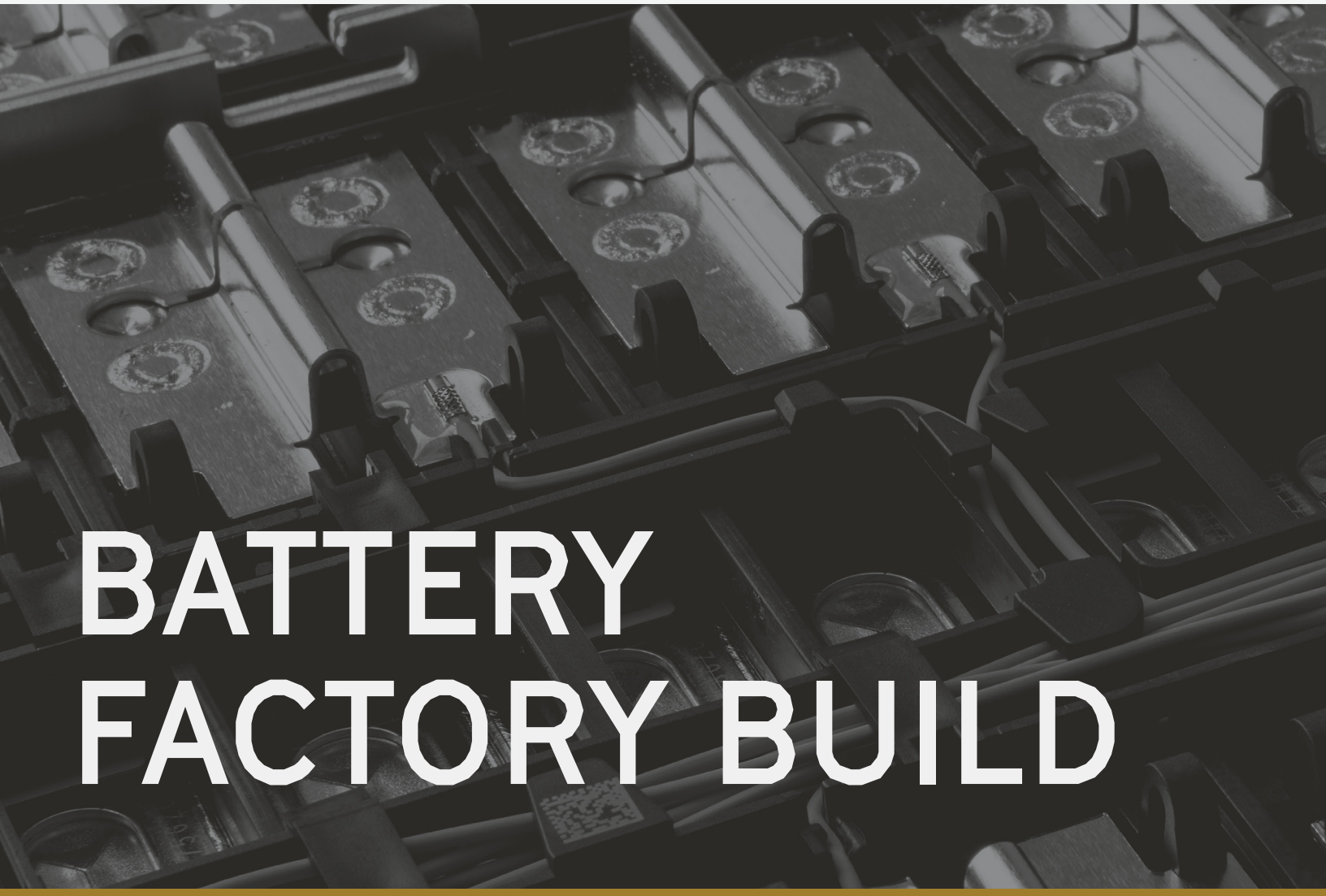


BATTERY FACTORY BUILD

Re:Build Battery Solutions covers the entire spectrum of battery: from prototype to pack production.

