QUARRY & AGGREGATES AND CEMENT INDUSTRY SOLUTION

Guangxi Liugong Machinery Co., Ltd.
No.1 Liutai Road, Liuzhou, Guangxi 545007, PR China

T +86 772 3886124
E overseas@liugong.com
www.liugong.com

Contents`

PREFACE

From our foundation in 1958, and the introduction of China's first modernized wheel loader in 1966, for over 65 years we' ve put our customers at the heart of everything we do. Through continuous effort and technological innovation, LiuGong has developed a series of tough equipment. Today, we offer over 30 product lines covering all major construction applications. Across the world, from the searing heat of the Sahara, to the extremely cold of the Antarctic, we' ve built our reputation for designing and building a tough range of machines that help our customers do more and earn more. LiuGong continue to expand global network and provide trusted local support to customers. With over 500 certified and trained dealers in over 130 countries and regions, we provide a service team that puts you first whenever and wherever you need us.

LiuGong has over 30 years of experience providing equipment and services to more than 1,000 global mining worksites. Our team of professional product application engineers is present on-site globally, understanding the needs of mining users, offering technical trainings and advices on equipment selection, fleet matching, equipment operation, and operator training. Feedback on equipment usage from mining sites is promptly relayed to our R&D team, inspiring the design and optimization of our full range of robust equipment. We also collaborate with customers to develop new products tailored to specific working conditions and personalized requirements.

We know that delivering optimum performance is all about detail, detail that can save valuable seconds and lead to greater profitability. LiuGong provide a comprehensive non-ferrous metal mining product solutions that meet your all-around needs—safety, efficiency, energy saving, environmental protection, and intelligence.

Focusing on enhancing corporate ESG (Environmental, Social, and Governance) performance and strengthening core competitiveness, LiuGong' s full solutions will help you create greater value.

INTRODUCTION TO GLOBAL AGGREGATES AND CEMENT INDUSTRY

The rapid global urbanization and industrialization have profoundly impacted the construction industry, significantly driving the demand for various construction materials, including construction aggregates. As predicted by the United Nations, by 2050, the global population will reach 9.7 billion, an increase of 1.7 billion compared to 2023. This surge is leading to a dramatic rise in urban populations and generating a substantial need for new buildings. According to the World Bank, the number of cities worldwide had reached 849,407 by 2022, and by 2050, 68% of the global population is expected to live in urban areas. As construction activities for residential and commercial buildings such as shopping malls, hospitals, and schools continue to increase, the demand for construction materials such as cement will continuously rise.

However, the construction industry faces several challenges alongside its rapid development. High transportation costs of aggregates are one of the main bottlenecks hindering market expansion. Since construction sites are often far from quarries, transportation costs can account for nearly 50% of the total cost of construction aggregates. Additionally, the negative environmental and health impacts of cement production, along with high energy consumption and stringent government regulations, are issues that the industry must address.

Despite these challenges, the construction industry continues to innovate. Advances in aggregate production technology have significantly improved manufacturing efficiency and product quality. In addition, with the digital transformation of the construction industry, time management and cost planning have been effectively optimized. The sustainable use of raw materials, waste reduction, and overall project performance enhancement have received strong support. The promotion and use of environmentally friendly materials, such as green cement, have also helped to alleviate environmental pressures.

