandemic has created significant economic disruption and uncertainty around the world. The Company continues to closely monitor the developments surrounding COVID-19 and its related strains and take actions to mitigate the business risks involved. During this challenging time, we remain focused on ensuring the health and safety of our employees by implementing the material protocols established by public health officials. We continue to strive to ensure an uninterrupted flow of our mission critical products serving medical device, first responder, public safety, energy and national security customers.

As we enter the third year of the pandemic, our workforce, customers and vendors still face the risk of the emergence of new strains, availability of effective treatment, and potential regulatory and macroeconomic effects stemming from such impacts. Except for certain situations in China, lockdowns, shelter-in-place restrictions, and vaccine mandates, prevalent during the earlier periods of the pandemic, have now been lifted. While we have maintained normal business operations at virtually all of our facilities throughout the pandemic, the related supply chain disruptions including increased and in some cases unreliable lead times on key components experienced within our business and by our customers and vendors, continue to impact our work schedules and timing of shipments. For 2021, we estimated that the net impact of COVID-19 was a reduction to sales of approximately $11,000, a reduction to operating income of approximately $4,500 and a reduction to net income of approximately $3,400 or approximately $0.21 per diluted share. For 2022, the resulting, lingering supply chain disruptions to our business seemed to intensify, making it not feasible to estimate the resulting financial impact. Nevertheless, the demand for our products remains strong as evidenced by our backlog of $111.0 million as of December 31, 2022, an increase of $47.3 million or 74.2% compared to that exiting 2021. To some extent, this increase is attributable to supply chain disruptions pushing shipments into 2023.

Consolidated revenues increased by $33,573 or 34.2% to $131,840 for the year ended December 31, 2022 compared to $98,267 for the year ended December 31, 2021. During 2022, we experienced revenue growth of 37.8% for our Battery & Energy Products business and 5.9% for our Communications Systems business. This 2022 performance reflected a $29,529 or 46.5% increase in sales to our commercial customers and a $4,044 or 11.6% increase in sales to government and defense customers. The increase in our commercial business was due to the full year contribution of Excell which comprised $27,014 and organic sales growth of $2,515 or 4.0% representing a 14.6% increase in oil and gas market sales. Medical sales of $27,322 were down $342 or 1.2% due entirely to component shortages to fulfill increased demand from a large global medical device OEM. The increase in government and defense sales reflects growth in U.S. sales of $6,194 or 23.1% representing higher demand from prime defense contractors including a $2,621 or 12.3% increase for Battery & Energy Products and a $3,573 or 64.7% increase for Communications Systems, with the latter reflecting the receipt of components to commence the fulfillment to supply a defense prime with Vehicle Amplifier-Adaptors for a U.S. Army's Leader radio program order with some spillover into 2023. This increase was partially offset by a $2,150 or 27.3% decrease in non-U.S. government and defense sales primarily due to long lead times for key components experienced by our Communications Systems business to fulfill a large international order.

Gross margin decreased to 22.3% for the year ended December 31, 2022 from 25.1% for the year ended December 31, 2021. The 280-basis point decrease was due primarily to disruptions resulting from supply chain and logistics complications in large part because of a sharp increase in demand for our more-advanced rechargeable battery packs which increased the need for highly sought-after components, including various electronic components, PC boards, chip sets and certain metals to name a few. Major contributing factors resulting in the year-over-year reduction in our gross margin included the following: (1) Rapid cost inflation on raw materials and key components not entirely aligned with the timing of customer price increases - In 2022 we experienced more frequent weekly or sometimes daily input cost increases from our vendors this year versus more periodic customer price increases causing an inevitable lag in cost/price alignment. (2) Incremental fees to source and expedite critical components – In 2022 increases in demand with tight shipment schedules from both government/defense and medical customers, in some cases went beyond the wherewithal of our vendors to obtain key materials in a timely manner, necessitating the one-time use of brokers at a much higher cost and with more complex logistics, and further complicating the timely matching of higher costs with customer price increases. (3) Internal manufacturing inefficiencies – As a result of irregular component availability and lead time extensions, in 2022 we experienced continuous production-line start-ups, shut-downs and changeovers resulting in labor inefficiencies, higher scrap and decreased absorption of overhead. Most notable were delays in the supply of rechargeable cells for our fulfillment of a large medical order, as a major vendor changed their focus to supplying large format cells for EV. (4) Increased and uncertain lead times impacting timely deliveries – In 2022 more mundane yet vital components, such as epoxy, labels and boxes, arrived well past the expected dates reducing productivity and increasing costs to expedite shipments.

Operating expenses increased by $4,664 or 19.0% to $29,271 during the year ended December 31, 2022, compared to $24,607 during the year ended December 31, 2021. The increase in operating expense is primarily attributable to Excell which was acquired on December 13, 2021, accounting for $4,381 of the increase, and a one-time charge of $779 for severance costs associated with the Company’s former President and CEO, who, as announced on November 22, 2022, is no longer with the Company. Both periods reflected our continued tight control over discretionary spending. Operating expenses as a percentage of revenue was 22.2% or 21.6% when excluding the one-time severance expense; the latter representing a 340 basis-point improvement over 25.0% of revenue which operating expenses represented for the year-earlier period.

Other expenses totaled $575 for the year-ended December 31, 2022 compared to $186 for the year ended December 31, 2021. The increase is primarily attributable to a $709 increase in interest expense resulting from the debt financing of the acquisition of Excell on December 13, 2021, partially offset by other income of $376 primarily representing foreign currency exchange gains due to fluctuations in foreign currency exchange rates.

Income tax benefit was $326 for the year ended December 31, 2022, compared to a provision of $79 for the year ended December 31, 2021. Our effective tax rate was 73.1% for 2022, as compared to (52.3%) for 2021, primarily due to the geographic mix of earnings. The income tax benefit for the 2022 period is comprised of a $636 current provision for income taxes expected to be paid primarily in foreign jurisdictions and a $962 deferred tax benefit which represents a non-cash benefit primarily for U.S. net operating losses and temporary tax differences which are expected to offset future U.S. taxable income. The income tax provision for the 2021 period is comprised of a $226 current provision for income taxes due primarily to foreign jurisdictions and a $147 deferred tax benefit primarily for U.S. net operating losses and temporary tax differences which are expected to offset future U.S. taxable income.

Net loss attributable to Ultralife was $119 for 2022 as compared to $234 for 2021. Net loss attributable to Ultralife common shareholders per diluted share was $0.01 for both 2022 and 2021.

Adjusted EBITDA, defined as net income (loss) attributable to Ultralife before net interest expense, provision (benefit) for income taxes, depreciation and amortization, plus/minus income/expense that we do not consider reflective of our continuing operations, amounted to $6,575 for the year ended December 31, 2022 compared to $4,818 for the prior year. See the section “Adjusted EBITDA” beginning on page 32 for a reconciliation of adjusted EBITDA to net income attributable to Ultralife.

The Company’s liquidity remains solid, with cash on hand of $5,713, working capital of $50,075 and a current ratio (current assets divided by current liabilities) of 2.7. To protect our ability to service our substantial backlog while considering the longer lead times and unreliable delivery dates for critical components, during 2022 we increased inventory by $8,003 or 24.1%. As of December 31, 2021, the Company had cash on hand of $8,413, working capital of $47,600 and a current ratio of 3.5.

As we look ahead, we believe our backlog, durable customer relationships, diversified end markets, new product initiatives, and actions underway to improve our gross margins position us to deliver high-quality, sustainable profitable growth.

Results of Operations

Year Ended December 31, 2022 Compared with the Year Ended December 31, 2021:

	Year Ended December 31,		Increase/
	2022	2021	(Decrease)
Revenues:			
Battery & Energy Products	$ 119,995	$ 87,083	$ 32,912
Communications Systems	11,845	11,184	661
Total	131,840	98,267	33,573
Cost of Products Sold:			
Battery & Energy Products	93,841	66,021	27,820
Communications Systems	8,599	7,604	995
Total	102,440	73,625	28,815
Gross Profit:			
Battery & Energy Products	26,154	21,062	5,092
Communications Systems	3,246	3,580	(334)
Total	29,400	24,642	4,758
Operating Expenses	29,271	24,607	4,664
Operating Income	129	35	94
Other Expense, Net	575	186	389
Loss Before Taxes	(446)	(151)	(295)
Income Tax (Benefit) Provision	(326)	79	(405)
Net Loss	(120)	(230)	110
Net (Loss) Income Attributable to Non-Controlling Interest	(1)	4	(5)
Net Loss Attributable to Ultralife	$ (119)	$ (234)	$ 115
Net Loss Attributable to Ultralife Common Shares - Basic	$ (0.01)	$ (0.01)	$ -
Net Loss Attributable to Ultralife Common Shares - Diluted	$ (0.01)	$ (0.01)	$ -
Weighted Average Shares Outstanding -Basic	16,125,239	16,036,676	88,563
Weighted Average Shares Outstanding - Diluted	16,125,239	16,036,676	88,563

Revenues. Total revenues for the year ended December 31, 2022 amounted to $131,840, an increase of $33,573, or 34.2% from the $98,267 reported for the year ended December 31, 2021.

Battery & Energy Products revenues increased $32,912, or 37.8%, for the year ended December 31, 2022 as compared to the prior year. Commercial revenues of this business increased $29,529 or 46.5% from 2021 and now comprise 77.5% of total segment sales versus 72.9% last year. The year-over-year increase was due primarily to the full year contribution of Excell which comprised $27,014 of the growth and organic sales growth of $2,515 or 4.0% driven by a $2,422 or 14.6% increase in oil & gas market (downhole drilling) sales. Medical sales of $27,322 were down $342 or 1.2% due primarily to component shortages to fulfill increased demand from a large global medical device OEM. Government and defense sales of this business increased $3,383 or 14.4% from 2021 and now comprise 22.5% of total segment sales versus 27.1% last year. The increase primarily reflects higher U.S. and international demand resulting in year-over-growth of 12.3% and 34.3%, respectively. The domestic increase represents growth of 11% for our batteries and radios used for military radios and 30% growth in batteries used for public safety radios. The international increase of 34.3% reflects higher demand for our batteries from allied countries.

Communications Systems revenues increased $661 or 5.9% for the year ended December 31, 2022 as compared to the prior year. The increase reflects the receipt of components to commence the fulfillment of a large international order and to continue the fulfillment of a large U.S. order received in October 2021 valued at approximately $4,200 to supply a global defense prime with our Vehicle Amplifier-Adaptors for the U.S. Army’s Leader radio program. Due to supply chain lead times, there will be some spillover of fulfilling these orders into 2023.

Our order backlog at December 31, 2022 was $110,994, an increase of $47,281 or 74.2% from the backlog at December 31, 2021 which was $63,713. For our Battery & Energy Products business, the backlog increased $33,286 or 60.1% to $88,632 from $55,346. The year-over-year increase is primarily driven by higher demand across the major markets that we serve including government and defense, medical, oil and gas and industrial, which in some cases includes orders pushed into 2023 because of the supply chain disruptions experienced in 2022. The 2022 year-end backlog is primarily related to orders expected to ship in the next year and does not include future shipments under the indefinite delivery/indefinite quantity U.S. Department of Defense awards for our BA-5390 batteries ($9,900) and Conformal Wearable Batteries ($168,000).

For our Communications Systems business, the backlog increased $13,995 or 167.3% to $22,362 from $8,367. The year-over-year increase is primarily a result of a July 2022 purchase order valued at approximately $4,600 to supply a global defense prime with our Vehicle Amplifier-Adaptors for the U.S. Army's Leader radio program, a September 2022 contract valued at approximately $7,500 to supply its integrated system of A-320 amplifiers and A-320HVA radio vehicle mounts to a major international defense contractor for an ongoing government/defense modernization program, and an October 2022 purchase order for $5,500 to supply its vehicle communications systems to a global prime defense contractor for the U.S. Army. The 2022 year-end backlog is related to orders that are expected to ship throughout 2023.

Cost of Products Sold and Gross Profit. Cost of products sold for the year ended December 31, 2022 increased $28,815 or 39.1% from the year ended December 31, 2021. Consolidated cost of products sold as a percentage of total revenue increased from 74.9% for the year ended December 31, 2021 to 77.7% for the year ended December 31, 2022. Correspondingly, consolidated gross margin was 22.3% for the year ended December 31, 2022, compared with 25.1% for the year ended December 31, 2021. The 280-basis point decline in gross margin is due primarily to disruptions resulting from supply chain and logistics complications in large part because of a sharp increase in demand for our more-advanced rechargeable battery packs which increased the need for highly sought-after components, including various electronic components, PC boards, chip sets and certain metals to name a few. Major contributing factors resulting in the year-over-year reduction in our gross margin included the following: (1) Rapid cost inflation on raw materials and key components not entirely aligned with the timing of customer price increases - In 2022 we experienced more frequent weekly or sometimes daily input cost increases from our vendors versus more periodic customer price increases causing lags in cost/price alignment. (2) Incremental fees incurred to source and expedite critical components – In 2022 increases in demand with tight shipment schedules from both government/defense and medical customers, in some cases went beyond the wherewithal of our vendors to obtain key materials in a timely manner, necessitating the one-time use of brokers at a much higher cost and with more complex logistics, and further complicating the timely matching of higher costs with customer price increases. (3) Internal manufacturing inefficiencies – As a result of irregular component availability and lead time extensions, in 2022 we experienced continuous production-line start-ups, shut-downs and changeovers resulting in labor inefficiencies, higher scrap and decreased absorption of overhead. Most notable were delays in the supply of rechargeable cells for our fulfillment of a large medical order, as the vendor changed their focus to supplying large format cells for EV. (4) Increased and uncertain lead times impacting timely deliveries – In 2022 more mundane yet vital components, such as epoxy, label and boxes, arrived well past the expected dates reducing productivity and increasing costs to expedite shipments.

