



Bechtel Overview

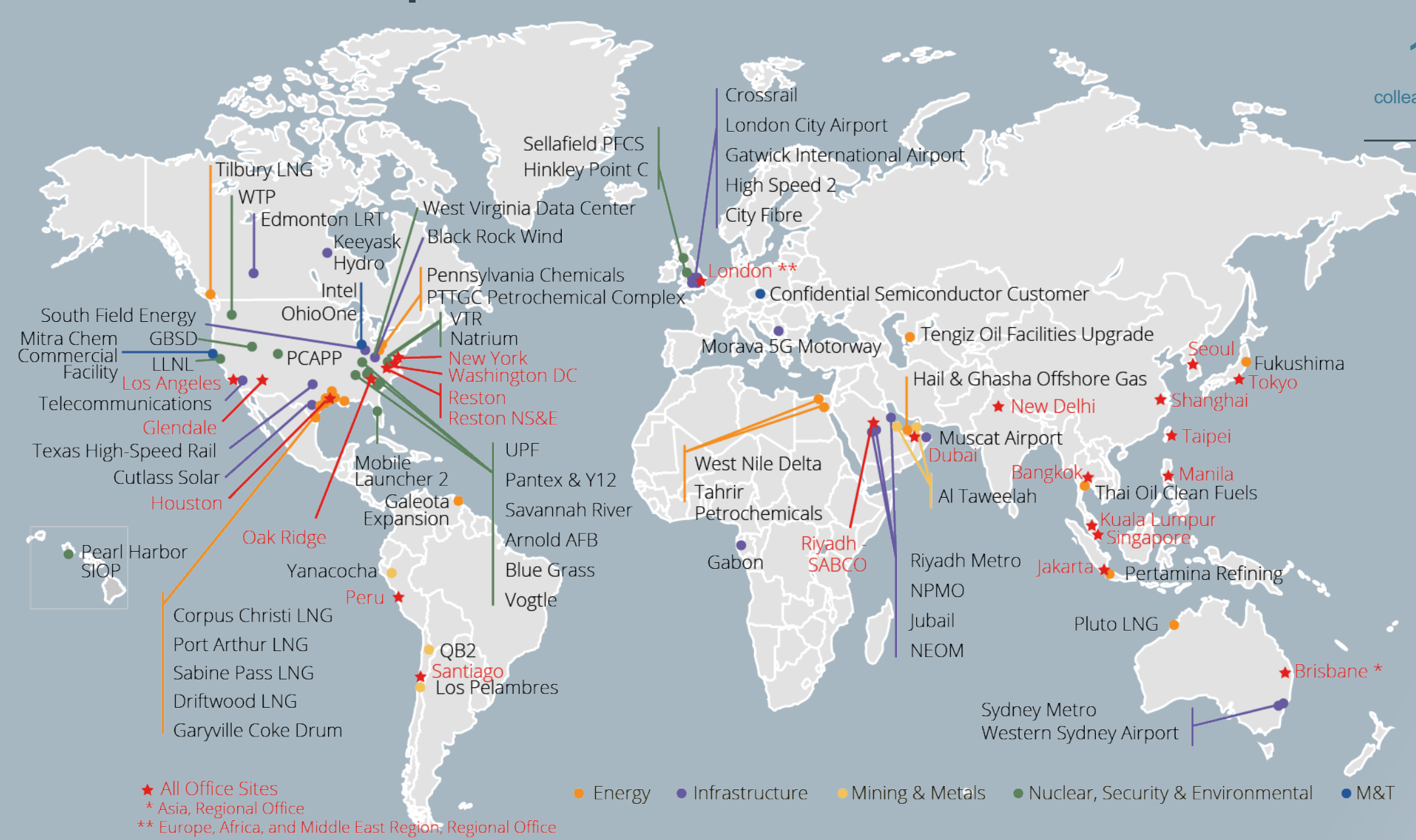
NAATBatt

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.

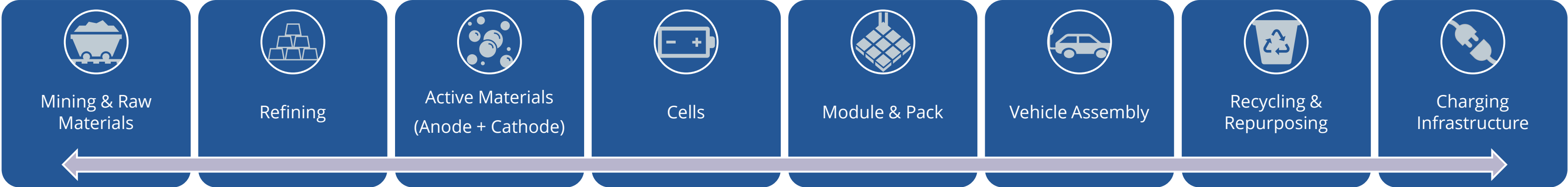
Engineering:	6512
Construction:	1039
Contracts and Procurement:	1506
Project Controls:	1315
Commissioning and Startup:	375
QA/QC:	339
ES&H:	837
Administrative Services:	773
Business Development:	158
Business Services:	999
Executive and General Management:	296
Human Resources:	497
Industrial/Labor Relations:	148
IS&T:	771
Legal & Risk Management:	115
Operations:	72
Other/specialty:	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 <ul style="list-style-type: none">9 LNG trains in 9 yrs. since the first train achieved FNTF in Aug'1230% improvement in schedule performance from train 1 to train 916 months faster delivery than closest competitor
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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 Flyvberg, 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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