



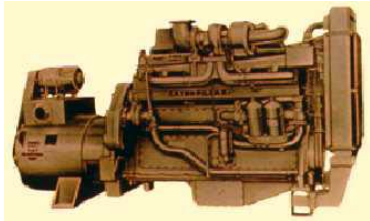
Cat introduction & CMM engines experiences

Joe Zhou
Caterpillar Asia Pacific Electric Power

THE HISTORY OF OUR PROGRESS: 1925



- Established in 1925
- Founding fathers were C.L. Best and Benjamin Holt
- In October 1931, the company's first diesel tractor model, a Diesel Sixty, rolled off a new assembly line in East Peoria, Illinois
- In 1937, D1700 developed, the first Cat Diesel tailor-made for electric power applications.
- In 1947, Cat converted D1300 and D1700 diesel engines to natural gas engines.
- World Headquarters in Peoria, Illinois, USA



PRODUCT... CONFIGURATIONS

7 kW to 15 MW



Open Sets



Enclosed Sets



Mobile Units

5 to 50 MW



Modular Power Plants



100 MW

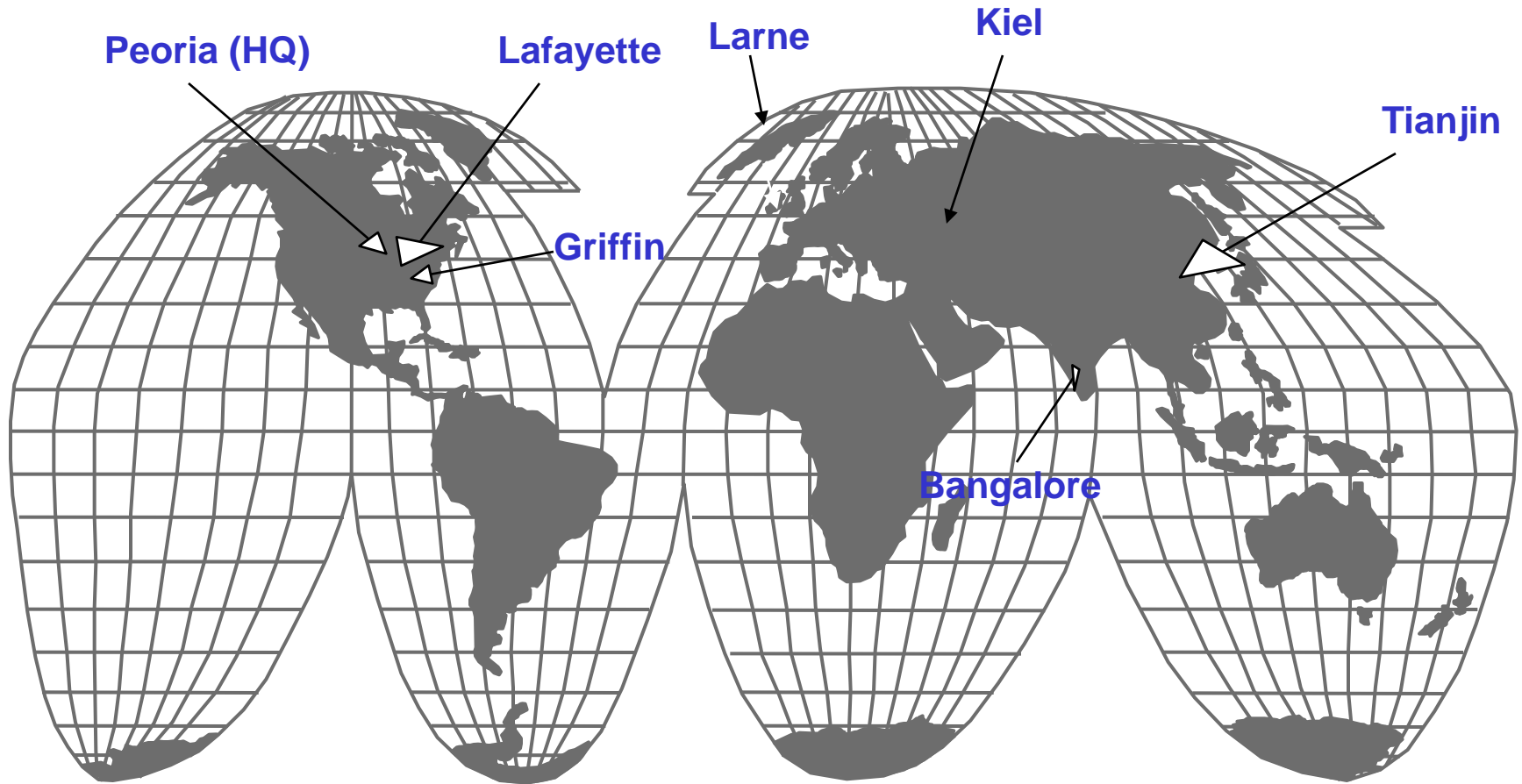


Power Barges

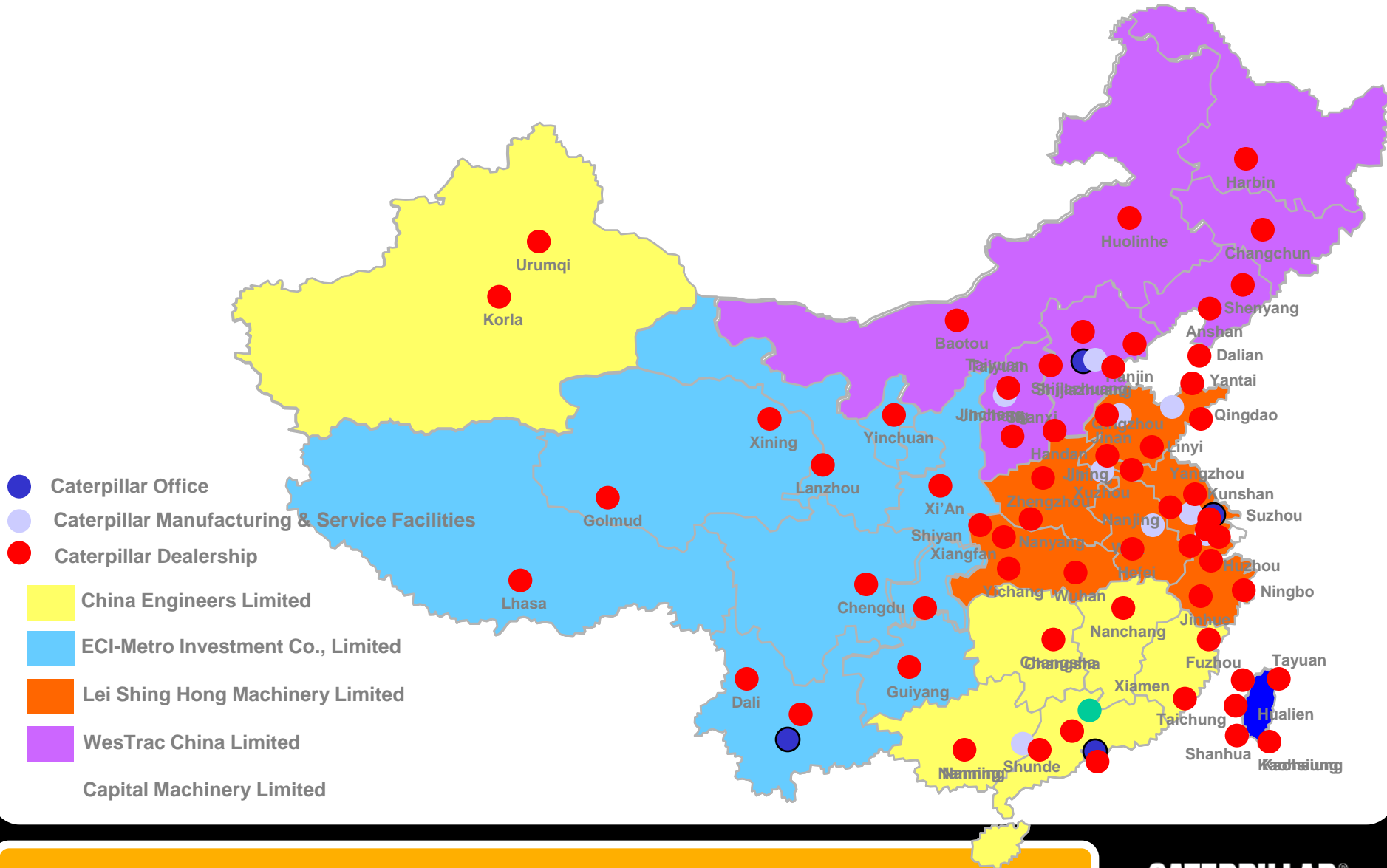


Turnkey Power Houses

EPD – MANUFACTURING & PACKAGING FACILITIES



CATERPILLAR & CAT DEALERS IN CHINA



One company.™ A multitude of solutions.