For our Battery & Energy Products segment, the cost of products sold increased $27,820 or 42.1%, from the year ended December 31, 2021. Battery & Energy Products' gross profit for 2022 was $26,154 or 21.8% of revenues, an increase of $5,092 or 24.2% from gross profit of $21,062, or 24.2% of revenues, for 2021. Battery & Energy Products' gross margin decreased for the year ended December 31, 2022 by 240 basis points from the prior year to 21.8% due to supply chain disruptions, including rapid cost inflation and lags in price realization, as noted above resulting from the aftermath of COVID-19, costs associated with the transition of new products to higher volume production, and unfavorable sales product mix.

For our Communications Systems segment, the cost of products sold increased by $995 or 13.1% from the year ended December 31, 2021. Communications Systems' gross profit for the year ended December 31, 2022 was $3,246 or 27.4% of revenues, a decrease of $334 or 9.3% from gross profit of $3,580 or 32.0% of revenues for the year ended December 31, 2021. The 460 basis points decrease in gross margin during 2022 to 27.4% is primarily due to inefficiencies associated with delays in receipt of components and sales mix.

Operating Expenses. Total operating expenses for the year ended December 31, 2022 increased $4,664 or 19.0% from the year ended December 31, 2021. The increase in operating expense is primarily attributable to Excell which was acquired on December 13, 2021, accounting for $4,381 of the increase, and a one-time charge of $779 for severance costs associated with the Company's former President and CEO, who, as announced on November 22, 2022, is no longer with the Company. Both periods reflected our continued tight control over discretionary spending.

Overall, operating expenses as a percentage of revenues was 22.2% for the year ended December 31, 2022 compared to 25.0% for the comparable 2021 period. Amortization expense associated with intangible assets related to our acquisitions increased to $1,282 for the year-ended December 31, 2022 ($1,185 in selling, general and administrative expenses and $97 in research and development costs) from $633 for the year ended December 31, 2021 ($515 in selling, general and administrative expenses and $118 in research and development costs) as a result of our acquisition of Excell in December 2021. Research and development costs were $7,081 in 2022, an increase of $255 or 3.7%, from $6,826 reported in 2021. This increase is largely attributable to our acquisition of Excell in December 2021. Selling, general, and administrative expenses increased $4,409 or 24.8%, to $22,190 for the year ended December 31, 2022 from $17,781 for the year ended December 31, 2021. Selling, general, and administrative expenses for 2022 include $4,608 attributable to Excell compared to $564 for 2021 which included $354 of one-time direct acquisition costs reflecting customary legal, audit and due diligence fees. 2022 also included a one-time charge of $779 for severance costs associated with the Company's former President and CEO, who, as announced on November 22, 2022, is no longer with the Company. We continued tight control over discretionary spending across the Company.

Other (Income) Expense. Other expense totaled $575 for the year ended December 31, 2022 compared to $186 for the year ended December 31, 2021. Interest and financing expense increased $709 to $951 for 2022 from $242 for 2021 due to the debt financing of the acquisition of Excell on December 13, 2021. Miscellaneous income amounted to $376 for 2022 compared to $56 for 2021, primarily attributable to foreign exchange gains and loss due to fluctuations in foreign currency exchange rates.

Income Tax (Benefit) Provision. Income tax benefit was $326 for the year ended December 31, 2022, compared to a provision of $79 for the year ended December 31, 2021. Our effective tax rate was 73.1% for 2022, as compared to (52.3%) for 2021, primarily due to the geographic mix of earnings. The income tax benefit for the 2022 period is comprised of a $636 current provision for income taxes expected to be paid primarily in foreign jurisdictions and a $962 deferred tax benefit which represents a non-cash benefit primarily for U.S. net operating losses and temporary tax differences which are expected to offset future U.S. taxable income. The income tax provision for the 2021 period is comprised of a $226 current provision for income taxes due primarily to foreign jurisdictions and a $147 deferred tax benefit primarily for U.S. net operating losses and temporary tax differences which are expected to offset future U.S. taxable income.

Net loss attributable to Ultralife was $119 for 2022 as compared to $234 for 2021. Net loss attributable to Ultralife common shareholders per diluted share was $0.01 for both 2022 and 2021. Weighted average common shares outstanding used to compute diluted earnings per share increased from 16,036,676 for the 2021 period to 16,125,239 for the 2022 period, mainly due to the issuance of common stock upon the exercise of stock options and the vesting of restricted stock in 2022.

Adjusted EBITDA

In evaluating our business, we consider and use adjusted EBITDA, a non-GAAP financial measure, as a supplemental measure of our operating performance. We define adjusted EBITDA as net income (loss) attributable to Ultralife before net interest expense, provision (benefit) for income taxes, depreciation and amortization, and stock-based compensation expense, plus/minus expense/income that we do not consider reflective of our ongoing continuing operations. We also use adjusted EBITDA as a supplemental measure to review and assess our operating performance and to enhance comparability between periods. We also believe the use of adjusted EBITDA facilitates investors' understanding of operating performance from period to period by backing out potential differences caused by variations in such items as capital structures (affecting relative interest expense and stock-based compensation expense), the amortization of intangible assets acquired through our business acquisitions (affecting relative amortization expense and provision (benefit) for income taxes), the age and book value of facilities and equipment (affecting relative depreciation expense) and one-time charges/benefits relating to income taxes. We also present adjusted EBITDA from operations because we believe it is frequently used by securities analysts, investors and other interested parties as a measure of financial performance. We reconcile adjusted EBITDA to net income (loss) attributable to Ultralife, the most comparable financial measure under GAAP.

We use adjusted EBITDA in our decision-making processes relating to the operation of our business together with GAAP financial measures such as operating income. We believe that adjusted EBITDA permits a comparative assessment of our operating performance, relative to our performance based on our GAAP results, while isolating the effects of depreciation and amortization, which may vary from period to period without any correlation to underlying operating performance, and of stock-based compensation, which is a non-cash expense that varies widely among companies. We believe that by presenting adjusted EBITDA, we assist investors in gaining a better understanding of our business on a going forward basis. We provide information relating to our adjusted EBITDA so that securities analysts, investors and other interested parties have the same data that we employ in assessing our overall operations. We believe that trends in our adjusted EBITDA are a valuable indicator of our operating performance on a consolidated basis and of our ability to produce operating cash flows to fund working capital needs, to service debt obligations and to fund capital expenditures.

The term adjusted EBITDA is not defined under GAAP, and is not a measure of operating income, operating performance or liquidity presented in accordance with GAAP. Our adjusted EBITDA has limitations as an analytical tool, and when assessing our operating performance, adjusted EBITDA should not be considered in isolation or as a substitute for net income attributable to Ultralife or other consolidated statement of operations data prepared in accordance with GAAP. Some of these limitations include, but are not limited to, the following:

a. Adjusted EBITDA does not reflect (1) our cash expenditures or future requirements for capital expenditures or contractual commitments; (2) changes in, or cash requirements for, our working capital needs; (3) the interest expense, or the cash requirements necessary to service interest or principal payments, on our debt; (4) income taxes or the cash requirements for any tax payments; and (5) all of the costs associated with operating our business;

b. Although depreciation and amortization are non-cash charges, the assets being depreciated and amortized often will have to be replaced in the future, and adjusted EBITDA from continuing operations does not reflect any cash requirements for such replacements;

c. While stock-based compensation is a component of cost of products sold and operating expenses, the impact on our consolidated financial statements compared to other companies can vary significantly due to such factors as assumed life of the stock-based awards and assumed volatility of our common stock; and

d. Other companies may calculate adjusted EBITDA differently than we do, limiting its usefulness as a comparative measure.

We compensate for these limitations by relying primarily on our GAAP results and using adjusted EBITDA only on a supplemental basis. Neither current nor potential investors in our securities should rely on adjusted EBITDA as a substitute for any GAAP measures and we encourage investors to review the following reconciliation of adjusted EBITDA to net income attributable to Ultralife.

	Year ended December 31,	
	2022	**2021**
Net loss attributable to Ultralife	$ (119)	$ (234)
Add:		
Interest and financing expense, net	951	242
Income tax (benefit) provision	(326)	79
Depreciation expense	3,177	2,906
Amortization of intangible assets	1,282	633
Stock-based compensation expense	776	671
Non-cash purchase accounting adjustments	55	121
Severance to Former President & CEO	779	-
Adjusted EBIDTA	$ 6,575	$ 4,418

Liquidity and Capital Resources

Cash Flows and General Business Matters

As of December 31, 2022, cash totaled $5,713 (including restricted cash of $79), a decrease of $2,700 from the $8,413 as of December 31, 2021, primarily attributable to the procurement of inventory amidst challenging supply chain conditions.

During the year ended December 31, 2022, cash used in operations was $1,263, as compared to $4,325 generated from operations for the year ended December 31, 2021. For the 2022 period, cash used was comprised of a $120 net loss and a $5,452 increase in net working capital, partially offset by non-cash items totaling $4,309 for depreciation, amortization, stock-based compensation, and deferred taxes. The increase in working capital was primarily attributable to $8,747 cash used to procure inventory to proactively manage our supply chain, reduce lead times and the impact of potential cost increases on components and raw materials, and enhance our position to service customer orders.

Cash used in investing activities for the year ended December 31, 2022 was $1,679 for capital expenditures, reflecting investments in equipment for new products transitioning to high-volume manufacturing, as compared to $2,814 capital spending for the year ended December 31, 2021.

Cash provided by financing activities for the year ended December 31, 2022 was $518, primarily attributable to net borrowings on our credit facility for the purchase of certain critical raw materials requiring cash-in-advance payment terms by the vendors.

We continue to have significant U.S. net operating loss carryforwards available to utilize as an offset to taxable income. As of December 31, 2022, none of our U.S. net operating loss carryforwards have expired. See Note 7 to the consolidated financial statements for additional information.

Going forward, we expect positive operating cash flow and the availability under our Revolving Credit Facility will be sufficient to meet our obligations for both financing and investing.

Commitments

On December 13, 2021, in connection with financing the Excell acquisition (see Note 2 to the consolidated financial statements), the Company drew down $10,000 on its Term Loan Facility and $10,980 under its Revolving Credit Facility. As of December 31, 2022, the Company had $8,167 outstanding principal on the Term Loan Facility, of which $2,000 is due to be paid in 2023, and $13,330 outstanding principal on the Revolving Credit Facility. The Company is in full compliance with its debt covenants under the Credit Facilities.

As of December 31, 2022, we had made commitments to purchase approximately $661 of production machinery and equipment.

We typically offer standard warranties against product defects that range from ninety (90) days to three (3) years from the date of purchase. We also offer separately priced extended warranty contracts on certain Communications Systems products. Warranty costs expected to be incurred are estimated based on the Company's experience and recorded as costs of products sold. There is no assurance that future warranty claims will be consistent with our estimates, and in the event we experience a significant increase in warranty claims, there is no assurance that our reserves will be sufficient. Excessive warranty claims could have a material adverse effect on our business, financial condition and results of operations.

Off-Balance Sheet Arrangements

We have no off-balance sheet arrangements.

Critical Accounting Policies and Estimates

The above discussion and analysis of our financial condition and results of operations are based upon our consolidated financial statements, which have been prepared in accordance with GAAP. The preparation of our consolidated financial statements requires the application of accounting policies and the use of estimates. The accounting policies most important to the preparation of the consolidated financial statements and estimates that require management's most difficult, subjective or complex judgments are described below.

Revenue Recognition:

Revenues are generated from the sale of products. Performance obligations are met and revenue is recognized upon transfer of control to the customer, which is generally upon shipment. When contract terms require transfer of control upon delivery at a customer's location, revenue is recognized on the date of delivery. For products shipped under vendor managed inventory arrangements, revenue is recognized and billed when the product is consumed by the customer, at which point control has transferred and there are no further obligations by the Company. Revenue is measured as the amount of consideration we expect to receive in exchange for shipped product. Sales, value-added and other taxes billed and collected from customers are excluded from revenue. Customers, including distributors, do not have a general right of return.