Global Distribution of Quarry and Aggregates

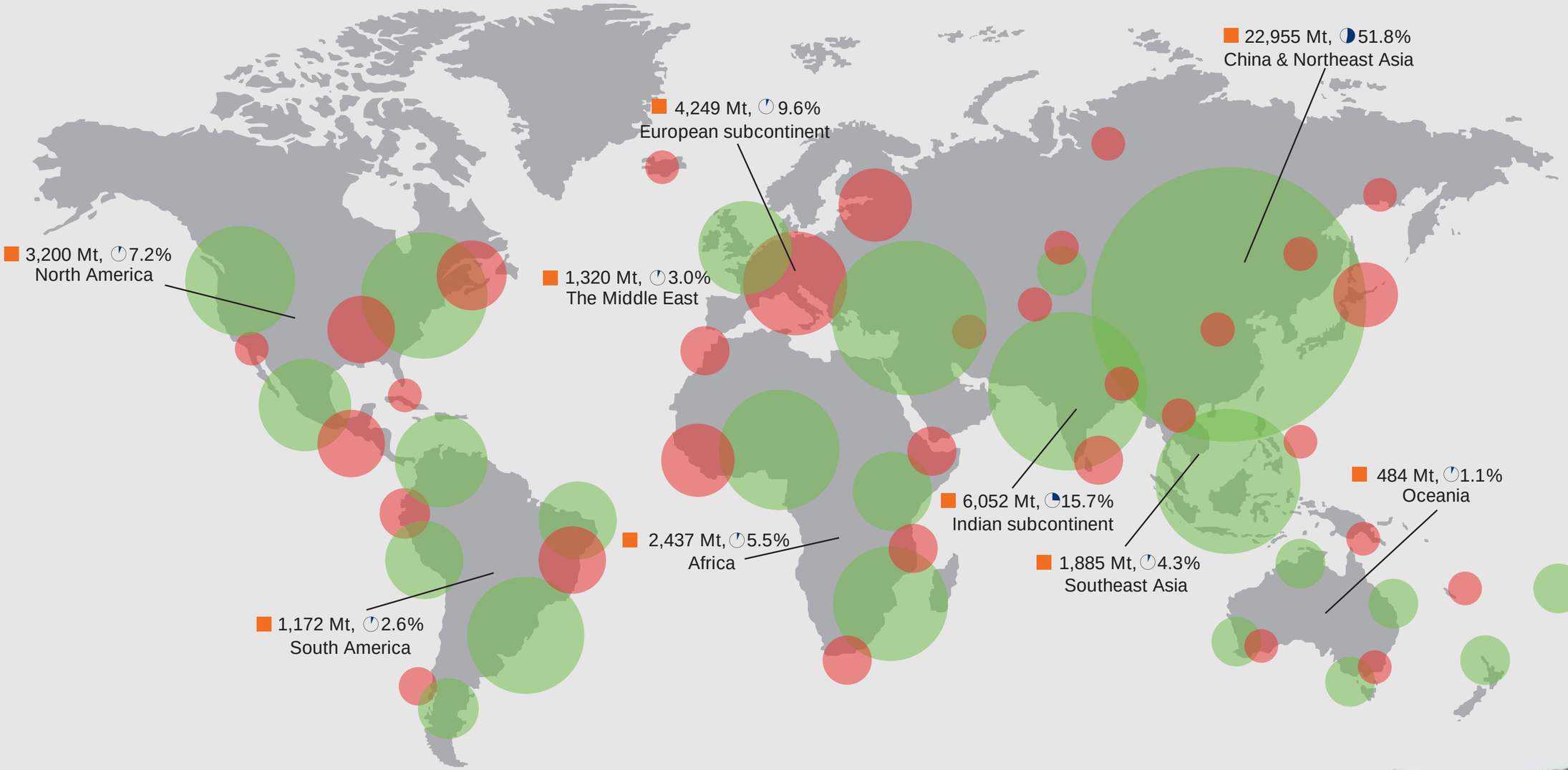
Quarry, aggregates, and cement production are mainly concentrated in East Asia, North Asia, India, Europe, and North America, while other regions have huge market potential with urbanization.