Re:Build Battery Solutions specializes in comprehensive battery and battery pack manufacturing services. Our offerings cover the entire spectrum of battery production, ensuring efficiency, safety, and innovation.

Tailored services meeting the unique requirements of both early-stage and established battery manufacturers

Factory Design, Build, and Modification of Manufacturing Equipment

Re:Build engineers can design/build/modify battery manufacturing equipment, tailoring it to specific battery production needs. These modifications enhance efficiency.

Factory Utility Integration

Re:Build seamlessly connects factory equipment and utilities, minimizing waste and maximizing productivity. Our smart factory solutions optimize resource usage.

Battery Manufacturing Line Design and Integration

Re:Build Battery Solutions excels in designing and integrating efficient battery production lines, including comprehensive data collection and real-time quality control adjustments, resulting in optimal utilization of resources.

Production Process Flow in Real Time

Re:Build digital system controls monitor production processes in real time, using data analytics to make informed adjustments. This agility leads to Continuous Improvement.

Robotic Automation

Leveraging cutting-edge robotics, Re:Build automates assembly, welding, and material handling processes. Streamlining production and enhancing precision.

Pack Design for Manufacturing (DFM)

Re:Build specializes in designing battery packs for efficient manufacturing. Their DFM approach minimizes production challenges and waste.

Cell Manufacturing Support & Pack Assembly

Re:Build partners with U.S. cell makers to streamline module and pack assembly, delivering efficient, cost-effective solutions.

Battery Safety

Safety is paramount at Re:Build.
We incorporate rigorous safety protocols throughout each manufacturing process.

Battery Energy Storage Systems (BESS)

Re:Build designs complete, turnkey manufacturing solutons for BESS applications.

BATTERY SEGMENT CAPABILITIES:

For Cell Manufacturers

- Materials Processing
- Web Handling
- Electrode Coating/ Processing
- Cell Assembly & Packaging
- Cell Formation Systems

Module & Pack Manufacturing & Testing

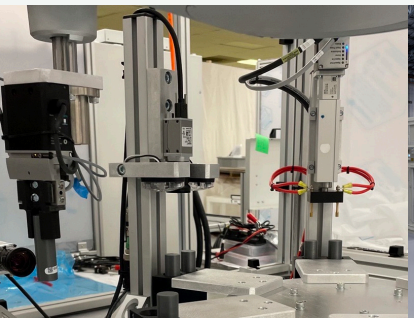
- Cell Testing
- Welding, Bonding, & Mechanical Assembly
- Module & Pack Assembly
- Configurable BMS

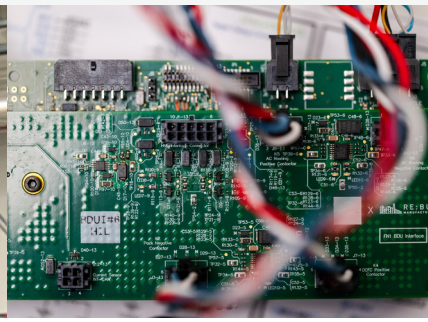
Stationary Energy Storage

- Enclosures, Cabinets, & Containers
- Wiring
- Environmental Controls

LEARN MORE ABOUT OUR CAPABILITIES:

SCAN ME



Re:Build Benefits of Factory Design/Build and System Level Production

Re:Build begins with an assessment of the customer needs to design & develop efficient manufacturing capabilities with a degree of automation that is matched to the scale & needs of the opportunity. We integrate industry-leading manufacturing equipment with modified and/or custom production tools into flow-based manufacturing processes that maximize yield and utilization.

Advanced Materials

Re:Build designs and constructs rugged, lightweight, IP rated battery pack enclosures for various applications in challenging environments, incorporating advanced materials such as thermoset composites, thermoplastic composites, and lightweight metals.

Digital Systems

Re:Build incorporates automatic, robust digital systems that provide real time data management and visualization while a system is in operation. By collecting production data history, Re:Build-designed machines can learn on the fly to ensure production throughput, worker safety, and product quality.