Separately priced extended warranty contracts are offered on certain products. Extended warranties are treated as separate performance obligations and recognized to revenue evenly over the term of the respective contract. Revenue not yet recognized on extended warranty contracts is recorded as deferred revenue on the consolidated balance sheet.

For customer contracts with an original expected duration of less than one year, we apply the practical expedient with respect to disclosure of the deferral and future expected timing of revenue recognition for transaction price allocated to remaining performance obligations.

Valuation of Inventory:

Inventories are stated at the lower of cost or net realizable value, with cost determined using the first-in, first-out ("FIFO") method. Our inventory includes raw materials, work in process and finished goods. We recognize provisions for excess, obsolete or slow-moving inventory. Inherent in our estimates of net realizable value in determining inventory valuation are assumptions related to expectations of future demand for our products, product lifecycles, product support, technical obsolescence, regulatory requirements, and economic and market conditions. Estimates related to the valuation of inventory are susceptible to changes as the underlying assumptions are continuously evaluated. If our assumptions are adversely different from those estimated by management, inventory adjustments to reduce inventory values would result in an increase in inventory write-offs and a decrease in gross margins.

Goodwill and Other Indefinite Lived Intangible Assets:

Under the acquisition method of accounting, the total consideration transferred to consummate the acquisition is allocated to the identified tangible and intangible assets acquired and liabilities assumed based on their respective estimated fair values as of the acquisition date with the residual amount recorded to goodwill. We do not amortize goodwill and other intangible assets with indefinite lives, but instead evaluate these assets for impairment at least annually and whenever events or circumstances indicate that impairment may exist.

The annual impairment test for goodwill consists of a comparison of the estimated fair value for each reporting unit to which goodwill is assigned to the carrying value of the respective reporting unit. The annual impairment test for the other intangible assets with an indefinite life consists of a comparison of the estimated fair value of each asset to the carrying value of the respective asset. If the estimated fair value of a reporting unit or other indefinite-lived intangible asset exceeds its respective carrying value, the goodwill or indefinite-lived intangible asset is considered not impaired. If carrying value of a reporting unit or indefinite-lived intangible asset exceeds its estimated fair value, the excess carrying value of the respective goodwill or indefinite-lived intangible asset is recognized as an impairment loss.

We conducted our annual impairment test for goodwill and other indefinite-lived intangible assets as of October 1, 2022. We identified two (2) goodwill reporting units and five (5) indefinite-lived intangible assets. We performed a quantitative impairment assessment of each goodwill reporting unit and indefinite-lived intangible asset. The estimated fair value of each reporting unit was determined using a discounted cash flow model. The estimated fair value of each indefinite-lived intangible asset was determined using other income-based valuation models. Significant estimates and assumptions were used to estimate fair value, including our internal operating and cash flow forecasts, excess working capital requirements, and inputs to the weighted-average cost of capital used to discount future cash flows. Other key assumptions used to value the trademarks and customer relationships included royalty rates and attrition rates, respectively. The significant estimates and assumptions used in these valuations are subject to judgment based on sources utilized and the assessment of risks related to our internal forecasts. Based on the results of our impairment test, and consideration of qualitative factors, no impairments were identified. There is a possibility that our goodwill and other intangible assets could be impaired in the future should there be a significant change in the significant estimates and assumptions used in our impairment assessment.

Impairment of Long-Lived Assets:

We assess our long-lived assets for impairment whenever events or circumstances indicate their carrying amounts may not be recoverable. This is accomplished by comparing the expected undiscounted future cash flows of the assets with the respective carrying amount as of the date of assessment. Should aggregate undiscounted future cash flows be less than the carrying value, a write-down would be required, measured as the difference between the carrying value and the fair value of the asset. Fair value is estimated either through the assistance of an independent valuation or as the present value of expected discounted future cash flows. The discount rate used by us in our evaluation is an industry-based weighted average cost of capital. If the expected undiscounted future cash flows exceed the respective carrying amount as of the date of assessment, no impairment charge is recognized.

Income Taxes:

We account for income taxes using the asset and liability method. Under this method, deferred tax assets and liabilities are determined based on differences between financial reporting and tax basis of assets and liabilities and are measured using the enacted tax rates and laws that are expected to be in effect when the differences are expected to reverse. Pursuant to ASC 740, a valuation allowance is recognized when the realizability of deferred tax assets is not more likely than not, based all available evidence, both positive and negative, weighted based on objective verifiability.

As of December 31, 2022, we concluded that it is more likely than not that our U.S. deferred tax assets will be fully realized based on management’s assessment. In evaluating the realizability of our U.S. deferred tax assets, management considered all available evidence, both positive and negative, weighted based on objective verifiability. Our assessment also considered our ability to fully utilize before expiration our domestic net operating loss carryforwards, which expire 2025 thru 2035, and our general business tax credit carryforwards, which expire 2028 thru 2042. As of December 31, 2022, our domestic net operating loss carryforwards and general business tax credits were approximately $41,000 and $2,600, respectively.

As of December 31, 2022, for certain past operations in the U.K., we continue to report a valuation allowance for net operating loss carryforwards of approximately $10,000, nearly all of which can be carried forward indefinitely. Management has concluded that utilization of the U.K. net operating losses may be limited due to the change in the past U.K. operation, and that they cannot currently be used to reduce taxable income of our other U.K. subsidiary, Accutronics Ltd. As of December 31, 2022, we have not recognized a valuation allowance against our other foreign deferred tax assets, as we believe that it is more likely than not that they will be realized. We will continue to evaluate the realizability of our deferred tax assets in future periods.

Stock-Based Compensation:

We recognize compensation cost relating to share-based payment transactions in our financial statements. The cost is measured at the grant date, based on the estimated fair value of the award, and is recognized as an expense over the employee’s requisite service period (generally the vesting period of the equity award). We calculate implied volatility for stock options based on an average of historical volatility over the expected life of the awards. The computation of expected term is determined based on historical experience of similar awards, giving consideration to the contractual terms of the awards and the vesting period. The interest rate for periods within the contractual life of the award is based on the U.S. Treasury yield in effect at the time of grant. Our awards are generally valued using the Black-Scholes method. If required, our market-based awards are valued using a Monte Carlo simulation.

Business Combinations:

We account for businesses acquired using the acquisition method of accounting. Under this method, all acquisition-related costs are expensed as incurred, and the total consideration transferred to consummate the acquisition is allocated to the identified tangible and intangible assets acquired and liabilities assumed based on their respective estimated fair values as of the acquisition date with the residual amount recorded to goodwill. As part of this process, we identify and attribute values and estimated lives to property and equipment and intangible assets acquired. These determinations involve significant estimates and assumptions, including those with respect to future cash flows, discount rates and asset lives, and therefore require considerable judgment. These determinations affect the amount of depreciation and amortization expense recognized in future periods. The results of operations of acquired businesses are included in the consolidated statements of income and comprehensive income beginning on the respective acquisition date.

Warranties:

We typically offer standard warranties against product defects that range from ninety (90) days to three (3) years from the date of purchase. We also offer separately priced extended warranty contracts on certain products. Warranty costs expected to be incurred are estimated based on the Company’s experience and recorded as costs of products sold. Standard warranty costs are recognized upon product sale. Extended warranty costs are recognized over the term of the contract. Provision for warranty costs is recorded in accrued expenses and other current liabilities and other noncurrent liabilities on our consolidated balance sheet based on the duration of the warranty.

Environmental Issues:

Environmental expenditures, if any, that relate to current operations, are generally expensed. Remediation costs that relate to an existing condition caused by past operations are accrued when it is probable that these costs will be incurred and can be reasonably estimated.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

As a smaller reporting company, we are not required to provide this information.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The financial statements and schedules listed in Item 15(a)(1) are included in this Report beginning on page 40.

Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of Ultralife Corporation

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Ultralife Corporation and its subsidiaries (the Company) as of December 31, 2022 and 2021, the related consolidated statements of loss, comprehensive loss, changes in shareholders' equity and cash flows for the years then ended, and the related notes to the consolidated financial statements (collectively, the financial statements). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Estimate for excess, obsolete, and slow-moving inventory reserve

As discussed in Notes 1 and 4 to the financial statements, inventories are stated at the lower of cost or net realizable value with cost determined under the first-in, first-out method. The Company records provisions for excess, obsolete, and slow-moving inventory based on changes in customer demand, technology developments or other economic factors. The excess, obsolete, and slow-moving inventory reserve serves to reduce the Company's inventory balance through a charge to cost of products sold.

The Company's reserve for excess, obsolete, and slow-moving inventory is based upon assumptions related to expectations of future demand, product lifecycles, product support, technical obsolescence, regulatory requirements, and economic and market conditions. If the actual realization of excess, obsolete, and slow-moving inventory does not meet the Company's assumptions future inventory adjustments would result in a decrease in gross margin. Due to the magnitude of the inventory and the subjectivity involved in estimating the reserve, we identified the evaluation of the reserve as a critical audit matter, which required a high degree of auditor judgment.

Addressing the matter involved performing subjective procedures and evaluating audit evidence in connection with forming our overall opinion on the financial statements. The primary procedures we performed include: obtaining an understanding of the process and assumptions used by management to develop the reserve for excess, obsolete, and slow-moving inventory; testing management's calculation of the reserve for excess, obsolete, and slow-moving inventory by: testing the completeness and accuracy of the source information used, testing the mathematical accuracy of management's calculations, evaluating the reasonableness and consistency of methodology and assumptions applied by management, and performing a retrospective review of the prior-year estimates used to identify potential bias of management judgements.

Goodwill Impairment Analysis

As discussed in Notes 1 and 4 to the financial statements, the Company performs its goodwill impairment test on an annual basis as of October 1st or whenever events and changes in circumstances indicate that the carrying value of a reporting unit might exceed its fair value. For each reporting unit the Company performed a quantitative test, which compares the fair value of the reporting unit to the carrying value of the respective reporting unit. The Company has identified two goodwill reporting units.

Management determines fair value of the respective reporting units using a discounted cash flow model. Significant estimates and judgements used in this model include internal operating and cash flow forecasts, excess working capital requirements, and inputs to the weighted-average cost of capital used to discount future cash flows. Future revenue and operating cash flow forecasts, the development of the weighted average cost of capital used to discount the future cash flows, and excess working capital requirements are subject to judgement based on sources utilized and the assessment of risks related to the cash flows. Due to the subjectivity involved with the assumptions used to determine the fair value of the reporting units, we identified the goodwill impairment test as a critical audit matter, which required a high degree of auditor judgement.

Addressing the matter involved performing subjective procedures and evaluating audit evidence in connection with forming our overall opinion on the financial statements. The primary procedures we performed include: obtaining an understanding of the process and assumptions used by management to perform the impairment test; and testing management's impairment calculation by: testing the completeness and accuracy of the source information used, testing the mathematical accuracy of management's calculations, evaluating the reasonableness and consistency of methodology and assumptions applied by management, performing a retrospective review of the prior-year estimates used to identify potential bias of management judgements, and verifying certain third party data used by the Company in building their assumptions. Professionals with specialized skills and knowledge were used to assist in evaluating certain methodologies and assumptions used in the model and performing sensitivity analysis on various inputs.

/s/ Freed Maxick CPAs, P.C.

We have served as the Company's auditor since 2016.

Rochester, NY
March 31, 2023

ULTRALIFE CORPORATION AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(Dollars in Thousands)

	December 31, 2022	December 31, 2021
ASSETS		
Current Assets:		
Cash	$ 5,713	$ 8,413
Trade accounts receivable, net of allowance for doubtful accounts of $303 and $346, respectively	27,779	20,232
Inventories, net	41,192	33,189
Prepaid expenses and other current assets	4,304	4,690
Total current assets	78,988	66,524
Property, plant and equipment, net	21,716	23,205
Goodwill	37,428	38,068
Other intangible assets, net	15,921	17,390
Deferred income taxes, net	12,069	11,472
Other noncurrent assets	2,308	2,879
Total assets	$ 168,430	$ 159,538
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current Liabilities:		
Accounts payable	$ 16,074	$ 9,823
Current portion of long-term debt	2,000	2,000
Accrued compensation and related benefits	2,890	1,842
Accrued expenses and other current liabilities	7,949	5,259
Total current liabilities	28,913	18,924
Long-term debt, net	19,310	18,857
Deferred income taxes	1,917	2,254
Other noncurrent liabilities	1,887	1,760
Total liabilities	52,027	41,795
Commitments and contingencies (Note 5)		
Shareholders' Equity:		
Preferred stock – par value $.10 per share; authorized 1,000,000 shares; none issued	-	-
Common stock – par value $.10 per share; authorized 40,000,000 shares; issued – 20,570,710 shares and 20,522,427 shares, respectively;outstanding – 16,135,358 shares and 16,089,832 shares, respectively	2,057	2,052
Capital in excess of par value	187,405	186,518
Accumulated deficit	(47,951)	(47,832)
Accumulated other comprehensive loss	(3,750)	(1,653)
Treasury stock - at cost; 4,435,352 shares and 4,432,595 shares, respectively	(21,484)	(21,469)
Total Ultralife Corporation equity	116,277	117,616
Non-controlling interest	126	127
Total shareholders' equity	116,403	117,743
Total liabilities and shareholders' equity	$ 168,430	$ 159,538

The accompanying notes are an integral part of these consolidated financial statements.