Production **Global proportion**

Global Cement Plant Distribution

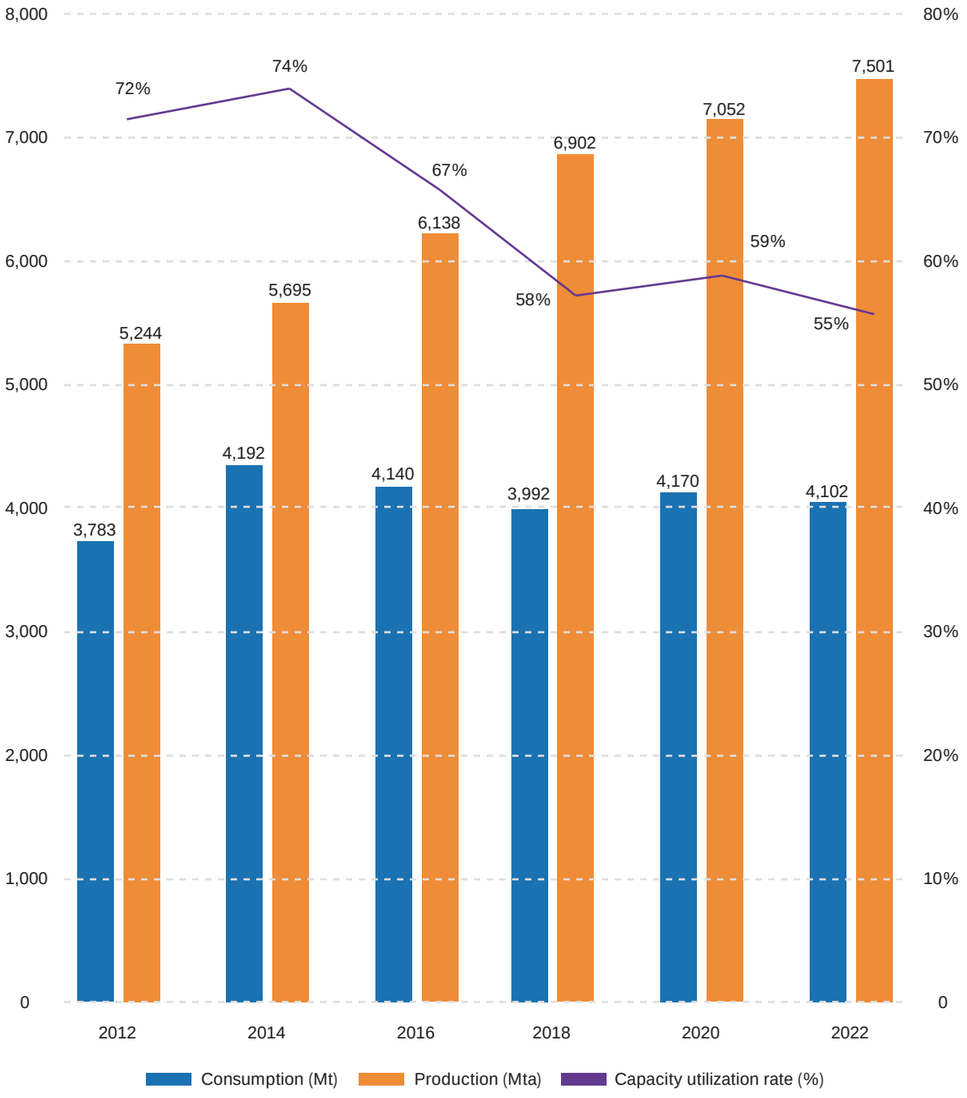
Equipment type

Milling equipment **Integrated mill**



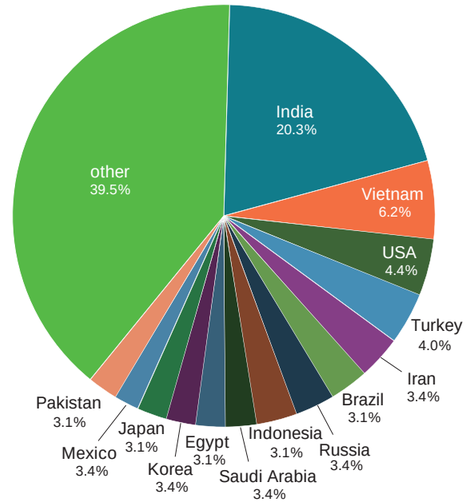
Data sources : https://www.aggbusiness.com/feature/growing-global-aggregates-sustainably
The Global Cement Report, 15th, ICR Research

2012-2022 World cement consumption, production and capacity utilization

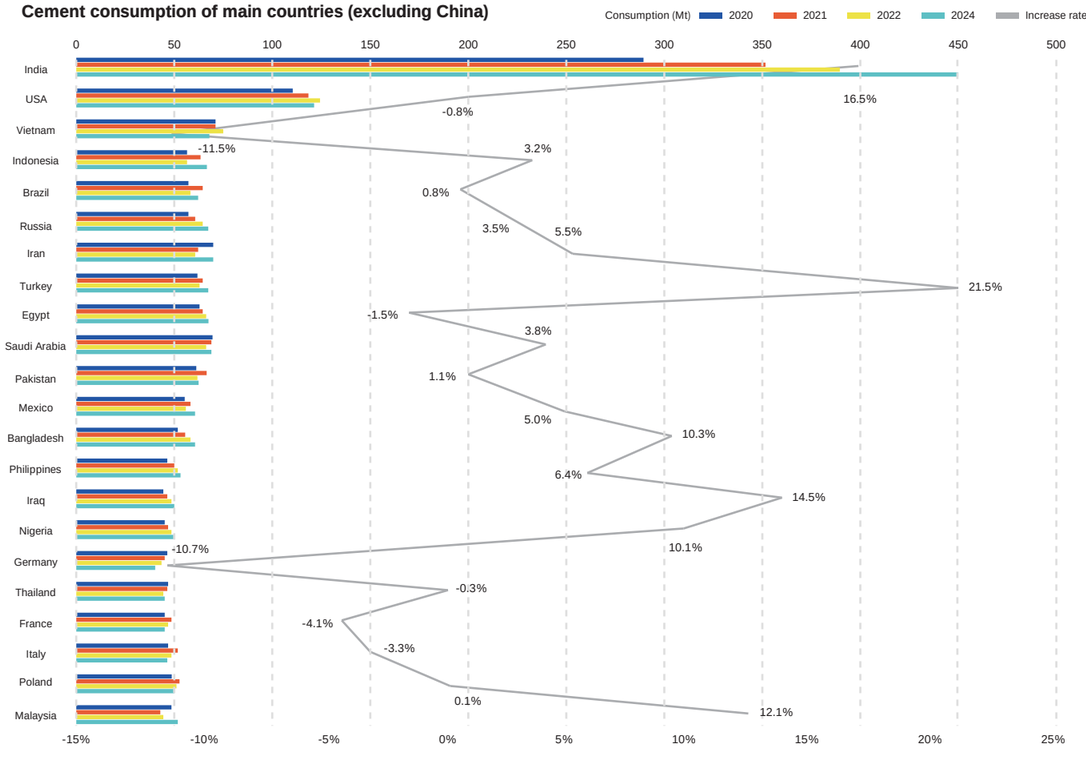


In 2022, global cement production and consumption experienced significant fluctuations, mainly influenced by the demand and output of the Chinese market. Nevertheless, the general trend of global cement consumption is on the rise, with stable growth in production and consumption observed in regions outside of China. As the global economy recovers and infrastructure development progresses, the global cement market is expected to continue to expand in the coming years, with vast growth opportunities ahead.

