



Bechtel Introduction

NAATBatt 2024

Battery Cell, Components & Recycling Capital Projects

Bechtel Areas of Focus

Bechtel is a trusted engineering, construction, and project management partner to industries and governments across the globe. We align our capabilities to our customers' missions with safety, quality, ethics, and integrity.

Energy HQ
Texas, United States

**Nuclear, Security & Environmental HQ
Manufacturing & Technology HQ**
Virginia, United States



Infrastructure HQ
London, United Kingdom

\$30.1 billion
new work booked (USD)

100+
nationalities

17,000+
colleagues worldwide

\$16.8 billion
revenue (USD)

25,000 extraordinary projects in **160** countries on all **7** continents.

Nuclear, Security & Environmental

- 80% of nuclear plants in the U.S., and 150 worldwide designed, serviced, or delivered by Bechtel
- Construction and operation of national security facilities
- Building the world's largest and most complex radioactive treatment plant



Energy

- Designed and built 1/3 of global LNG capacity
- 275+ refinery expansions and modernizations
- 50,000 miles (80,500 km) of pipeline systems
- 380+ major chemical and petrochemical projects



Mining & Metals

- 200 million metric tons per annum of installed iron ore productions
- 42 major copper projects
- 30 aluminum smelter projects
- 8 alumina refinery projects



Infrastructure

- 300 subway and rail projects
- 17,200+ miles (27,700 km) of highways and roads
- 6,200+ miles (10,000 km) of railroads
- 390 individual power plants
- Complex Buildings



Manufacturing & Technology

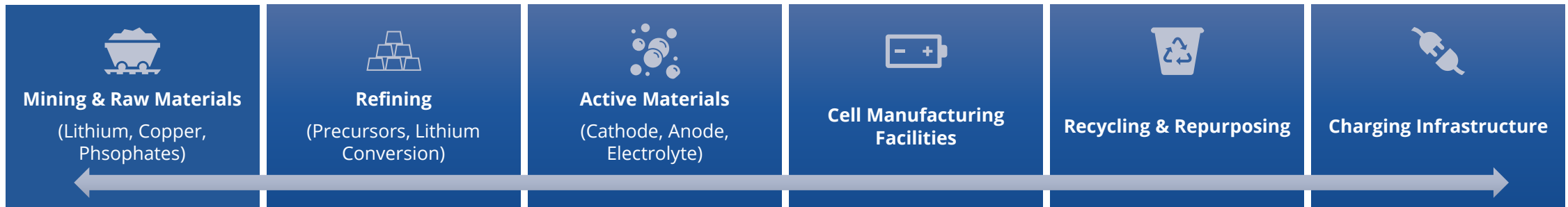
- 75 industrial, manufacturing, and technology projects
- Sectors include battery materials, EV charging and infrastructure, semiconductors, and data centers
- Expertise in digital delivery, advanced manufacturing, automation, and robotics



Mining & Materials HQ
Santiago, Chile



Bechtel's Battery & Charging Infrastructure Offering

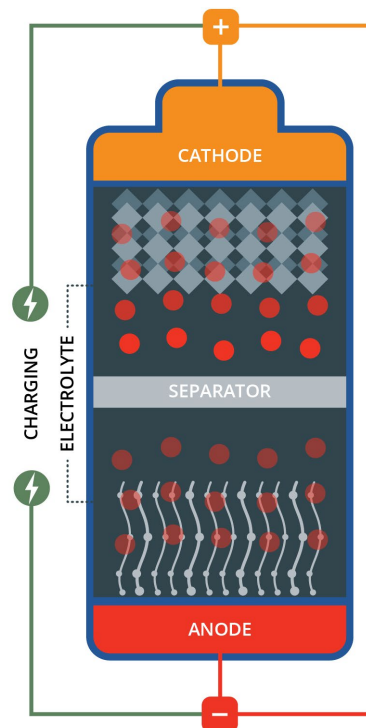


Experience with CapEx Project Challenges

- ✓ Full scope of EPC, EPCm services
- ✓ Flexible Models & Roles
- ✓ Experience Scaling new technologies
 - ✓ Speed to Market
- ✓ Proven ability to perform across the globe

Addressing Battery CapEx Project Challenges

- ✓ Global Supply Chain and Logistics Expertise
- ✓ Best-in-Class project controls methodology
- ✓ Advanced Work Packaging (AWP) for max productivity
 - ✓ Lessons Learned & Return on Experience
 - ✓ "Design One, Build Many"



Focused Approach to Battery Projects

- ✓ International team of technical specialists
 - ✓ First principles process engineering
 - ✓ Adjacent market expertise
- ✓ Focus on Efficiency & Constructability
 - ✓ Design Localization

Expertise From Concept to Commissioning

- ✓ Industrial control system integration
- ✓ Batch & Continuous operation design
- ✓ Flexible approach to handle evolving design change
- ✓ Construction completions and operations "ramp-up"
- ✓ Interface management across suppliers & partners

Assessing & Managing Capital Project Risk

INDUSTRY LEADING CAUSES OF COST AND SCHEDULE OVERRUNS

- | | |
|---|--|
| <p>Megaproject Experience</p> <ul style="list-style-type: none"> ✘ Inadequate scope definition ✘ Lower craft productivity ✘ Limited labor availability ✘ FOAK / Scale up complexity ✘ Out-of-sequence engineering and procurement ✘ Weather ✘ Change management ✘ Optimism bias | <p>Academic Research¹</p> <ul style="list-style-type: none"> ✘ Scope Change ✘ Overexposure to “black swans” ✘ Lack of statistically-backed contingency ✘ Complex interfaces ✘ Non-standard technology ✘ Long planning horizons ✘ Stakeholder management ✘ Confirmation bias ✘ Principle-agent problems |
|---|--|

THE BECHTEL APPROACH

- ✔ Manage and minimize interfaces
- ✔ Consistent reporting and dashboarding
- ✔ Integrate planning and execution
- ✔ Advanced work packaging with end in mind
- ✔ Mitigate resource constraints
- ✔ Global purchasing power
- ✔ Minimize rework
- ✔ Maximize productivity
- ✔ World-class processes and integrated tools
- ✔ Proactive management to mitigate weather

ADDITIONAL PROJECT-SPECIFIC RISKS

- | | |
|---|---|
| <ul style="list-style-type: none"> ✘ AHJ Approvals ✘ Franchised Utilities ✘ Fragmented GC Buyout ✘ Adjacent facility & vibrations | <ul style="list-style-type: none"> ✔ Established informational meetings with AHJ ✔ Early engagement of utilities ✔ Include funding gates in schedule ✔ Bechtel staffing labor capabilities + strategic teaming ✔ Active vibration monitoring |
|---|---|

Effective risk management begins before the first shovel hits the dirt and is an active part of each day for every member of the project team.



¹Bent Flyvberg, 2017, “Introduction: The Iron Law of Megaproject Management”



Chris Putman

Project Development Manager
Bechtel Manufacturing & Technology
csputman@bechtel.com

Please reach out to talk about your upcoming capital projects!