ULTRALIFE CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF LOSS AND COMPREHENSIVE LOSS
(Dollars in Thousands, Except Per Share Amounts)

	Year ended December 31,	
	2022	**2021**
Revenues	$ 131,840	$ 98,267
Cost of products sold	102,440	73,625
Gross profit	29,400	24,642
Operating expenses:		
Research and development	7,081	6,826
Selling, general and administrative	22,190	17,781
Total operating expenses	29,271	24,607
Operating income	129	35
Other expense (income):		
Interest and financing expense	951	242
Miscellaneous income	(376)	(56)
Total other expense, net	575	186
Loss before income taxes	(446)	(151)
Income tax (benefit) provision	(326)	79
Net loss	(120)	(230)
Net (loss) income attributable to non-controlling interest	(1)	4
Loss attributable to Ultralife Corporation	(119)	(234)
Other comprehensive (loss) income:		
Foreign currency translation adjustments	(2,097)	129
Comprehensive loss attributable to Ultralife Corporation	$ (2,216)	$ (105)
Net loss per share attributable to Ultralife Corporation common shareholders – Basic	$ (.01)	$ (.01)
Net loss per share attributable to Ultralife Corporation common shareholders – Diluted	$ (.01)	$ (.01)
Weighted average shares outstanding – Basic	16,125	16,037
Weighted average shares outstanding – Diluted	16,125	16,037

The accompanying notes are an integral part of these consolidated financial statements.

ULTRALIFE CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY
(Dollars in Thousands)

	Common stock							
	Number of shares	Amount	Capital in excess of par value	Accumulated other comprehensive income (loss)	Accumulated deficit	Treasury stock	Non-controlling interest	Total
Balance – December 31, 2020	20,373,519	$ 2,037	$185,464	$ (1,782)	$ (47,598)	$(21,321)	$ 123	$116,923
Net loss					(234)		4	(230)
Stock option exercises	133,907	13	385			(133)		265
Stock-based compensation -stock options			618					618
Stock-based compensation -restricted stock			53					53
Vesting of restricted stock	15,001	2	(2)			(15)		(15)
Foreign currency translation adjustments				129				129
Balance – December 31, 2021	20,522,427	$ 2,052	$186,518	$ (1,653)	$ (47,832)	$(21,469)	$ 127	$117,743
Net loss					(119)		(1)	(120)
Stock option exercises	39,119	4	112			(7)		109
Stock-based compensation -stock options			761					761
Stock-based compensation -restricted stock			15					15
Vesting of restricted stock	9,164	1	(1)			(8)		(8)
Foreign currency translation adjustments				(2,097)				(2,097)
Balance – December 31, 2022	20,570,710	$ 2,057	$187,405	$ (3,750)	$ (47,951)	$(21,484)	$ 126	$116,403

The accompanying notes are an integral part of these consolidated financial statements.

ULTRALIFE CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Dollars in Thousands)

	Year ended December 31,	
	2022	**2021**
OPERATING ACTIVITIES:		
Net loss	$ (120)	$ (230)
Adjustments to reconcile net loss to net cash (used in) provided by operating activities:		
Depreciation	3,177	2,906
Amortization of intangible assets	1,282	633
Amortization of financing fees	36	104
Stock-based compensation	776	671
Deferred income tax expense	(962)	(147)
Changes in operating assets and liabilities:		
Accounts receivable	(7,881)	4,423
Inventories	(8,747)	(1,296)
Prepaid expenses and other assets	911	64
Income taxes receivable and payable	180	(91)
Accounts payable and other liabilities	10,085	(2,712)
Net cash (used in) provided by operating activities	(1,263)	4,325
INVESTING ACTIVITIES:		
Purchase of Excell, net of cash acquired	-	(23,519)
Purchases of property, plant and equipment	(1,679)	(2,814)
Net cash used in investing activities	(1,679)	(26,333)
FINANCING ACTIVITIES:		
Borrowings on credit facility	3,350	20,980
Payment of credit facilities	(2,833)	(1,474)
Proceeds from exercise of stock options	116	398
Payment of debt issuance costs	(100)	(114)
Tax withholdings on stock-based awards	(15)	(148)
Net cash provided by financing activities	518	19,642
Effect of exchange rate changes on cash	(276)	126
DECREASE IN CASH	(2,700)	(2,240)
Cash - Beginning of year	8,413	10,653
Cash - End of year	$ 5,713	$ 8,413
Supplemental cash flow information:		
Construction in process in accounts payable	$ 339	$ 135
Income taxes paid	$ 354	$ 324
Interest paid	$ 930	$ 142

The accompanying notes are an integral part of these consolidated financial statements.

Note 1 - Summary of Operations and Significant Accounting Policies

a. *Description of Business*

As used in this annual report, unless otherwise indicated, the terms the "Company", "we", "our" and "us" refer to Ultralife Corporation ("Ultralife") and its wholly owned subsidiaries ABLE New Energy Co., Limited and its wholly owned subsidiary ABLE New Energy Co., Ltd (collectively "ABLE"); Ultralife UK LTD and its wholly owned subsidiary Accutronics Ltd (collectively "Accutronics"); Ultralife Batteries (UK) Ltd.; Southwest Electronic Energy Corporation and its wholly owned subsidiary, CLB, Inc. (collectively "SWE"); Ultralife Excell Holding Corp. ("UEHC") and its wholly owned subsidiary Excell Battery Corporation USA (collectively "Excell USA"), Ultralife Canada Holding Corp (wholly owned by UEHC, "UCHC") and its wholly owned subsidiary Excell Battery Canada ULC ("Excell Canada," and collectively "Excell"); and its majority-owned joint venture Ultralife Batteries India Private Limited ("Ultralife India").

We offer products and services ranging from power solutions to communications and electronics systems. Through our engineering and collaborative approach to problem solving, we serve government, defense and commercial customers across the globe. We design, manufacture, install and maintain power and communications systems including: rechargeable and non-rechargeable batteries, charging systems, communications and electronics systems and accessories, and custom engineered systems. We sell our products worldwide through a variety of trade channels, including original equipment manufacturers ("OEMs"), industrial and defense supply distributors, and directly to U.S. and international defense departments.

b. *Principles of Consolidation*

The consolidated financial statements are prepared in accordance with generally accepted accounting principles in the United States ("GAAP") and include the accounts of Ultralife Corporation and its wholly owned subsidiaries ABLE, Accutronics, Ultralife Batteries (UK) Ltd., SWE, Excell, and its majority-owned joint venture Ultralife India. Intercompany accounts and transactions have been eliminated in consolidation.

c. *Management's Use of Judgment and Estimates*

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at year end and the reported amounts of revenues and expenses during the reporting period. Key areas affected by estimates include: (a) carrying value of goodwill and intangible assets; (b) reserves for excess and obsolete inventory, deferred tax assets, warranties, and bad debts; (c) valuation of assets acquired and liabilities assumed in business combinations; (d) various expense accruals; and (e) stock-based compensation. Our actual results could differ from these estimates.

d. *Reclassifications*

Certain items previously reported in specific financial statement captions are reclassified to conform to the current presentation. There were no material reclassifications for the years ended December 31, 2022 and 2021.

e. *Cash*

Our cash balances may at times exceed federally insured limits. We have not experienced any losses in these accounts and believe we are not exposed to any significant risk with respect to cash.

f. *Accounts Receivable and Allowance for Doubtful Accounts*

We extend credit to our customers in the normal course of business. We perform ongoing credit evaluations and generally do not require collateral. Payment terms are generally thirty (30) to sixty (60) days. Trade accounts receivable are recorded at their invoiced amounts, net of allowance for doubtful accounts. We evaluate the adequacy of our allowance for doubtful accounts quarterly. Accounts outstanding for longer than contractual payment terms are considered past due and are reviewed for collectability. We maintain reserves for potential credit losses based upon our historical experience and the aging of specific receivables. Receivable balances are written off when collection is deemed unlikely.

g. *Inventories*

Inventories are stated at the lower of cost or net realizable value with cost determined under the first-in, first-out (FIFO) method. We record provisions for excess, obsolete or slow-moving inventory based on changes in customer demand, technology developments or other economic factors.

h. *Property, Plant and Equipment*

Property, plant and equipment is stated at cost. Depreciation is computed using the straight-line method over the estimated useful lives. Estimated useful lives are as follows (in years):

Buildings	10 - 40
Machinery and Equipment	5 - 10
Furniture and Fixtures	3 - 10
Computer Hardware and Software	3 - 5
Leasehold Improvements	Lesser of useful life or lease term

Betterments, renewals and extraordinary repairs that extend the life of the assets are capitalized. Other repairs and maintenance costs are expensed when incurred. When disposed, the cost and accumulated depreciation applicable to assets retired are removed from the accounts and the gain or loss on disposition is recognized in operating income.

i. *Long-Lived Assets, Goodwill and Intangibles*

We assess our long-lived assets for impairment whenever events or circumstances indicate that their carrying amounts may not be recoverable. For property, plant and equipment and amortizable intangible assets, this is accomplished by comparing the expected undiscounted future cash flows of the assets with the respective carrying amount as of the date of assessment. If the expected undiscounted future cash flows exceed the respective carrying amount as of the date of assessment, no impairment is recognized. Should aggregate undiscounted future cash flows be less than the carrying value, a write-down would be required, measured as the difference between the carrying value and the fair value of the asset. Fair value is estimated as the present value of expected discounted future cash flows. The discount rate used in our evaluation is an industry-based weighted average cost of capital.

Under the acquisition method of accounting, the purchase price paid, or the total consideration transferred, to consummate the acquisition is allocated to the identified tangible and intangible assets acquired and liabilities assumed based on their respective estimated fair values as of the acquisition date with the residual amount recorded to goodwill. We do not amortize goodwill and intangible assets with indefinite lives, but instead evaluate these assets for impairment at least annually, or whenever events or circumstances indicate that impairment may exist. We amortize intangible assets that have definite lives so that the economic benefits of the intangible assets are being recognized over their estimated useful life.

The annual impairment test for goodwill consists of a comparison of the estimated fair value for each reporting unit to which goodwill is assigned to the carrying value of the respective reporting unit. The annual impairment test for other indefinite-lived intangible assets consists of a comparison of the estimated fair value of each asset to the carrying value of the respective asset. If the estimated fair value of a reporting unit or other indefinite-lived intangible asset exceeds its respective carrying value, the goodwill or indefinite-lived intangible asset is considered not impaired. If carrying value of a reporting unit or indefinite-lived intangible asset exceeds its estimated fair value, the excess carrying value of the respective goodwill or indefinite-lived intangible asset is recognized as an impairment loss.

j. *Translation of Foreign Currency*

The financial statements of our foreign subsidiaries are translated from the functional currency into U.S. dollar equivalents, with translation adjustments recorded as the sole component of accumulated other comprehensive income (loss). Exchange gains and losses related to foreign currency transactions and balances denominated in currencies other than the functional currency are recognized in net income (loss).

k*. Revenue Recognition*

Revenues are generated from the sale of products. Performance obligations are met and revenue is recognized upon transfer of control to the customer, which is generally upon shipment. When contract terms require transfer of control upon delivery at a customer's location, revenue is recognized on the date of delivery. For products shipped under vendor managed inventory arrangements, revenue is recognized and billed when the product is consumed by the customer, at which point control has transferred and there are no further obligations by the Company. Revenue is measured as the amount of consideration we expect to receive in exchange for shipped product. Sales, value-added and other taxes billed and collected from customers are excluded from revenue. Customers, including distributors, do not have a general right of return.

Separately priced extended warranty contracts are offered on certain Communications Systems products for a duration of up to eight (8) years. Extended warranties are treated as separate performance obligations and recognized to revenue evenly over the term of the respective contract. Revenue not yet recognized on extended warranty contracts is recorded as deferred revenue on the consolidated balance sheet.

As of December 31, 2022, there was deferred revenue on extended warranty contracts of $682, comprised of $119 expected to be recognized as revenue within one (1) year and classified as accrued expenses and other current liabilities on our consolidated balance sheet, and $563 expected to be recognized as revenue over the remaining duration of the respective contracts and classified as other noncurrent liabilities on our consolidated balance sheet.