Cat G3520C CMM Generator Set

- Feature:
 - Lower gas supply pressure: 5kPa with open chamber design (pre-chamber design requires over 300kPa gas pressure to the engine)
 - Higher fuel swing adaptability: with remote methane sensor input for online adjustment of gas quality
 - Island mode capability: transient response meets ISO8528 Class 1 requirement
 - Lower operating and maintenance cost: 2000 hours oil change-over period, extended top-end overhaul period
 - Reliability: based on the Cat 3500 series platform with most reliability in the industry
 - Durability: 80,000-120,000 hours for major overhaul
 - Combined ambient and altitude capability
 - High efficiency: 41.4% electrical efficiency



Pre-sales, Project Execution & Aftersales Support

- Team Caterpillar provide customers the following supports (not limited) during sales:
 - Pre-feasibility study
 - Size the generator sets based on customer gas characteristics, load and application, select suitable generator sets with all necessary attachments to meet the customer needs.
 - Provide customer with draft engine room design drawings based on site condition, verify room space, foundation, ventilation, exhaust, system back pressures, provide suggestions to the customer.
 - Invite customers for technical meetings to familiarize with Cat gensets and systems, application & installation requirements.

Pre-sales, Project Execution & Aftersales Support

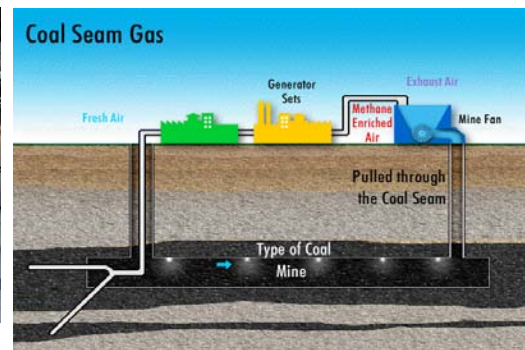
- Team Caterpillar provide customers the following project support during execution period:
 - Optimize engine room design based on customer requirement and site conditions
 - Produce the generator set, ship and clear Customs, customer is assured of timely equipment arrival and quality of goods arrived.
 - Communicate with customers in advance to coordinate with customers for the equipment lift and storage at site.
 - Kickoff meeting with customer, coordinate with contractors and partners to develop project cross-execution plan to minimize interferences and achieve soonest completion.
 - Generator set installation audit.
 - Commissioning, load test and performance test.
 - Customer operators training and maintenance training.
 - Handover to customers with equipment, materials and documents.

Pre-sales, Project Execution & Aftersales Support

- Team Caterpillar provides customers the following aftersales support:
 - Stock right assortment engine parts in Cat Asia Distribution Center (Singapore), Cat China Distribution Center (Shanghai), dealers parts warehouse (headquarters + branches).
 - Provide customers the engine maintenance, S.O.S. scheduled oil sampling and analysis, repair and service, top-end overhaul, in-frame overhaul and major overhaul, from the closest dealer outlet (in Jincheng).