Cement production split of main countries (excluding China)



Cement consumption of main countries (excluding China)



Data sources : The Global Ccement Report, 15th Edion, ICR Resoarch

Development Trends of Global Cement Industry

Under the global goals of achieving carbon peaking and carbon neutrality, the cement industry, as a significant source of carbon emissions, has drawn considerable attention for its pollution and carbon reduction, as well as quality improvement initiatives. International organizations and leading companies have set carbon neutrality targets by 2050, and are committed to achieving carbon-neutral throughout the lifecycle of concrete, involving multiple stages including production, use, demolition, and recycling etc.

To achieve these goals, the industry is implementing various measures:

- **Improving Energy Efficiency:** Reduce energy consumption by optimizing production processes and equipment.
- **Increasing the Use of Biomass and Alternative Fuels:** Use low-carbon or zero-carbon fuels to reduce reliance on fossil fuels.
- **Developing Low-Carbon Cement:** Develop and use low-carbon cement materials, such as low-clinker cement, to reduce carbon emissions in cement production.
- **Promoting New Processes and Technological Innovations:** Introduce advanced production technologies and processes to enhance the environmental performance of cement production.
- **Control Cement Demand:** Reduce cement usage from the source to lower overall carbon emissions.

  Concrete is primarily composed of aggregates, cement, and additives, with aggregates accounting for over 70%. Therefore, optimizing the aggregates industry chain is crucial for achieving carbon neutrality in concrete. In the future, the aggregates industry chain will develop in the following directions:
- **Establishing Aggregates Production Base:** Building concrete mixing plants on the foundation of aggregates production base to fully utilize the stone powder generated during the manufacturing of machine-made aggregates and reduce transportation costs.
- **Forming an Integrated Industry Structure:** Combining aggregates production, grinding stations, concrete mixing, logistics, and waste resource recycling to form a fully integrated industry chain.
- **Eco-Industrial Parks with Intelligent Control:** In certain regions, stone mining will be integrated with aggregates production, grinding stations, commercial concrete, and concrete products manufacturing, as well as incorporate renewable energy sources such as photovoltaic and wind power. Additionally, these parks will integrate soil improvement, ecological agriculture, ecological forestry, and cultural tourism etc., to achieve the integrated development of primary, secondary, and tertiary industries.

Through these measures, the industry will strive to build a holistic ecosystem of mountains, rivers, forests, farmland, lakes, and grasslands, achieving optimal resource utilization and sustainable development. As an equipment supplier, LiuGong has delivered over 5,000 units of new energy machines, reducing carbon dioxide emissions by 300 million kilograms, making significant contributions to the global carbon neutrality goals. LiuGong's green and intelligent products, plus its energy-saving and emission-reduction technologies will facilitate green mining and processing of stone mines, promote the comprehensive utilization of construction waste, tailings, and waste rock, and ultimately achieve effective restoration and sustainable development of the ecological environment.

LIUGONG TOTAL SOLUTIONS

LiuGong provides complete mining product solutions for global quarrying and open-pit mining customers, addressing their site-specific operational demands.

Equipment Solutions

We provide efficient, stable, and eco-friendly equipment solutions, systems, and advanced technologies for the entire quarrying process - including topsoil stripping, mining, crushing & screening, material transportation, and land reclamation. Our comprehensive and customized strategies ensure safe, productive, and sustainable quarry operations while delivering holistic problem-solving approaches tailored to industry needs.

Experts On-site Research and Planning

Before mining, LiuGong experts conduct on-site surveys, collects data and materials, performs sample experiments and analyses, optimizes mine layout, and selects the best equipment and fleet. They compare fleet capacity, efficiency, and estimate total cost of ownership (TCO), and recommend mining operation plans. During mining operations, LiuGong experts continuously optimize fleet matching through on-site assessments, provide operational techniques training to improve fleet efficiency, as well as safety operation training, fatigue and distraction management training to ensure safe and efficient mine operations.

Technical Solutions

LiuGong's iLINK Equipment Intelligence System provides equipment status monitoring and health management, to maintain high-performance efficiency and increase equipment uptime. LiuGong's Smart Mining Management System enables comprehensive mine operation management, utilizing AI intelligent scheduling according to production plans and progress. It offers real-time monitoring from fleet efficiency to equipment full lifecycle management, enhancing fleet productivity and reducing cost per ton.

Aftermarket Solutions

LiuGong provides customers with professional services, including equipment handovers, safety operation and basic maintenance training, efficiency-improving operational techniques training, genuine parts supply, on-site service, maintenance, periodic inspections, oil sample analysis, equipment health management, preventive maintenance, overhauls, and remanufacturing value-added services, ensuring high-performance operation throughout the equipment lifecycle.

Intelligent, Green, and Low-carbon Solutions

As electrification deepens, LiuGong collaborates closely with customers to plan clean energy (wind and solar) and energy storage for charging equipment, gradually achieving the goals of intelligent, green, and low-carbon mine operations.

Financial Solutions

LiuGong offers diversified tailored financing packages, empowering mining operators to dedicate greater strategic focus to core extraction processes and asset optimization.