As of December 31, 2022 and 2021, the Company had no other unsatisfied performance obligations for contracts with an original expected duration of greater than one year. Pursuant to Topic 606, we have applied the practical expedient with respect to disclosure of the deferral and future expected timing of revenue recognition for transaction price allocated to remaining performance obligations.

l. *Warranty Reserves*

We typically offer standard warranties against product defects that range from ninety (90) days to three (3) years from the date of purchase. We also offer separately priced extended warranty contracts on certain products. Warranty costs expected to be incurred are estimated based on the Company's experience and recorded as costs of products sold. Standard warranty costs are recognized upon product sale. Extended warranty costs are recognized over the term of the contract. Provision for warranty costs is recorded in accrued expenses and other current liabilities and other noncurrent liabilities on our consolidated balance sheet based on the duration of the warranty.

m. *Shipping and Handling Costs*

Costs incurred by us related to shipping and handling are included in cost of products sold. Amounts charged to customers pertaining to these costs are reflected as revenue.

n. *Sales Commissions*

Sales commissions are expensed as incurred for contracts with an expected duration of one year or less. There were no sales commissions capitalized as of December 31, 2022 and 2021.

o. *Research and Development*

Research and development expenditures are charged to operations as incurred. The majority of research and development expenses pertain to salaries and benefits, developmental supplies, depreciation and other contracted services. For the years ended December 31, 2022 and 2021, we expended $7,874 and $8,042, respectively, on research and development, including costs of $793 and $1,216, respectively, on customer sponsored research and development activities, which are included in cost of products sold.

p. *Environmental Costs*

Environmental expenditures that relate to current operations are expensed. Remediation costs that relate to an existing condition caused by past operations are accrued when it is probable that these costs will be incurred and can be reasonably estimated.

q. *Income Taxes*

We account for income taxes using the asset and liability method. Under this method, deferred tax assets and liabilities are determined based on differences between financial reporting and tax basis of assets and liabilities and are measured using the enacted tax rates and laws that are expected to be in effect when the differences are expected to reverse. Pursuant to ASC 740, a valuation allowance is recognized when the realizability of deferred tax assets is not more likely than not, based all available evidence, both positive and negative, weighted based on objective verifiability.

r. *Concentration Related to Customers and Suppliers*

One of our customers, a large global defense primary contractor, comprised 17% and 20% of our total consolidated revenues for 2022 and 2021, respectively. Revenues for this customer represented 19% and 22% of our total Battery & Energy Products segment revenues for 2022 and 2021, respectively. There were no other customers that comprised greater than 10% of our total consolidated revenues during these years.

s. *Fair Value Measurements and Disclosures*

Fair value is defined as the price that would be received for an asset or the exit price that would be paid to transfer a liability in the principal or most advantageous market in an orderly transaction between market participants on the measurement date. Fair value is estimated by applying the following hierarchy, which prioritizes the inputs used to measure fair value into three levels and bases the categorization within the hierarchy upon the lowest level of input that is available and significant to the fair value measurement:

Level 1: Quoted prices in active markets for identical assets or liabilities.

Level 2: Observable inputs, other than Level 1 prices, such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or that we corroborate with observable market data for substantially the full term of the related assets or liabilities.

Level 3: Unobservable inputs supported by little or no market activity that are significant to the fair value of the assets or liabilities.

The fair value of financial instruments approximated their carrying values at December 31, 2022 and 2021. The fair value of cash, accounts receivable, accounts payable, accrued liabilities, and the current portion of long-term debt approximates carrying value due to the short-term nature of these instruments. The carrying value of long-term debt approximates fair value, as the variable interest rates approximate current market rates.

t. *Earnings Per Share*

Basic earnings per share ("EPS") is computed by dividing net income (loss) attributable to Ultralife Corporation by the weighted average shares of common stock outstanding for the period. Diluted EPS reflects the assumed exercise and conversion of dilutive outstanding stock options and unvested restricted stock, if any, applying the treasury stock method.

For the years ended December 31, 2022 and December 31, 2021, there were no outstanding awards included in the calculation of diluted weighted average shares outstanding and no potential common shares included in the calculation of diluted EPS, as no securities were dilutive. There were 1,425,693 outstanding stock options and 2,500 unvested restricted stock awards not included in the calculation of diluted EPS for the year ended December 31, 2022, as the effect would be antidilutive. For the comparable year ended December 31, 2021, there were 1,306,824 outstanding stock options and 11,664 unvested restricted stock awards not included in the calculation of diluted EPS, as the effect would be antidilutive.

u. *Stock-Based Compensation*

We have various stock-based employee compensation plans that are described more fully in Note 6. The compensation cost relating to share-based payment transactions is measured at the grant date, based on the estimated fair value of the award, and is recognized as expense over the employee's requisite service period (generally the vesting period of the equity award).

v. *Segment Reporting*

We have two operating segments – Battery & Energy Products and Communications Systems. The basis for determining our operating segments is the manner in which financial information is used in monitoring our operations. Management operates and organizes itself according to business units that comprise unique products and services across geographic locations.

w. *Business Combinations*

We allocate the purchase price of acquired businesses to the tangible and intangible assets acquired and the liabilities assumed based on their estimated fair values on the acquisition date. Any excess of the purchase price over the net fair value of the separately identifiable assets acquired and liabilities assumed is allocated to goodwill. Management determines the fair values of identifiable intangible assets acquired based on historical data, estimated discounted future cash flows, expected royalty rates for trademarks and trade names, as well as certain other information. The valuation of assets acquired and liabilities assumed requires a number of judgments and is subject to change as additional information about the fair value of assets and liabilities becomes available. Additional information, which existed as of the acquisition date but unknown to us at that time, may become known during the remainder of the measurement period. This measurement period may not exceed twelve months from the acquisition date. We will recognize any adjustments to provisional amounts that are identified during the measurement period in the reporting period in which the adjustments are determined. Additionally, in the same period in which adjustments are recognized, we will record the effect on earnings of changes in depreciation, amortization, or other income effects, if any, as a result of any change to the provisional amounts, calculated as if the accounting adjustment had been completed at the acquisition date. Acquisition costs are expensed as incurred. The results of operations and cash flows of acquired businesses are included in our consolidated financial statements from the date of acquisition.

x. *Leases*

At contract inception, the Company determines whether the arrangement is or contains a lease and determines the lease classification. The lease term is determined based on the non-cancellable term of the lease adjusted to the extent optional renewal terms and termination rights are reasonably certain. Lease expense for operating leases is recognized evenly over the lease term. Variable lease payments are recognized as period costs. The present value of remaining lease payments is recognized as a liability on the balance sheet with a corresponding right-of-use asset adjusted for prepaid or accrued lease payments. The Company uses its incremental borrowing rate for the discount rate, unless the interest rate implicit in the lease contract is readily determinable. The Company has adopted the practical expedients to not separate non-lease components from lease components and to not present short-term leases on the balance sheet. See Note 8 for further disclosure regarding lease accounting.

y. *Recent Accounting Pronouncements*

Recently Adopted Accounting Guidance

Effective January 1, 2021, the Company adopted Accounting Standards Update (“ASU”) 2019-12, “Simplifying the Accounting for Income Taxes (Topic 740)”. ASU 2019-12 removes certain exceptions to the general principles in Topic 740 and clarifies and amends existing guidance to improve consistent application. Adoption of the new standard did not materially impact the Company’s consolidated financial statements.

In March 2020, the Financial Accounting Standards Board (“FASB”) issued ASU 2020-04, "Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting”. ASU 2020-04 provides temporary optional expedients and exceptions for contract modifications and hedge accounting to ease the financial reporting burdens related to the expected market transition from the London Interbank Offered Rate ("LIBOR") and other interbank offered rates to alternative reference rates. The standard was effective upon issuance and may be applied prospectively on or before December 31, 2024. The Company has elected the optional practical expedient for debt contract modifications related to the discontinuation of reference rates. Adoption of this new standard did not materially impact the Company’s consolidated financial statements.

Recent Accounting Guidance Not Yet Adopted

In June 2016, the FASB issued ASU 2016-13, “Financial Instruments – Credit Losses (Topic 326) – Measurement of Credit Losses on Financial Instruments”, which requires entities to measure all expected credit losses for financial assets held at the reporting date based on historical experience, current conditions, and reasonable and supportable forecasts. This replaces the existing incurred loss model and is applicable to the measurement of credit losses on financial assets measured at amortized cost. This guidance is effective for the Company for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2022. The Company is currently assessing the impact that adopting this new accounting standard will have on our consolidated financial statements.

Note 2 – **Acquisition**

On December 13, 2021, the Company acquired all the outstanding shares of Excell (as defined below) for an aggregate net purchase price of $23,519 in cash.

On December 13, 2021, 1336889 B.C. Unlimited Liability Company, a British Columbia unlimited liability company and wholly-owned subsidiary of Ultralife Canada Holding Corp., a Delaware corporation (“UCHC”) and wholly-owned subsidiary of Ultralife Excell Holding Corp., a Delaware corporation (“UEHC”) and wholly-owned subsidiary of Ultralife Corporation, completed the acquisition of all issued and outstanding shares of Excell Battery Canada Inc., a British Columbia corporation (“Excell Canada”) (the “Excell Canada Acquisition”), and, concurrently, 1336902 B.C. Unlimited Liability Company, a British Columbia unlimited liability company and wholly-owned subsidiary of UCHC, completed the acquisition of all issued and outstanding shares of 656700 B.C. LTD, a British Columbia corporation and sole owner of all issued and outstanding shares of Excell Battery Corporation USA, a Texas corporation (“Excell USA”, and together with Excell Canada, “Excell Battery Group” or “Excell”) (the “Excell USA Acquisition”, and together with the Excell Canada Acquisition, the “Excell Acquisition”).

Based in Canada with U.S. operations, Excell is a leading independent designer and manufacturer of high-performance smart battery systems, battery packs and monitoring systems to customer specifications. Excell serves a variety of industrial markets including downhole drilling, OEM industrial and medical devices, automated meter reading, ruggedized computers, and mining, marine and other mission critical applications which demand uncompromised safety, service, reliability and quality.

The Excell Canada Acquisition was completed pursuant to a Share Purchase Agreement dated December 13, 2021 (the “Excell Canada Acquisition Agreement”) by and among 1336889 B.C. Unlimited Liability Company, Mark Kroeker, Randolph Peters, Brian Larsen, M. & W. Holdings Ltd., Karen Kroeker, Heather Peterson, Michael Kroeker, Nicholas Kroeker, Brentley Peters, Craig Peters, Kurtis Peters, Heather Larsen, Ian Kane, Carol Peters, and 0835205 B.C. LTD (the “Excell Canada Sellers”), Mark Kroeker in his capacity as the Excell Canada Sellers’ Representative, and Excell Canada. The Excell USA Acquisition was completed pursuant to a Share Purchase Agreement dated December 13, 2021 (the “Excell USA Acquisition Agreement”, and together with the Excell Canada Acquisition Agreement, the “Excell Acquisition Agreements”) by and among 1336902 B.C. Unlimited Liability Company, M. & W. Holdings Ltd., Ian Kane, Sanford Capital Ltd., Arcee Enterprises Inc., and 0835205 B.C. Ltd. (the “Excell USA Sellers”, and together with the Excell Canada Sellers, the “Sellers”), Mark Kroeker in his capacity as the Excell USA Sellers’ Representative, and 656700 B.C. LTD. The Excell Acquisition Agreements contain customary terms and conditions including representations, warranties and indemnification provisions. A portion of the consideration paid to the Sellers was held in escrow for indemnification purposes for a period of twelve months from the closing date. The remaining indemnification escrow amount is to be held for a period of sixteen months from the closing date.

The Excell Acquisition was funded by the Company through a combination of cash on hand and borrowings under the Amended Credit Facilities (Note 3).

The Excell Acquisition was accounted for in accordance with the accounting treatment of a business combination pursuant to FASB ASC Topic 805, Business Combinations (“ASC 805”). Accordingly, the purchase price was allocated to the tangible and intangible assets acquired and the liabilities assumed based on their estimated fair values on the acquisition date. The excess of the purchase price over the estimated fair value of the separately identifiable assets acquired and liabilities assumed was allocated to goodwill. Management is responsible for determining the acquisition date fair value of the assets acquired and liabilities assumed, which requires the use of various assumptions and judgments that are inherently subjective. The purchase price allocation presented below reflects all known information about the fair value of the assets acquired and liabilities assumed as of the acquisition date.

Cash	$	736
Accounts receivable		3,570
Inventories		3,622
Prepaid expenses and other current assets		785
Property, plant and equipment		429
Goodwill		10,989
Other intangible assets		8,870
Other noncurrent assets		991
Accounts payable		(1,450)
Accrued compensation and related benefits		(540)
Accrued expenses and other current liabilities		(720)
Deferred tax liability, net		(2,223)
Other noncurrent liabilities		(803)
Net assets acquired	$	24,256

The purchase price allocation was adjusted during the year ended December 31, 2022 to reflect a change in the estimated fair value of certain other intangible assets acquired. The measurement period adjustment resulted in a $40 increase in other intangible assets acquired, a $10 increase in deferred tax liabilities and a $30 decrease to goodwill. The adjusted purchase price allocation is reflected in the consolidated balance sheet as of December 31, 2022.

The goodwill included in the Company's purchase price allocation presented above represents the value of Excell's assembled and trained workforce, the incremental value that Excell engineering and technology will bring to the Company and the revenue growth which is expected to occur over time which is attributable to increased market penetration from future new products and customers. The goodwill acquired in connection with the acquisition is not deductible for income tax purposes.

