Chargex US Lithium Battery Automation and Assembly Plant: Pioneering Domestic Production for Aerospace and Defense

Executive Summary

Chargex is excited to announce the development of a cutting-edge lithium battery automation and assembly plant in the United States. This facility marks a pivotal step in our commitment to addressing the needs of the aerospace and defense sectors, including key partners such as Spacex, the US Navy, Air Force, and NASA. By leveraging advanced automation technologies and collaborating with leading US companies, we aim to deliver high-performance, reliable battery solutions for mission-critical applications. With an anticipated opening between mid-2026 and 2027, this plant will establish Chargex as a leading US-based battery assembly operation dedicated to aerospace and defense.

This report details our development plans, mission, and the value we offer to clients, focusing on innovation, security, and a robust domestic supply chain.

Company Overview

Chargex specializes in advanced lithium battery technologies, delivering high-energy-density solutions for demanding environments. Our expertise includes custom battery design, manufacturing, and integration for industries where reliability and performance are critical. As global demand for secure and sustainable energy storage grows, Chargex is expanding to ensure US-based production that meets national security and regulatory standards.

Driving Factors: Meeting Aerospace and Defense Needs

The decision to build this US facility responds to increasing demand from major aerospace and defense organizations, including the US Navy, Air Force, and NASA. These clients require batteries that meet strict standards for durability, safety, and performance in extreme conditions, such as high-altitude operations, space missions, and military deployments. By establishing domestic production, Chargex addresses supply chain risks, shortens lead times, and ensures compliance with US export controls and cybersecurity requirements.

For clients like Spacex, this translates to access to batteries optimized for space, satellite propulsion, and other advanced applications, all produced within a secure US ecosystem.

Development Roadmap

While in the early stages, our US plant development is moving forward swiftly, prioritizing efficiency, innovation, and alignment with military and aerospace standards. Key components of our roadmap include:

Facility Site Selection

- **Mission Focus**: We are actively seeking a large-scale facility to support high-volume assembly lines, advanced R&D labs, and secure testing environments. Ideal sites will exceed 100,000 square feet, with space for future expansion, and be located in regions with strong infrastructure, skilled labor, and proximity to aerospace hubs.
- **Selection Criteria**: Emphasis on energy-efficient buildings, access to renewable energy, and compliance with environmental regulations. Security measures, including controlled access and data protection, are essential to protect intellectual property and meet defense standards.
- **Timeline**: Site selection and acquisition are targeted for completion by early 2026, with environmental assessments and permitting in progress to expedite development.

Equipment and Process Development

- **Automation Integration**: The plant will incorporate advanced automation systems to streamline assembly, enhance precision, and reduce errors. These include robotic arms for cell handling, self guided material handlers, AI-driven quality control, and automated testing rigs to ensure batteries meet aerospace-grade tolerances.
- **Co-Engineering Approach**: We are partnering with US-based engineering firms and technology providers to co-develop equipment and processes. This includes designing automation lines for flexibility, enabling rapid reconfiguration to meet diverse client specifications, such as varying cell chemistries and form factors.
- **Standards Alignment**: All systems will comply with MIL-STD certifications, AS9100 aerospace quality management, and NASA-specific guidelines. This involves rigorous testing for thermal management, vibration resistance, and radiation tolerance to ensure performance in hypersonic flights, UAVs, and orbital missions.

Strategic Partnerships

- Chargex is building alliances with US-based companies to enhance our capabilities. These partnerships include automation technology providers, materials suppliers, and R&D specialists, creating a collaborative ecosystem.
- **Client Benefits**: These collaborations enable shared innovation, such as developing next-generation lithium chemistries or advanced battery management systems. For defense clients, this ensures component traceability and compliance with Buy American Act provisions.

- **Value Proposition**: Partners contribute expertise in scalable manufacturing, allowing Chargex to offer competitive pricing and rapid turnaround for large-scale orders while maintaining customization.

Timeline and Milestones

- **Current Phase (2025)**: Site scouting, partnership formation, and initial equipment design.
- **Engineering and Build-Out (Early 2026)**: Co-engineering automation systems, facility retrofitting, and prototype testing.
- **Operational Ramp-Up (Mid-2026 to 2027)**: Full assembly line commissioning, certification audits, and pilot production runs.
- **Full Operations (2027 Onward)**: Scaling to high-volume output, with capacity for millions of battery units annually.

Initial production will focus on aerospace prototypes, expanding to defense contracts as systems mature.

Our Mission and Commitment

Chargex is dedicated to empowering the aerospace and defense sectors with domestically produced, high-quality lithium batteries that drive innovation and security. By establishing this US plant, we commit to:

- **Domestic Resilience**: Reducing reliance on international supply chains and mitigating geopolitical risks.
- **Innovation Leadership**: Investing in R&D to advance battery technologies, including solid-state cells and ultra-high-density packs.
- **Sustainability and Ethics**: Prioritizing eco-friendly manufacturing, with recycling programs and low-emission processes.
- **Client-Centric Excellence**: Delivering tailored solutions that exceed expectations, fostering long-term partnerships with industry leaders like Virgin Galactic.

This facility will create hundreds of high-skilled jobs and position Chargex as a key player in the US manufacturing landscape for critical technologies.

CHARGEX AEROSPACE LLC
WWW.CHARGEXBATTERY.COM
1-855-CHARGEX (855-242-7439)