Together with global customers, LiuGong is dedicated to continuously optimizing every process of mining operations, creating efficient, high productivity, safe, intelligent, and green mines, thereby contributing to the sustainable development of the global economy.

LIUGONG EQUIPMENT SOLUTIONS

Product Portfolio Solutions

Based on the scale of quarry mines, the recommended fleets are as follows:

Mine Scale		Small Quarry (Annual production <500,000 tons)		Medium Quarry (Annual production 500,000 ~1000,000 tons)		Large Quarry (Annual production ＞1000,000 tons)	
Working Condition and Process	Machine Type	Tonnage/Power	LiuGong Corresponding Models	Tonnage/Power	LiuGong Corresponding Models	Tonnage/Power	LiuGong Corresponding Models
Road construction, surface stripping, excavation and crushing, site backfilling	Wheel Loader	130～220 hp	835T, 856H	220～400 hp	856H, 870H, 886T, 890T, 8100TE,8110TE	> 250 hp	870H, 886T, 890T, 8100TE, 8128H,8110TE,8250TE
	Excavator	20～30 T	926F, 936F	30～50 T	936F, 942F, 952F	> 50 T	952F, 975F, 995F, 9135F
	Mining Truck	20～30 T	Customized according to requirements	30～40 T	Customized according to requirements	> 60 T	DW90A, DW105A, DR50CE, DE100C
Road construction	Motor Grader	200 hp	4180D	200 hp	4180D	>200 hp	4215D, 4230D, 4260D,4320D
Road construction	Roller	10～20 T	6614E	10～20 T	6618E	> 18 T	6118E, 6120E, 6620E, 6126E, 6618E, 6626E
Road construction, surface stripping, backfilling	Bulldozer	160 hp	LD20D	230 hp	LD20D, LD26D	> 320 hp	LD36D, LD60D
Drilling and blasting	Drilling Mcachine	90～152 mm	DH45A-H DH47A-H DH845A-H DH846A-H DH945/946/947A-A	90～152 mm	DH45A-H DH47A-H DH845A-H DH846A-H DH945/946/947A-A	N/A	N/A
Crushing and screening	Crushing and Screening Equipment	100～300 T/h	LI1213/LI1214	<1000 T/h	LMI1213	>1000 T/h	N/A
Transportation to crushing and screening equipment, handling and storage, loading and dispatching	Wheel Loader	130～220 hp	835H, 856H	220 hp	856H	> 250 hp	870H, 877H, 886T, 890H, 8100TE,8110TE

CEMENT INDUSTRY PROCESS FLOW

Survey and Planning

Road Construction

Wheel Loader
856H, 870H

Bulldozer
LD20D, LD26D, LD36D

Motor Grader
4180D, 4215D, 4230D, 4260D

Excavator
922F, 936F

Roller
6618E, 6620E, 6626E

Surface Stripping

Excavator
922F, 936F, 942F, 952F

Bulldozer
LD20D, LD26D, LD36D

Drilling and Blasting

Drilling Rig
DH45A-H, DH47A-H, 845, 846, 947

Excavator
925F, 936F 952F

Loading and Hauling

Excavator
952F, 975F 995F, 9135F

Wide-body Mining Truck
DW90A, DW105A, DW120A

Rigid Mining Truck
DR50C, DE100C

Wheel Loader
856H, 870H, 886T, 890T, 8128H,8100TE,8110TE,8250TE

Crushing and Screening

Crushing Station
LJ106,LJ116,LJ120,LC300,LC400, LI1213,LI1214,LS133,LSH623

Wheel Loader
835T, 856H, 870H, 886T

Site Reclamation (Re-greening)

Bulldozer
LD36D, LD60D

Wheel Loader
835T, 856H, 870H, 890T

Cement Plant

Wheel Loader
835T, 856H 862H, 870H, 886T

Forklift Truck
CPCD30/35E, CPCD40/45EL, CPCD50/60/70E, CPCD85/100E

Survey and Planning

Quarry, aggregates, and cement production are mainly concentrated in East Asia, North Asia, India, Europe, and North America, while other regions have huge market potential with urbanization:

1.If geological conditions, ore deposit morphology, and terrain allow, a chute-horizontal adit design scheme should be selected.

2.When using mobile crushers, loaders can be used to directly load and unload ore if the transport distance is less than 200 meters.

3.Large mines can adopt phased and zoned mining methods to reduce the transport distance of ore during each phase.

Cement Plant Production Scale Corresponding to Mineral Resources/Reserves

Cement Plant Production Scale	Ore Resource/Reserve (Million Tons)	
	Calcareous Raw Materials	Clayey and Siliceous Raw Materials
2,000	3,000 and above	500 and above
4,000	6,000 and above	1,000 and above
10,000	15,000 and above	2,500 and above

Reserves of Cement Raw Materials for Open-pit Mining should meet the following requirements

Engineering Project	Opening Reserves	Recoverable Reserves
New construction or expansion of mines	12 months of ore production	6 months of ore production

Classification of Quarry Production and Construction Scale

Limestone Production Scale	Small Quarry	Medium Quarry	Large Quarry
	<500,000 tons/year	500,000 - 1 million tons/year	1 million tons/year

Road Development

In quarry mining, road construction is a core element in enhancing mining efficiency and ensuring smooth internal transportation. During the early stages of construction, it is essential to conduct safety assessments, environmental protection planning, and equipment preparation. The design phase should consider the mine's terrain, layout, transport vehicles, and traffic flow to determine suitable road parameters. The construction process includes clearing, excavation, filling, paving, and compaction to ensure that the roads are level, stable, and meet quality standards.