Other intangible assets were valued using the income approach which requires a forecast of all expected future cash flows and the use of certain assumptions and estimates. The following table summarizes the estimated fair value and annual amortization for each of the identifiable intangible assets acquired.

			Annual Amortization				
	Estimated Fair Value	**Amortization Period (Years)**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Customer relationships	$ 4,100	15	$ 273	$ 273	$ 273	$ 273	$ 273
Trade name	3,150	Indefinite	-	-	-	-	-
Customer contracts	1,140	15	76	76	76	76	76
Backlog	360	1	360	-	-	-	-
Technology	120	7	17	17	17	17	17
Total	$ 8,870		$ 726	$ 366	$ 366	$ 366	$ 366

We acquired right-of-use assets and assumed lease liabilities of $960 for Excell's operating facilities. Right-of-use assets are classified as other noncurrent assets, and current and long-term lease liabilities are classified as accrued expenses and other current liabilities and other noncurrent liabilities, respectively, on the Company's consolidated balance sheet.

The operating results and cash flows of Excell are reflected in the Company's consolidated financial statements from the date of acquisition. Excell is included in the Battery & Energy Products segment.

For the year ended December 31, 2022, Excell contributed revenue of $28,145 and pre-tax income of $1,844, inclusive of amortization expense of $726 on acquired identifiable intangible assets and $55 in cost of products sold attributable to the fair market value step-up of acquired finished goods inventory sold during the year.

For the year ended December 31, 2021, from the December 13, 2021 acquisition date, Excell contributed revenue of $1,131 and pre-tax loss of $128, inclusive of a $121 increase in cost of products sold for the fair value step-up of acquired finished goods inventory sold during the period, and amortization expense of $30 on acquired identifiable intangible assets.

During the year ended December 31, 2021, the Company incurred acquisition-related costs and other non-recurring expenses of $354 directly attributable to the acquisition, including one-time accounting, legal and due diligence services.

Note 3 – Debt

Credit Facilities

On December 13, 2021, Ultralife, Southwest Electronic Energy Corporation, a Texas corporation (“SWE”), CLB, INC., a Texas corporation and wholly owned subsidiary of SWE (“CLB”), UEHC, UCHC and Excell USA, as borrowers, entered into the Second Amendment Agreement with KeyBank National Association (“KeyBank” or the “Bank”), as lender and administrative agent, to amend the Credit and Security Agreement dated May 31, 2017 as amended by the First Amendment Agreement by and among Ultralife, SWE, CLB and KeyBank dated May 1, 2019 (the “Credit Agreement”). On November 28, 2022, Ultralife, SWE, CLB, UEHC, UCHC, Excell USA, and Excell Battery Canada entered into that certain Third Amendment Agreement with KeyBank, to further amend the Credit Agreement to, among other things, facilitate the joinder of Excell Battery Canada as a guarantor under the Credit Agreement and to replace the LIBOR benchmark thereunder with SOFR (the “Third Amendment Agreement”, and together with the Second Amendment Agreement and the Credit Agreement, the “Amended Credit Agreement”).

The Amended Credit Agreement, among other things, provides for a 5-year, $10,000 senior secured term loan (the “Term Loan Facility”) and extends the term of the $30,000 senior secured revolving credit facility (the “Revolving Credit Facility”, and together with the Term Loan Facility, the “Amended Credit Facilities”) through May 30, 2025. Up to six months prior to May 30, 2025, the Revolving Credit Facility may be increased to $50,000 with the Bank’s concurrence.

As of December 31, 2022, the Company had $8,167 outstanding principal on the Term Loan Facility, $2,000 of which is included in current portion of long-term debt on the balance sheet, and $13,330 outstanding on the Revolving Credit Facility. As of December 31, 2022, total unamortized debt issuance costs of $187, including placement, renewal and legal fees associated with the Amended Credit Agreement, are classified as a reduction of long-term debt on the balance sheet. Debt issuance costs are amortized to interest expense over the term of the Amended Credit Facilities.

The remaining availability under the Revolving Credit Facility is subject to certain borrowing base limits based on trade receivables and inventories.

The Company is required to repay the borrowings under the Term Loan Facility in equal consecutive monthly payments commencing on February 1, 2022, in arrears, together with applicable interest. All unpaid principal and accrued and unpaid interest with respect to the Term Loan Facility is due and payable in full on January 1, 2027. All unpaid principal and accrued and unpaid interest with respect to the Revolving Credit Facility is due and payable in full on May 30, 2025. The Company may voluntarily prepay principal amounts outstanding at any time subject to certain restrictions.

In addition to the customary affirmative and negative covenants, the Company must maintain a consolidated senior leverage ratio, as defined in the Amended Credit Agreement, of equal to or less than 3.5 to 1.0 for the fiscal quarters ending December 31, 2022 and March 31, 2023, and equal to or less than 3.0 to 1.0 for the fiscal quarters ending June 30, 2023 and thereafter.

Borrowings under the Amended Credit Facilities are secured by substantially all the assets of the Company and its subsidiaries.

Upon the effectiveness of the Third Amendment Agreement, interest accrues on outstanding indebtedness under the Amended Credit Facilities at the Daily Simple SOFR Rate, plus an index spread adjustment of 0.10%, plus the applicable margin. The applicable margin ranges from 185 to 215 basis points and is determined based on the Company’s senior leverage ratio.

The Company must pay a fee of 0.15% to 0.25% based on the average daily unused availability under the Revolving Credit Facility.

Payments must be made by the Company to the extent borrowings exceed the maximum amount then permitted to be drawn on the Amended Credit Facilities and from the proceeds of certain transactions. Upon the occurrence of an event of default, the outstanding obligations may be accelerated, and the Bank will have other customary remedies including resort to the security interest the Company provided to the Bank.

Future minimum principal repayment obligations on our Amended Credit Facilities as of December 31, 2022 are as follows:

2023	$2,000
2024	2,000
2025	15,330
2026	2,000
2027	167
Thereafter	0

Total	$21,497

Note 4 - Supplemental Balance Sheet Information

a. Cash and Restricted Cash

The Company had cash and restricted cash totaling $5,713 and $8,413 as of December 31, 2022 and 2021, respectively.

	December 31,	
	2022	2021
Cash	$ 5,634	$ 8,329
Restricted cash	79	84
Total	$ 5,713	$ 8,413

As of December 31, 2022 and December 31, 2021, restricted cash included $79 and $84, respectively, of euro-denominated deposits withheld by the Dutch tax authorities and third-party VAT representatives in connection with a previously utilized logistics arrangement in the Netherlands. Restricted cash is included as a component of the cash balance for purposes of the consolidated statements of cash flows.

b. Inventory, Net

Inventories are stated at the lower of cost or net realizable value with cost determined under the first-in, first-out (FIFO) method. The composition of inventories, net was:

	December 31,	
	2022	2021
Raw materials	$ 29,200	$ 21,660
Work in process	2,757	4,227
Finished products	9,235	7,302
Total	$ 41,192	$ 33,189

c. Property, Plant and Equipment

Major classes of property, plant and equipment consisted of the following:

	December 31,	
	2022	2021
Land	$ 1,759	$ 1,273
Buildings and leasehold improvements	15,572	15,442
Machinery and equipment	63,495	63,780
Furniture and fixtures	2,845	2,588
Computer hardware and software	7,744	7,579
Construction in progress	1,245	761
	92,660	91,423
Less – Accumulated depreciation	(70,944)	(68,218)
Total	$ 21,716	$ 23,205

Depreciation expense was $3,177 and $2,906 for the years ended December 31, 2022 and 2021, respectively.

d. *Goodwill and Other Intangible Assets*

The Company conducted its annual impairment test for goodwill and other indefinite-lived intangible assets as of October 1, 2022. We identified two (2) goodwill reporting units and five (5) indefinite-lived intangible assets. We performed a quantitative impairment assessment of each goodwill reporting unit and indefinite-lived intangible asset. Based on the results of our quantitative impairment tests, and consideration of qualitative factors as of our test date and December 31, 2022, no impairment was identified.

The following table summarizes the goodwill activity by segment for the years ended December 31, 2022 and 2021:

	Battery & Energy Products	Communications Systems	Total
Balance – January 1, 2022	$ 26,575	$ 11,493	$ 38,068
Effect of foreign currency translation	(640)	-	(640)
Balance – December 31, 2022	$ 25,935	$ 11,493	$ 37,428

The composition of intangible assets was:

	December 31, 2022,		
	Cost	Accumulated amortization	Net
Customer relationships	$ 12,970	$ 5,992	$ 6,978
Patents and technology	5,557	5,171	386
Trade names	4,629	522	4,107
Trademarks	3,404	-	3,404
Other	1,500	454	1,046
Total other intangible assets	$ 28,060	$ 12,139	$ 15,921

	December 31, 2021,		
	Cost	Accumulated amortization	Net
Customer relationships	$ 13,214	$ 5,484	$ 7,730
Patents and technology	5,667	5,126	541
Trade names	4,670	436	4,234
Trademarks	3,413	-	3,413
Other	1,490	18	1,472
Total other intangible assets	$ 28,454	$ 11,064	$ 17,390

The change in the cost value of other intangible assets is a result of the Excell Acquisition (Note 2) and the effect of foreign currency translations.

Amortization of other intangible assets was included in the following financial statement captions:

	Year ended December 31,	
	2022	2021
Research and development expense	$ 97	$ 118
Selling, general and administrative expense	1,185	515
Total	$ 1,282	$ 633

Future amortization expense of amortizable intangible assets will be approximately $907, $897, $897, $767 and $767 for the five fiscal years ending December 31, 2023 through 2027, respectively.

Note 5 - Commitments and Contingencies

a. *Legal Matters*

We are subject to legal proceedings and claims that arise from time to time in the ordinary course of business. We believe that the final disposition of any such matters of which we are currently aware will not have a material adverse effect on the Company's financial position, results of operations or cash flows. However, recognizing that legal matters are subject to inherent uncertainties, there exists the possibility that ultimate resolution of current or future legal matters could have a material adverse impact on the Company's financial position, results of operations or cash flows. We are not aware of any such situations at this time.

b. *Indemnity*

Our organizational documents provide that our directors or officers will be reimbursed for all expenses, to the fullest extent permitted by law arising out of their performance.

c. *Purchase Commitments*

As of December 31, 2022, we have made commitments to purchase approximately $661 of production machinery and equipment.

d. *China*

Our operating facility in China presents risks including, but not limited to, changes in local regulatory requirements, changes in labor laws, local wage laws, environmental regulations, taxes and operating licenses, compliance with U.S. regulatory requirements, including the Foreign Corrupt Practices Act, uncertainties as to application and interpretation of local laws and enforcement of contract and intellectual property rights, currency restrictions, currency exchange controls, fluctuations of currency, and currency revaluations, eminent domain claims, civil unrest, power outages, water shortages, labor shortages, labor disputes, increase in labor costs, rapid changes in government, economic and political policies, political or civil unrest, acts of terrorism, or the threat of boycotts, other civil disturbances and the possible impact of the imposition of tariffs by the U.S. Government on 9 Volt batteries that we manufacture in China as well as any retaliating trade policies or restrictions. Any such disruptions could depress our earnings and have other material adverse effects on our business, financial condition and results of operations.

e. *Employment Contracts*

As of December 31, 2022, we had an Employment Agreement dated December 6, 2010 with Michael D. Popielec (the "Employment Agreement"), our former President and Chief Executive Officer. Under the terms of the Employment Agreement, Mr. Popielec was given sixty days advance notice of his involuntary termination by the Company's Board of Directors on November 22, 2022, at which time he relinquished his position as President and Chief Executive Officer and as a member of the Board of Directors, with his employment ending on January 20, 2023.

In connection with the termination of his employment, Mr. Popielec was entitled to receive the following severance benefits under the terms of the Employment Agreement with the total cost of $779 comprising a one-time charge reflected in the Company's 2022 fourth quarter results:

- Salary, any unpaid bonus from the prior year, and the cash value of any accrued Paid Time Off through January 20, 2023 plus continued salary for a period of twelve months thereafter in accordance with the Company's regular payroll schedule;
- A pro-rata amount (calculated on a per-diem basis) of the full year bonus which Mr. Popielec would have earned for the 2023 calendar year;
- Acceleration of vesting of all outstanding stock options held by Mr. Popielec; however that the acceleration shall not cover more than eighteen months from January 20, 2023, and all such options shall remain exercisable for one year from January 20, 2023;
- Continuation of health benefits for Mr. Popielec, his spouse and any dependent children for a period of twelve months following January 20, 2023.

The foregoing description of the termination benefits provided by Mr. Popielec's Employment Agreement does not purport to be complete and is qualified in its entirety by reference to the full text of the Employment Agreement, a copy of which is filed as Exhibit 10.40 to the Company's Form 10-K filed with the Securities and Exchange Commission on March 15, 2011 and is incorporated herein by reference.

