



Bechtel Overview

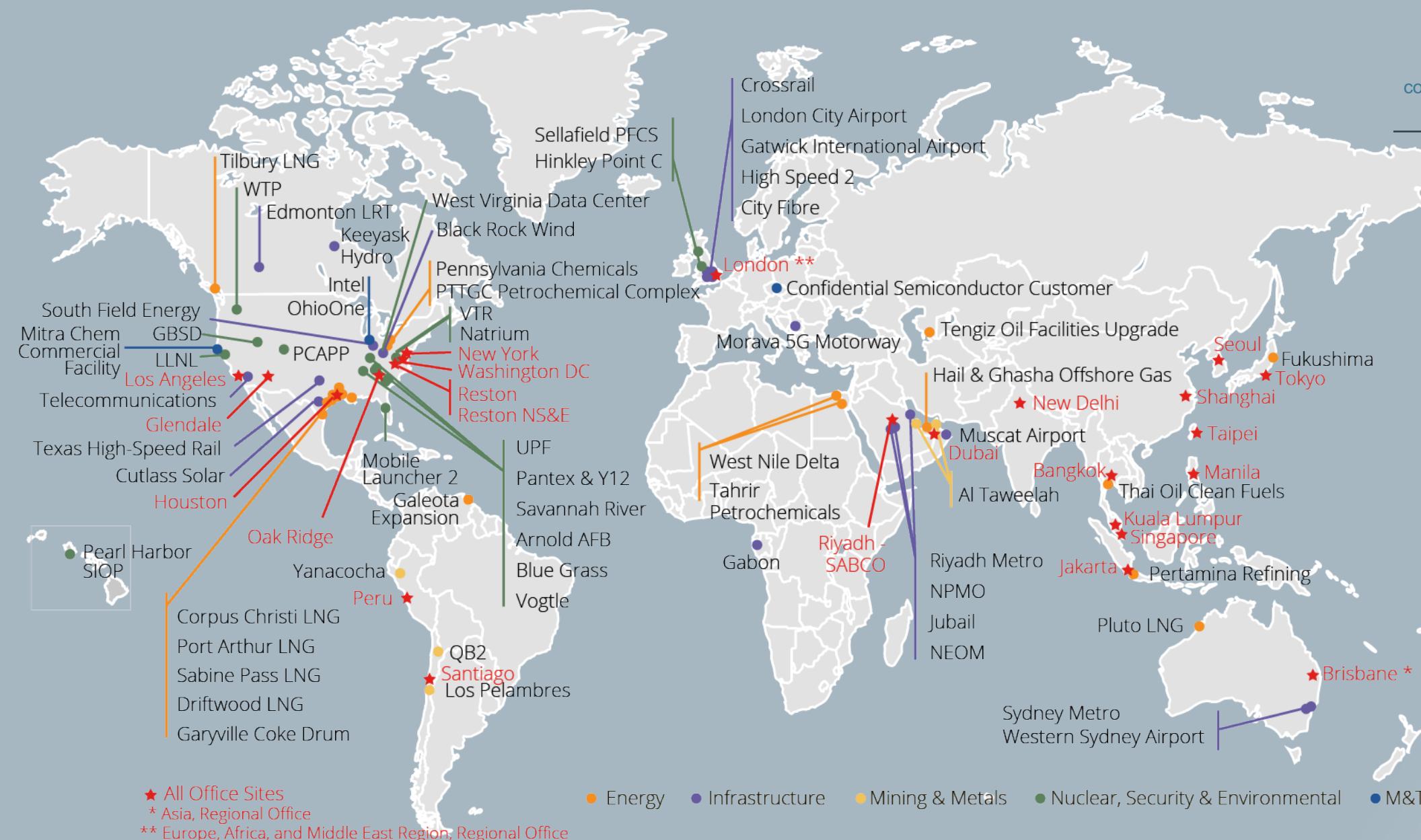
NAATBatt

Tuesday, February 21, 2023

Bechtel Manufacturing & Technology



Bechtel | Overview



16,000+
colleagues worldwide

100+
nationalities

\$25+
2022 NWB in billions of U.S. dollars

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

Engineering:

Construction:

Contracts and Procurement:

Project Controls:

Commissioning and Startup:

QA/QC:

ES&H:

Administrative Services:

Business Development:

Business Services:

Executive and General Management:

Human Resources:

Industrial/Labor Relations:

IS&T:

Legal & Risk Management:

Operations:

Other/specialty:

6512

1039

1506

1315

375

339

837

773

158

999

296

497

148

771

115

72

100

Spotlight Facts

Safety
>159 million hours worked in 2022 with a LTIR of 0.015

Sabine Pass
300,000 cu yd of concrete / 100,000 tons of steel / 1.7m LF of piping

Penn Chem
>8,000 craft
Plant Vogtle
>12,000 craft

PCAPP & WTP
Advanced Automation and Controls

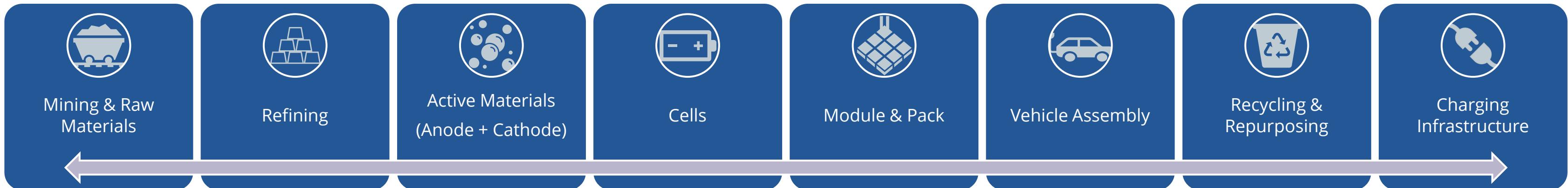
Craft Professionals
>1 billion hours of union labor worked in the U.S. in recent yrs

LNG & Repeatability

- 9 LNG trains in 9 yrs. since the first train achieved FNTP in Aug'12
- 30% improvement in schedule performance from train 1 to train 9
- 16 months faster delivery than closest competitor



Bechtel's Battery Offering



Full Vertical: Mine-to-Recycling + Charging

Full Capex Execution: Engineering, Procurement, Construction, Commissioning, and Project Management

Scaling: Pilots to Gigafactories

Speed to Market: Agile Integrated Execution

Partnership: Transparency and Collaboration



Project Risk – Bechtel Response

Leading causes of cost and schedule overruns

Project experience

- ✗ Inadequate scope definition
- ✗ Lower craft productivity
- ✗ **Limited labor availability**
- ✗ **FOAK / scale up complexity**
- ✗ Out of sequence engineering and procurement
- ✗ Weather
- ✗ **Change management**
- ✗ Optimism Bias



Academic research¹

- ✗ Scope change
- ✗ Overexposure to “black swans”
- ✗ Lack of statistically backed contingency
- ✗ Complex interfaces
- ✗ Non-standard technology (FOAK)
- ✗ Long planning horizons
- ✗ Stakeholder management
- ✗ Confirmation bias
- ✗ Principle-agent problems

⁽¹⁾ Bent Flyvbjerg, 2017, “Introduction: The Iron Law of Megaproject Management”

The Bechtel approach to drive certainty

- ✓ Manage & minimize interfaces
- ✓ Consistent reporting & dashboarding
- ✓ Integrate planning and execution
- ✓ Advanced work packaging with end in mind
- ✓ Mitigate resource constraints
- ✓ Mitigate supply chain constraints
- ✓ Global purchasing power
- ✓ Minimize rework
- ✓ Maximize productivity
- ✓ World-class processes & integrated tools



welcomes inquiries from companies looking for EPC and Project Management partners in building out the North American battery supply chain.

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