For road-truck transportation methods, the general transport distance should not exceed 3 km. Main ore transport roads should preferably use cement concrete, gravel-bonded, or asphalt surfaces, while the unloading platform at the crushing station should use cement concrete. Other roads may use gravel-bonded surfaces.

Liugong is committed to providing efficient and environmentally-friendly mining road solutions. Liugong's equipment covers all stages of road construction, from ground clearing to road paving, including excavators, bulldozers, motor graders, and rollers. These machines not only offer high performance and durability but also achieve precise operation and efficient construction through intelligent technology. Liugong focuses on energy conservation and emission reduction, promoting the use of new energy and electric equipment to reduce carbon emissions during construction. Through these measures, Liugong helps improve construction quality, reduce environmental impact, and support the sustainable development of the mining industry.

Roller

Model	Opareting Weight	Rated Power	Nominal Amplitude Range	Vibration Frequency Range
6618E	18,300 kg	140 kW (188 hp) @ 2,200 rpm	2.0 mm/1.3 mm	28/32 Hz
6620E	20,000 kg	140 kW (188 hp) @ 2,200 rpm	2.0 mm/1.3 mm	28/32 Hz
6626E	26,000 kg	177 kW (237 hp) @ 2,200 rpm	2.1 mm/1.3 mm	28/32 Hz

Features:

Flowing Ball Type Flexible Vibration Technology
Soft start-stop mechanism eliminates instant impact loads, ensuring vibration bearing service life exceeds 10,000 hours.

Optimized Drum Cooling System
Built-in cooling fans maintain thermal equilibrium at ~90℃ (optimum operating temperature), significantly lower than competing products.

Enhanced Compaction Performance
12.6% higher centrifugal force vs. industry standards ensures efficient compaction,
Larger drum diameter reduces ground contact stress while improving surface finishing quality.

Maintenance-Oriented Design
Hood opens to 60° for direct access to service points,
Independently sealed excitation chamber simplifies component replacement.

Operational Excellence
Triple-stage vibration damping & Ergonomic controls & Fail-safe reliability,
Dual-drive configuration delivers 52% theoretical gradability for extreme slopes and loose terrain,
Single-drive version achieves 35% climb capacity, surpassing industry rivals.

Recommended Equipment for Road Development

Wheel Loader

Model	Rated Power	Tipping Load - Full Turn	Bucket Capacity
856H	162 kW (217 hp) @ 2,000 rpm	11,900 kg	3.0 ~ 4.0 m³
870H	190 kW (255 hp) @ 2,200 rpm	16,200 kg	4.0 ~ 5.0 m³

Excavator

Model	Opareting Weight	Rated Power	Bucket Capacity
922F	22,800 kg	124 kW (169 hp) @ 2,050 rpm	1.0 m³
936F	38,500 kg	264 kW (359 hp) @ 2,100 rpm	1.9 m³

Bulldozer

Model	Opareting Weight	Rated Power	Blade Capacity
LD20D	17,500/20,000 kg	140 kW (187 hp) @ 2,000 rpm	3.8 ~ 5.0 m³
LD26D	24,000 kg	184 kW (250 hp) @ 2,000 rpm	5.4 ~ 8.4 m³
LD36D	40,000 kg	280 kW (330 hp) @ 2,000 rpm	11.7 ~ 21 m³

Motor Grader

Model	Opareting Weight	Rated Power	Drawbar Pull	Blade Width
4180D	15,500 kg	142 kW (190 hp) @ 2,200 rpm	85 kN	3,960 mm
4215D	16,500 kg	162 kW (217 hp) @ 2,200 rpm	90 kN	4,270 mm
4230D	16,700 kg	180 kW (241 hp) @ 2,200 rpm	91 kN	4,270 mm
4260D	20,300 kg	194 kW (260 hp) @ 2,200 rpm	149 kN	4,570 mm

Features:

Multi-Mode Power Selection
Adjustable power modes adapt to diverse operational requirements.

Certified Panoramic ROPS/FOPS Cab
Five-pillar design provides unobstructed visibility,
Compliant with national rollover and falling-object protective structures (ROPS/FOPS) certifications.

Reinforced Structural Integrity
High-strength frame components ensure robust and stable performance.

Standard Disc Roller & Adaptive Blade Control
Flexible disc roller system guarantees reliability,
Single hydraulic cylinder adjusts blade cutting angle with expanded range for superior terrain adaptation.

Ergonomic Control Console
Reduced lever operation force and zero control lag enhance precision,
Minimizes operator fatigue through intuitive handling.