There is no employment agreement in place between Mr. Manna, appointed as President and Chief Executive Officer on November 22, 2022, and the Company.

As part of our employment commencement process, employees are required to enter into agreements providing for confidentiality of certain information and the assignment of rights to inventions made by them while employed by us. These agreements also contain certain non-competition and non-solicitation provisions effective during the employment term and for varying periods thereafter depending on position and location. There can be no assurance that we will be able to enforce these agreements. All our employees agree to abide by the terms of a Code of Ethics policy that provides for the confidentiality of certain information received during the course of their employment.

f. *Product Warranties*

We typically offer standard warranties against product defects that range from ninety (90) days to three (3) years from the date of purchase. We also offer separately priced extended warranty contracts on certain products. Warranty costs expected to be incurred are estimated based on the Company's experience and recorded as costs of products sold. Standard warranty costs are recognized upon product sale. Extended warranty costs are recognized over the term of the contract.

	2022	**2021**
Accrued warranty obligations – beginning	$ 133	$ 149
Accruals for warranties issued	287	142
Settlements made	(97)	(158)
Accrued warranty obligations - ending	$ 323	$ 133

Note 6 – Stock-Based Compensation

We recorded non-cash stock compensation expense in each period as follows:

	Year ended December 31,	
	2022	**2021**
Stock options	$ 761	$ 618
Restricted stock	15	53
Total	$ 776	$ 671

We have various stock-based employee compensation plans, for which compensation cost is recognized in the financial statements. The cost is measured at the grant date, based on the estimated fair value of the award, and is recognized as an expense over the employee's requisite service period (generally the vesting period of the equity award).

Our shareholders have approved various equity-based plans that permit the grant of stock options, restricted stock and other equity-based awards. In addition, our shareholders have approved the grant of stock options outside of these plans.

In June 2014, our shareholders approved the 2014 Long-Term Incentive Plan ("2014 LTIP") as the successor plan to the 2004 Long-Term Incentive Plan ("2004 LTIP") that expired on June 10, 2014. Under the 2014 LTIP, a total of 1,750,000 shares of common stock were made available for grant of awards. In July 2021, our shareholders approved an amendment to the 2014 LTIP to increase the total number shares of our common stock authorized to be issued pursuant to the 2014 LTIP to 2,750,000. Of the total number of shares of common stock available for awards under the 2014 LTIP, no more than 800,000 shares of common stock may be used for awards other than stock options and stock appreciation rights. Grants under the 2014 LTIP may be awarded through June 2, 2024.

Stock options granted under the 2014 LTIP are either Incentive Stock Options (“ISOs”) or Non-Qualified Stock Options (“NQSOs”). Key employees are eligible to receive ISOs and NQSOs; however, directors and consultants are eligible to receive only NQSOs. Stock options vest in equal installments on the first, second and third anniversaries of the grant date and expire on the seventh anniversary of the grant date. As of December 31, 2022, there were 1,425,693 stock options outstanding under the 2014 LTIP. There were no stock options outstanding under the 2004 LTIP.

As of December 31, 2022, there was $691 of total unrecognized compensation costs related to outstanding stock options, which we expect to recognize over a weighted average period of 1.4 years.

We use the Black-Scholes option-pricing model to estimate fair value of stock-based awards. The following weighted average assumptions were used to value options granted during the years ended December 31, 2022 and 2021:

	Year ended December 31,	
	2022	**2021**
Risk-free interest rate	4.2%	1.0%
Volatility factor	50%	50%
Weighted average expected life (years)	4.8	4.8
Forfeiture rate	10.0%	10.0%
Dividends	0.0%	0.0%

We used a Monte Carlo simulation option-pricing model to estimate the fair value of market performance stock-based awards, of which there were no new awards for the years ended December 31, 2022 and 2021.

We calculate expected volatility for stock options by taking an average of historical volatility over the expected term. The computation of expected term was determined based on historical experience of similar awards, giving consideration to the contractual terms of the stock-based awards and vesting schedules. The interest rate for periods within the contractual life of the award is based on the U.S. Treasury yield in effect at the time of grant. Forfeiture rates are calculated by dividing unvested shares forfeited by beginning shares outstanding. The pre-vesting forfeiture rate is calculated yearly and is determined based on historical experience.

The following tables summarize data for the stock options issued by us:

Year ended December 31, 2022				
	Number of shares	**Weighted average exercise price per share**	**Weighted average remaining contractual term**	**Aggregate intrinsic value**
Shares under option - January 1	1,306,824	$ 6.87		
Options granted	289,950	5.42		
Options exercised	(59,500)	3.82		
Options forfeited or expired	(111,581)	6.56		
Shares under option - December 31	1,425,693	$ 6.72	4.15	-
Vested and expected to vest - December 31	1,300,732	$ 6.78	3.97	-
Options exercisable - December 31	881,804	$ 7.13	2.96	-

Year ended December 31, 2021			
	Number of shares		Weighted average exercise price per share
Shares under option - January 1	1,217,163	$	6.50
Options granted	340,500		6.78
Options exercised	(204,429)		4.39
Options forfeited or expired	(46,410)		7.44
Shares under option - December 31	1,306,824	$	6.87
Options exercisable - December 31	745,288	$	6.85

The following table represents additional information about stock options outstanding at December 31, 2022:

	Option outstanding				Options exercisable		
Range of exercise prices	Number of outstanding options	Weighted-average remaining contractual life		Weighted-average exercise price	Number of options exercisable		Weighted-average exercise price
$4.29 - $5.45	516,949	4.65	$	5.10	197,001	$	4.64
$5.71 - $6.51	302,244	3.53		6.29	224,937		6.22
$6.69 - $6.97	177,667	5.76		6.96	65,362		6.96
$8.25 - $9.96	428,833	3.34		8.88	394,504		8.92
$4.29 - $9.96	1,425,693	4.16	$	6.72	881,804	$	7.13

The weighted average fair value of options granted during the years ended December 31, 2022 and 2021 was $2.55 and $2.90, respectively. The total intrinsic value of options (which is the amount by which the stock price exceeded the exercise price of the options on the date of exercise) exercised during the years ended December 31, 2022 and 2021 was $88 and $738, respectively.

Cash received from stock option exercises under our stock-based compensation plans for the years ended December 31, 2022 and 2021 was $116 and $398, respectively.

Restricted shares vest in equal annual installments over three years. As of December 31, 2022, there was $3 of total unrecognized compensation costs related to outstanding restricted shares.

There were 763,617 shares of common stock available for future issuance under equity compensation plans as of December 31, 2022.

Note 7 - Income Taxes

For the years ended December 31, 2022 and 2021, we recognized income tax (benefit) provision of ($326) and $79, respectively.

	Year ended December 31, 2022	2021
Current:		
State	19	$ 16
Foreign	617	210
	636	226
Deferred:		
Federal	(661)	(158)
Foreign	(301)	11
	(962)	(147)
Total income tax (benefit) provision	$ (326)	$ 79

Deferred income taxes reflect the net tax effect of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amount used for income tax purposes. Significant components of our deferred tax assets and liabilities are as follows:

	December 31, 2022	2021
Deferred tax assets:		
Net operating loss carryforwards	$ 11,460	$ 12,567
Research and development	2,812	1,999
Tax credit carryforwards	2,600	2,239
Accrued expenses, reserves and other	2,419	1,996
Intangible assets	1,521	1,412
Total deferred tax assets	20,812	20,213
Valuation allowance for deferred tax assets	(2,416)	(2,697)
Net deferred tax assets	18,396	17,516
Deferred tax liabilities:		
Intangible assets	(8,176)	(8,219)
Accrued expenses, reserves and other	(68)	(79)
Total deferred tax liabilities	(8,244)	(8,298)
Net deferred tax assets	$ 10,152	$ 9,218

Net deferred tax assets (liabilities) are comprised of the following balance sheet amounts:

	December 31, 2022	2021
Deferred tax assets	$ 12,069	$ 11,472
Deferred tax liabilities	(1,917)	(2,254)
	$ 10,152	$ 9,218

For financial reporting purposes, net loss from continuing operations before income taxes is as follows:

	Year ended December 31, 2022	2021
United States	$ (2,771)	$ (704)
Foreign	2,325	553
	$ (446)	$ (151)

The provision for income taxes differs from the amount of income tax determined by applying the applicable U.S. statutory federal income tax rate to income from continuing operations before income taxes as follows:

	Year ended December 31,	
	2022	2021
Statutory income tax rate	21%	21%
Increase (decrease) in tax provision resulting from:		
Equity compensation	(29.7)	11.6
Acquisition-related costs	-	(34.7)
Global intangible low-taxed income	(73.1)	-
China R&D deduction	20.6	48.2
Income tax credits	81.0	72.7
Foreign tax rate change	18.3	(89.7)
Foreign tax rates	11.5	(15.5)
States taxes	(3.4)	(10.8)
Other	26.9	(55.1)
Effective income tax rate	73.1%	(52.3)%

As of December 31, 2022, it was concluded that it is more likely than not that our U.S. deferred tax assets will be fully realized on the basis of management's assessment. In evaluating the realizability of our U.S. deferred tax assets, management considered all available evidence, both positive and negative, weighted based on objective verifiability. Our assessment also considered our ability to fully utilize before expiration our domestic net operating loss carryforwards, which expire 2025 thru 2035, and our general business tax credit carryforwards, which expire 2028 thru 2042. As of December 31, 2022, our domestic net operating loss carryforwards and general business tax credits were $40,952 and $2,600, respectively.

As of December 31, 2022, for certain past operations in the U.K., we continue to report a valuation allowance for net operating loss carryforwards of approximately $10,000, nearly all of which can be carried forward indefinitely. Management has concluded that utilization of the U.K. net operating losses may be limited due to the change in the past U.K. operation, and that they cannot currently be used to reduce taxable income of our other U.K. subsidiary, Accutronics Ltd. There are no other deferred tax assets related to the past U.K. operations.

As of December 31, 2022, we have not recognized a valuation allowance against our other foreign deferred tax assets.

There were no unrecognized tax benefits related to uncertain tax positions at December 31, 2022 and 2021.

As of December 31, 2022, the Company maintains its assertion that all foreign earnings will be indefinitely reinvested in those operations, other than earnings generated in the U.K.

As a result of our operations, we file income tax returns in various jurisdictions including U.S. federal, U.S. state and foreign jurisdictions. We are routinely subject to examination by taxing authorities in these various jurisdictions. Our U.S. tax matters for 2019-2021 remain subject to IRS examination. Our U.S. tax matters for 2002, 2005-2007 and 2011-2015 also remain subject to IRS examination due to the remaining availability of net operating loss carryforwards generated in those years. Our U.S. tax matters for 2002, 2005-2007 and 2011-2021 remain subject to examination by various state and local tax jurisdictions. Our tax matters for the years 2012 through 2021 remain subject to examination by the respective foreign tax jurisdiction authorities.

Note 8 – Operating Leases

The Company has operating leases predominantly for operating facilities. As of December 31, 2022, the remaining lease terms on our operating leases range from approximately one (1) year to nine (9) years. Lease terms include renewal options reasonably certain of exercise. There is no transfer of title or option to purchase the leased assets upon expiration. There are no residual value guarantees or material restrictive covenants.

The components of lease expense for the current and prior-year comparative periods were as follows:

	Year ended December 31,	
	2022	2021
Operating lease cost	$ 894	$ 762
Variable lease cost	95	79
Total lease cost	$ 989	$ 841

Supplemental cash flow information related to leases was as follows:

	Year ended December 31,	
	2022	2021
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	$ 908	$ 744
Right-of-use assets obtained in exchange for lease liabilities:	$ 476	$ 1,020

Supplemental balance sheet information related to leases was as follows:

		December 31,	
	Balance Sheet Classification	2022	2021
Assets:			
Operating lease right-of-use asset	Other noncurrent assets	$ 2,187	$ 2,581
Liabilities:			
Current operating lease liability	Accrued expenses and other current liabilities	$ 895	$ 867
Operating lease liability, net of current portion	Other noncurrent liabilities	1,307	1,743
Total operating lease liability		$ 2,202	$ 2,610
Weighted-average remaining lease term (years)		4.4	4.5
Weighted-average discount rate		4.5%	4.5%

Future minimum lease payments as of December 31, 2022 are as follows:

Maturity of Operating Lease Liabilities	
2023	$ 918
2024	518
2025	215
2026	217
2027	217
Thereafter	425
Total lease payments	$ 2,510
Less: Imputed interest	(308)
Present value of remaining lease payments	$ 2,202

Note 9 - 401(k) Retirement Benefit Plan

We maintain a defined contribution 401(k) plan covering substantially all employees. Employees can contribute a portion of their salary or wages as prescribed under Section 401(k) of the Internal Revenue Code and, subject to certain limitations, we may, at the discretion of our Board of Directors, authorize an employer contribution based on a portion of the employees' contributions. For the years ended December 31, 2022 and 2021, the Company matched 100% on the first 3% and 50% on the next 2% contributed by the employee, or a maximum of 4% of the employee’s income. For 2022 and 2021, we contributed $600 and $586, respectively, to the 401(k) plan.