CAT GAS ENGINES

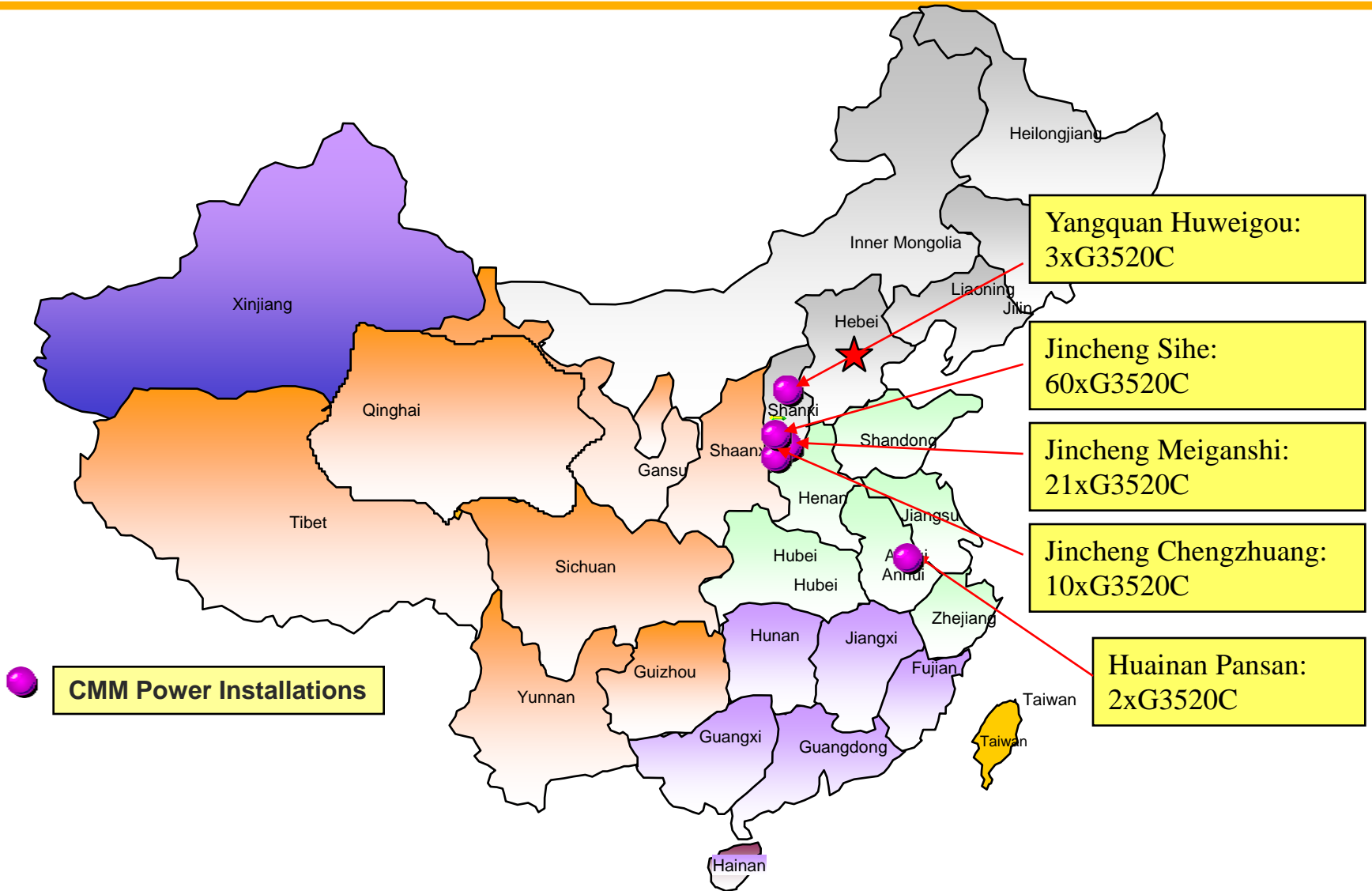
- Gaseous Fueled Engines (no liquid fuels)
 - Natural Gas
 - CBM/CMM
 - Field Gas
 - Bio-Gas
 - Digester Gas
 - Landfill Gas
 - Propane Gas (vaporized)
 - Other Gases



CMM POWER PROJECTS IN CHINA

- Huainan Pansan Mine (CMM): 2xG3520C, 2x1800ekw
- Yangquan Huweigou Power Plant (CMM): 3xG3520C, 3x1800ekw
- Jincheng Sihe Mine (CMM): 60xG3520C, 60x1807ekw
- Jincheng Chengzhuang Mine (CMM): 10xG3520C, 10x1807ekw
- Jincheng Meiganshi Power Plant (CMM): 21xG3520C, 21x1807ekw

CMM SITES IN CHINA



HUAINAN PANSAN MINE



| | |
|-----------------|--------------------------------------|
| Year | 2006 |
| Power | 2 x 1800 ekW at 1500 rpm |
| Delivery | 2 x G3520C CMM Genset with enclosure |

YANGQUAN HUWEIGOU CMM PLANT



| | |
|-----------------|--------------------------|
| Year | 2007 |
| Power | 3 x 1800 ekW at 1500 rpm |
| Delivery | 3 x G3520C CMM Genset |

JINCHENG SIHE MINE



| | |
|-----------------|-------------------------------------------------|
| Year | 2008 |
| Power | 60 x 1807 ekW at 1500 rpm |
| Delivery | 60 x G3520C CMM Genset + 4 sets Cat Switchgears |

CUCBM PANHE CNG STATION



| | |
|-----------------|-------------------------|
| Year | 2005 |
| Power | 3 x 725 ekW at 1500 rpm |
| Delivery | 3 x G3512LE CBM Genset |

One company.™ A multitude of solutions.

CATERPILLAR®



Questions?

Thanks for Your Attention!
For more information, contact:
010-59210422 or visit
www.cat.com