Stabilized Working Mechanisms
Articulated steering, blade angle modulation, and lift cylinders equipped with balancing valves optimize operational stability.

Streamlined Transport Compatibility
Direct blade-to-flatbed truck loading capability improves logistics efficiency.

Topsoil Stripping

Topsoil stripping is the initial step in quarrying operations, primarily involving the removal of surface soil to expose the rock layer beneath. This process helps to clearly define excavation areas and facilitates subsequent drilling, blasting, and quarrying operations. By stripping the topsoil, soil resources are protected, avoiding damage to fertile soil layers during the quarrying process. Additionally, the stripped topsoil can be used in ecological restoration efforts, such as revegetation, contributing to the maintenance of ecological balance.

Topsoil stripping requires equipment with strong excavation capabilities, high load capacity, and powerful pushing force to quickly complete the stripping work. Liugong's loaders, excavators, bulldozers, and mining trucks, designed specifically for earthmoving and transportation, can work in tandem to help mining clients efficiently complete this task.

Liugong Equipment Solutions for Topsoil Stripping

Excavator

Model	Operating Weight	Rated Power	Bucket Capacity	* Recommended Production	Attachment
922F	22,800 kg	124 kW (176 hp) @ 2,050 rpm	1.0 m³	140 ~ 335 t/h	Heavy duty bucket (Rock teeth)
936F	38,500 kg	264 kW (359 hp) @ 2,100 rpm	1.9 m³	215 ~ 430 t/h	
942F	42,800 kg	231 kW (314 hp) @ 2,100 rpm	2.1 m³	300 ~ 700 t/h	
952F	50,000 kg	280 kW (375 hp) @ 2,000 rpm	3.2 m³	440 ~ 880 t/h	

* Actual Production Output Is Subject to Multivariate Influencing Factors

Bulldozer

Model	Operating Weight	Rated Power	Blade Capacity	Attachment
LD20D	17,500 ~ 22,000 kg	140 kW (187 hp) @ 2,000 rpm	3.8 ~ 5.0 m³	Ripper
LD26D	24,000 kg	184 kW (250 hp) @ 2,000 rpm	5.4 ~ 8.4 m³	
LD36D	40,000 kg	246 kW (330 hp) @ 2,000 rpm	11.7 ~ 21 m³	

Features:

Modular Transmission System
Integrates the torque converter and eliminates separate transfer case structure,
Modular design across systems facilitates easy installation/dismantling and improves maintenance accessibility,
Automatic Gear-Shifting Function.

Automatically switches gears at optimal shift points under varying conditions (load/speed)
Ensures smoother operation, enhanced power delivery, and reduced fuel consumption.

Preset Gear Logic
Avoids frequent gear switching during forward/reverse movements,
Lowers operator workload and increases system reliability.

High-Sealing Pressurized Cab
Noise-reduction and dust-proof design achieves industry-leading low noise levels at the operator's ear position.

Drilling and Blasting

Drilling and blasting is a critical step in quarrying operations, performed before excavation to create blast holes and fill them with explosives. This process efficiently breaks up hard rock, preparing it for subsequent excavation. Drilling and blasting techniques improve quarrying efficiency. Additionally, a well-designed blasting plan reduces environmental impact and ensures the safety of the quarrying operation.

Liugong's drilling equipment features fast construction, high precision, and flexible mobility, suitable for different mining environments while maintaining safety and environmental protection.

Hardness Range of Limestone

Rock Type	Aperture	Drill Depth	Drilling Rig Type	Machine Type
f=6-20, granite, gneiss, basalt, quartzite, quartz porphyry, limestone, etc.	90～152 mm	＜21m	Down-the-hole Drill	DH45A-H、DH47A-H DH845A-H、DH846A-H DH945/946/947A-A

Open-pit Quarry Mines are well-suited for deep-hole blasting with large single-blast volumes. The recommended equipment is a DTH (Down-The-Hole) drill rig. In this system:
The impactor is positioned at the base of the drilling apparatus, directly acting on the bit to minimize energy loss. Drill rods remain free from impact forces, resisting bending deformation and maintaining straight boreholes. Demonstrates optimal performance in complex rock formations while ensuring excellent adaptability.

Application Scenarios:

- Complex geological strata
- Medium-depth blast holes
- Compatibility with all mainstream borehole diameters

Recommended Drilling and Blasting Equipment - Blasting Drilling Machine

Type	Model	Hole Diameter	Rated Power
Split-type Drill	DH45A-H	90～115 mm	59 kW
Split-type Drill	DH47A-H	90～185 mm	73.5 kW
Integrated Drill	DH845	90～130 mm	190 kW
Integrated Drill	DH846	115～138 mm	240 kW
Integrated Drill	DH947	90～152 mm	220 kW

Operational Versatility
LiuGong split-type DTH drills paired with air compressors provide economical operation, specifically engineered for complex hard rock formations demanding straight, deep borehole execution. The integrated DTH rig configuration incorporates U.S.-manufactured compressors and ergonomically designed cabs, delivering rapid drilling progress with minimized fuel expenditure.