Battery Energy Storage Systems (BESS)

Re:Build designs complete, turnkey manufacturing solutions and for BESS applications, including the construction of enclosures, cabinets, containers, wiring, and environmental controls for high-capacity systems at scale. These systems are used in grid leveling, microgrid, and UPS systems for utility, commercial, and residential applications.

Re:Build Battery Team:

Our team brings a wealth of expertise from working with some of the world's leading battery companies. We have a deep understanding of battery technology; we've designed, developed, and tested battery packs at scale, and have built and operated advanced manufacturing equipment. With hands-on experience in both engineering and operations, we're equipped to deliver best-in-class battery solutions.

NISSAN · ROGERS CORPORATION · Panasonic · A123 SYSTEMS · gm · Envision AESC

Our Advanced Facilities

Our Prototype Development Facility

Re:Build's Prototype Development Facility is a flexible design space where battery concepts are realized and critical systems such as battery (BMS) and thermal management, wire harnessing, sensor taps, and fusing are integrated into the designs and incorporating cells of all chemistries & form factors.

Our Battery Production Facility

Re:Build's is establishing its own Battery production facility, located near Pittsburgh, PA, which functions as a test bed for applying advanced manufacturing processes in cell and pack development. We use data-driven process monitoring to provide real-time quality control to support your progression from product introduction to high-volume manufacturing, ensuring the quality, yield, and efficiencies you need to be competitive in this challenging market.

Multi-modal data from electrical testers, infrared cameras, and physical inspection stations are among the measurements automatically collected at every step in the process, building a digital thread for every battery cell, module, and pack that passes through our entire manufacturing process.

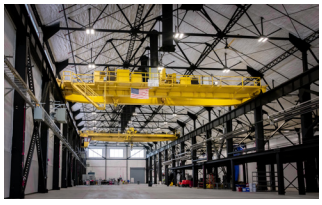
With access to over 400 varied industry professionals across the country, working with our clients is easy, no matter where they are.

FACILITY SPECIFICATIONS:

- 40,000 Sq. Footage
- 20+ Production Space
- Flexible Design Space
- High-Volume Manufacturing

MARKETS SERVED AT OUR FACILITY:

- EVs
- eVTOL (electrical Vertical Take-Off/Landing)
- Defense
- Unmanned Vehicles
- ATVs/UTVs
- Industrial Vehicles
- Seacraft
- Battery Energy Storage Systems (BESS)



LOCATION:

12th Street, New Kensington
Advanced Manufacturing Park
Building 225
New Kensington, PA 15068

CONTACT:

info@rebuildmanufacturing.com
334.750.3096

Scalable Lithium Battery Production & Assembly System:

The Challenge:

A global battery manufacturer wanted to increase productivity and total product throughput on a 24-hour cycle using robot technology and other automated peripheral devices. The system was to be built for their lithium products line and tailored to these market needs for optimal results.

The Solution:

The team was responsible for all materials handling and conveyance for the product throughout the line, including design, fabrication, and installation of equipment as well as integration of third-party equipment.

The Result:

Re:Build Optimation's system architecture, robust design, and automation enabled production volumes and operating costs that could compete with global players. System elements were sourced from manufacturers across the globe, including from the USA, Canada, and Asia.

Improve Production Throughput with Industry-4.0 Automation:

The Challenge:

A battery pack manufacturer struggled with the labor-intensive process of inspecting and testing each battery cell before it was used in a pack – a process that makes up 47% of the total build time. Automating this process is challenging, as battery testing equipment cannot interface with typical robotics and machine control systems.

The Solution:

Re:Build Digital partnered with the client to build an automated battery cell test station, using Industry-4.0 technologies to seamlessly orchestrate robot movement with visual cell inspection and electrical testing in one system.

- Fully automated system moves cells to each station – operator loads cells and hits "start"
- Integrated edge computer automatically configures and runs each electrical test
- Electrical test results (voltage and internal resistance), top and bottom inspection images, and manufacturer data for each cell stored in a single database

The Result:

Total time to inspect and test battery cells was reduced by almost 80%, decreasing the total time to construct a battery pack from 170 minutes to only 90 minutes. In addition, manual data entry errors were eliminated by fully-automating the data collection process.