Note 10 - Business Segment Information

We report our results in two operating segments: Battery & Energy Products and Communications Systems. The Battery & Energy Products segment includes: Lithium 9-volt, cylindrical and various other non-rechargeable batteries, in addition to rechargeable batteries, uninterruptable power supplies, charging systems and accessories. The Communications Systems segment includes: RF amplifiers, power supplies, cable and connector assemblies, amplified speakers, equipment mounts, case equipment, man-portable systems, integrated communication systems for fixed or vehicle applications and communications and electronics systems design. We believe that reporting performance at the gross profit level is the best indicator of segment performance.

2022:

	Battery & Energy Products	Communications Systems	Corporate	Total
Revenue	$ 119,995	$ 11,845	$ -	$ 131,840
Segment contribution	26,154	3,246	(29,271)	129
Other expense, net			575	575
Income tax benefit			(326)	(326)
Non-controlling interest			(1)	(1)
Net loss attributable to Ultralife				$ (119)
Total assets	$ 117,017	$ 29,424	$ 21,989	$ 168,430
Capital expenditures	$ 1,371	$ 81	$ 227	$ 1,679
Goodwill	$ 25,935	$ 11,493	$ -	$ 37,428
Depreciation and amortization of intangible assets	$ 3,761	$ 261	$ 437	$ 4,459
Stock-based compensation	$ 396	$ 82	$ 298	$ 776

2021:

	Battery & Energy Products	Communications Systems	Corporate	Total
Revenue	$ 87,083	$ 11,184	$ -	$ 98,267
Segment contribution	21,063	3,579	(24,607)	35
Other expense			186	186
Income tax expense			79	79
Non-controlling interest			4	4
Net loss attributable to Ultralife				$ (234)
Total assets	$ 110,633	$ 25,359	$ 23,546	159,538
Capital expenditures	$ 2,104	$ 255	$ 455	$ 2,814
Goodwill	$ 26,575	$ 11,493	-	$ 38,068
Depreciation and amortization of intangible assets	$ 2,847	$ 326	$ 366	$ 3,539
Stock-based compensation	$ 298	$ 125	$ 248	$ 671

Long-lived assets (comprised of property, plant and equipment; goodwill; and other intangible assets) held outside the U.S., principally in Canada, United Kingdom and China, were $24,405 and $26,762 as of December 31, 2022 and 2021, respectively.

The following tables disaggregate our business segment revenues by major source and geography.

Commercial and Government/Defense Revenue Information:

Year ended December 31, 2022:

	Total Revenue	Commercial	Government/ Defense
Battery & Energy Products	$ 119,995	$ 93,045	$ 26,950
Communications Systems	11,845	-	11,845
Total	$ 131,840	$ 93,045	$ 38,795
		71%	29%

Year ended December 31, 2021:

	Total Revenue	Commercial	Government/ Defense
Battery & Energy Products	$ 87,083	$ 63,516	$ 23,567
Communications Systems	11,184	-	11,184
Total	$ 98,267	$ 63,516	$ 34,751
		65%	35%

U.S. and Non-U.S. Revenue Information[1]:

Year ended December 31, 2022:

	Total Revenue	United States	Non-United States
Battery & Energy Products	$ 119,995	$ 58,820	$ 61,175
Communications Systems	11,845	9,094	2,751
Total	$ 131,840	$ 67,914	$ 63,926
		52%	48%

Year ended December 31, 2021:

	Total Revenue	United States	Non-United States
Battery & Energy Products	$ 87,083	$ 43,298	$ 43,785
Communications Systems	11,184	5,521	5,663
Total	$ 98,267	$ 48,819	$ 49,448
		50%	50%

1 Sales classified to U.S. include shipments to U.S.-based prime contractors which in some cases may serve non-U.S. projects.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures – Our president and chief executive officer (principal executive officer) and our chief financial officer and treasurer (principal financial officer) have evaluated our disclosure controls and procedures (as defined in Securities Exchange Act Rule 13a-15(e)) as of the end of the period covered by this annual report. Based on this evaluation, our president and chief executive officer and chief financial officer and treasurer concluded that our disclosure controls and procedures were effective as of such date.

Changes in Internal Controls Over Financial Reporting –There has been no change in our internal control over financial reporting (as defined in Securities Exchange Act Rule 13a-15(f)) that occurred during the fourth quarter of the fiscal year covered by this annual report that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Management's Report on Internal Control Over Financial Reporting – Our management team is responsible for establishing and maintaining adequate internal control over our financial reporting. Our internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. Because of the inherent limitations of internal control systems, our internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with policies or procedures may deteriorate.

Our management assessed the effectiveness of our internal control over financial reporting as of December 31, 2022. In making this assessment, we used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") in Internal Control-Integrated Framework (2013). Based on our assessment, we concluded that, as of December 31, 2022, our internal control over financial reporting was effective based on those criteria.

ITEM 9B. OTHER INFORMATION

None.

ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

None.

PART III

The information required by Part III, other than as set forth in Item 12, and each of the following items is omitted from this report and will be presented in our definitive proxy statement ("Proxy Statement") to be filed pursuant to Regulation 14A, not later than 120 days after the end of the fiscal year covered by this report, in connection with our 2022 Annual Meeting of Shareholders, which information included therein is incorporated herein by reference.

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The sections entitled "Election of Directors", "Executive Officers", "Delinquent Section 16(a) Reports Compliance" and "Corporate Governance" in the Proxy Statement are incorporated herein by reference.

ITEM 11. EXECUTIVE COMPENSATION

The sections entitled "Executive Compensation", "Directors Compensation", "Employment Arrangements" and "Compensation and Management Committee" in the Proxy Statement are incorporated herein by reference.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The section entitled "Security Ownership of Certain Beneficial Owners" and "Security Ownership of Management" in the Proxy Statement is incorporated herein by reference.

Equity Compensation Plan Information

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)	Weighted-average exercise price of outstanding options, warrants and rights (b)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (c)
Equity compensation plans approved by security holders	1,425,693	$ 6.72	763,617
Equity compensation plans not approved by security holders	-	-	-
Total	1,425,693	$ 6.72	763,617

See Note 6 in the notes to consolidated financial statements for additional information.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The section entitled "Corporate Governance – General" in the Proxy Statement is incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The section entitled "Proposal to Ratify the Selection of Independent Registered Accounting Firm - Principal Accountant Fees and Services" in the Proxy Statement is incorporated herein by reference.

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

(a) Documents filed as part of this report:

1. Financial Statements

The financial statements and schedules required by this Item 15 are set forth in Part II, Item 8 of this Form 10-K.

Auditor information:
Freed Maxick CPAs, P.C.
Rochester, New York
PCAOB ID 317

(b) Exhibits. The following exhibits are filed as a part of this report:

Exhibit Index	Description of Document	Filed Herewith or Incorporated by Reference from:
2.1	Share Purchase Agreement, dated December 13, 2021, by and among 1336889 B.C. Unlimited Liability Company, Mark Kroeker, Randolph Peters, Brian Larsen, M. & W. Holdings Ltd., Karen Kroeker, Heather Peterson, Michael Kroeker, Nicholas Kroeker, Brentley Peters, Craig Peters, Kurtis Peters, Heather Larsen, Ian Kane, Carol Peters, 0835205 B.C. LTD, and Excell Battery Canada Inc.	Exhibit 2.1 of the Form 8-K filed on December 16, 2021
2.2	Share Purchase Agreement, dated December 13, 2021, by and among 1336902 B.C. Unlimited Liability Company, M. & W. Holdings Ltd., Ian Kane, Sanford Capital Ltd., Arcee Enterprises Inc., 0835205 B.C. Ltd., and 656700 B.C. LTD	Exhibit 2.2 of the Form 8-K filed on December 16, 2021
2.3	Stock Purchase Agreement, dated May 1, 2019, by and among Ultralife Corporation, Southwest Electronic Energy Corporation, Southwest Electronic Energy Medical Research Institute, and Claude Leonard Benckenstein	Exhibit 10.1 of the Form 8-K filed on May 2, 2019
2.4	Stock Purchase Agreement Relating to Accutronics Limited by and between Robert Andrew Phillips and Others and Ultralife Corporation	Exhibit 2.2 of the Form 10-K for the year ended December 31, 2015, filed March 2, 2016
3.1	Restated Certificate of Incorporation	Exhibit 3.1 of the Form 10-K for the year ended December 31, 2008, filed March 13, 2009
3.2	Amended and Restated By-laws	Exhibit 3.2 of the Form 8-K filed December 9, 2011
4.1	Specimen Stock Certificate	Exhibit 4.1 of the Form 10-K for the year ended December 31, 2008, filed March 13, 2009
4.2	Description of Registrant’s Securities	Exhibit 4.2 of the Form 10-K/A for the year ended December 31, 2019, filed April 28, 2020
10.1*	Amendment to the Agreement relating to rechargeable batteries	Exhibit 10.24 of our Form 10-K for the fiscal year ended June 30, 1996 (this Exhibit may be found in SEC File No. 0-20852)

10.2†	Employment Agreement between the Registrant and Michael D. Popielec dated December 6, 2010	Exhibit 10.40 of the Form 10-K for the year ended December 31, 2010, filed March 15, 2011
10.3†	Ultralife Corporation Amended 2014 Long-Term Incentive Plan	Appendix B of Form DEF 14A filed on June 1, 2021
10.4	Credit and Security Agreement between Ultralife Corporation and KeyBank National Association dated May 31, 2017	Exhibit 10.1 of the Form 8-K filed on June 6, 2017
10.5	First Amendment Agreement, dated May 1, 2019, by and among Ultralife Corporation, Southwest Electronic Energy Corporation, CLB, Inc., and KeyBank National Association	Exhibit 10.1 of the Form 8-K filed on May 2, 2019
10.6†	Amendment No. 1 to Ultralife Corporation Amended 2014 Long-Term Incentive Plan	Appendix A of Form DEF 14A filed on June 1, 2021
10.7	Second Amendment Agreement, dated December 13, 2021, by and among Ultralife Corporation, Southwest Electronic Energy Corporation, CLB, Inc., Ultralife Excell Holding Corp., Ultralife Canada Holding Corp., Excell Battery Corporation USA, and KeyBank National Association	Exhibit 10.1 of the Form 8-K filed on December 16, 2021
10.8	Third Amendment Agreement, dated November 28, 2022, by and among Ultralife Corporation, Southwest Electronic Energy Corporation, CLB, Inc., Ultralife Excell Holding Corp., Ultralife Canada Holding Corp., Excell Battery Corporation USA, Excell Battery Canada ULC and KeyBank National Association	Filed herewith
21	Subsidiaries	Filed herewith
23.1	Consent of Freed Maxick CPAs, P.C.	Filed herewith
31.1	Rule 13a-14(a) / 15d-14(a) CEO Certifications	Filed herewith
31.2	Rule 13a-14(a) / 15d-14(a) CFO Certifications	Filed herewith
32	Section 1350 Certifications	Filed herewith
101.INS	Inline XBRL Instance Document	Filed herewith
101.SCH	Inline XBRL Taxonomy Extension Schema Document	Filed herewith
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document	Filed herewith
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document	Filed herewith
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document	Filed herewith
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document	Filed herewith
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)	Filed herewith

* Confidential treatment has been granted as to certain portions of this exhibit.

† Management contract or compensatory plan or arrangement.

Attached as Exhibit 101 to this report are the following formatted in iXBRL (Inline eXtensible Business Reporting Language): (i) Consolidated Balance Sheets as of December 31, 2022 and December 31, 2021, (ii) Consolidated Statements of Loss and Comprehensive Loss for the years ended December 31, 2022 and December 31, 2021, (iii) Consolidated Statements of Cash Flows for the years ended December 31, 2022 and December 31, 2021, (iv) Consolidated Statements of Changes in Shareholders’ Equity for the years ended December 31, 2022 and December 31, 2021, and (v) Notes to Consolidated Financial Statements.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

ULTRALIFE CORPORATION

Date: March 31, 2023	/s/ Michael E. Manna Michael E. Manna President, Chief Executive Officer and Director

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

Date: March 31, 2023	/s/ Michael E. Manna Michael E. Manna President, Chief Executive Officer and Director (Principal Executive Officer)
Date: March 31, 2023	/s/ Philip A. Fain Philip A. Fain Chief Financial Officer and Treasurer (Principal Financial Officer and Principal Accounting Officer)
Date: March 31, 2023	/s/ Janie Goddard Janie Goddard (Director)
Date: March 31, 2023	/s/ Thomas L. Saeli Thomas L. Saeli (Director)
Date: March 31, 2023	/s/ Robert W. Shaw II Robert W. Shaw II (Director)
Date: March 31, 2023	/s/ Ranjit C. Singh Ranjit C. Singh (Director)
Date: March 31, 2023	/s/ Bradford T. Whitmore Bradford T. Whitmore (Director)