Optimized Drilling Performance
The automated control system continuously adjusts feed rate, thrust pressure, and impact pressure in response to geological variations, achieving optimal operational parameters. This proactive adjustment protocol effectively mitigates drill rod jamming and threading wear complications.

Enhanced System Longevity
Utilizing hydraulic components from internationally certified manufacturers ensures sustained reliability. High-precision filtration modules significantly extend maintenance cycles for critical hydraulic assemblies.

Loading and Hauling

Excavation is a core activity in quarries, responsible for digging and loading rock broken by blasting to meet the raw material needs of construction, roads, bridges, and other projects. This process is a crucial foundation for driving socio-economic development. Therefore, optimizing excavation technology and equipment is essential for improving quarrying efficiency and reducing production costs.

Liugong excavators offer significant advantages including powerful digging capabilities, a wide operational range, short loading cycle times, flexible operation, and ease of relocation, all of which enhance excavation efficiency.

Large Excavator

Model	Rated Power	Standard Bucket Capacity	* Recommended Production	Attachment
952F	280 kW (375hp) @ 2,000 rpm	3.2 m³	440 ~ 880 t/h	Short stick, Heavy excavate bucket (rock teeth)
975F	563 kW (755hp) @ 2,100 rpm	4.6 m³	720 ~ 1200 t/h	
995F	447.5 kW (600hp) @ 2,100 rpm	6.2 m³	860 ~ 1440 t/h	
9135F	567 kW (760hp) @ 1,800 rpm	9.0 m³	990 ~ 1920 t/h	

* Actual Production Output Is Subject to Multivariate Influencing Factors

Features:

High Efficiency & Energy Saving, Superior Performance:
Full-electronic control system enables precise hydraulic flow allocation, achieving 7% higher operational efficiency and 14% lower energy consumption, adaptable to diverse users and job sites. Delivers over 20% greater per-load energy efficiency.

Ultra-Robust Long-Life Structural Components:
Working Assembly: Large-section box structure enhances torsional/bending resistance by 12%; Integral cast support extends lifespan by 20%.

Main Frame: Dual-box monocoque design reduces stress concentration by 15%, increases rigidity by 10%, prolonging service life.
Undercarriage: Heavy-duty mining configuration with large-section track beams and extended wheelbase ensures exceptional stability.
Wheel System: Redesigned optimized carrier rollers reduce edge loads, extending longevity by 10%.

Slewing Bearing: Double-row ball structure with forged integral ring and minimized welds doubles load capacity (+100%).

Rigid Mining Truck

Model	Drive Type	Rated Power	Struck/Heaped Capacity(SAE)	Tire
DR50C	Hydro-mechanical Transmission	388 kW (520 hp) @ 2,100 rpm	21.8/29.8 m³	E4 Pattern Radial Tire
DR50CE	Electric (423 kWh)	480 kW (644 hp) @ 1,050 rpm	27/35 m³	
DE100C	Motor Drive	2×480 kW (1,286 hp) @ 2,100 rpm	43/60 m³	

Advantages of LiuGong Rigid Trucks with Electric or Electric Drive Solutions

The adoption of electrification or electric drive solutions demonstrates significant advantages:
Drastic Reduction in Delivery Cycle: Localized manufacturing of core components shortens lead times by 70%.
Enhanced Operational Efficiency and Energy Savings: Achieves 25% higher operational efficiency with 15–20% reduction in energy consumption.

Reduced Maintenance Costs: Lowers lifecycle maintenance and overhaul expenses by 50%.

Mining-Optimized Safety Features:
Dual-circuit wet braking system ensures stable parking on 20% slopes and superior downhill control.
Comprehensive safety protocols: Emergency steering, speed limiting, anti-rollback, lift-speed interlock, and lift-reverse gear lock.
Advanced protections: 360° camera, automatic fire suppression, FOPS-certified cabin, three-point seatbelt.

Driver-Centric Innovations:
Motor direct-drive gearless architecture improves driving comfort, reduces operator fatigue, and boosts productivity.

Recommended Equipment for Excavation

Large Wheel Loader

Model	Rated Power	Tipping Load Full Turn	Bucket Capacity Range	* Recommended Production	Attachment & Tire
856H	162 kW (217 hp) @ 2,000 rpm	11,900 kg	3.0 ~ 4.0 m³	450 ~ 860 t/h	Rock Bucket (wear-resisstant teeth) & L5 Pattern Tire +Traction Chains
870H	190 kW (255 hp) @ 2,200 rpm	17,166 kg	4.0 ~ 5.0 m³	530 ~ 800 t/h	
886T	240 kW (322 hp) @ 2,000 rpm	18,877 kg	4.0 ~ 5.0 m³	600 ~ 920 t/h	
890T	262 kW (351 hp) @ 2,100 rpm	21,350 kg	5.2 ~ 6.0 m³	710 ~ 1190 t/h	
8128H	419 kW (562 hp) @ 2,000 rpm	31,200 kg	6.0 ~ 7.0 m³	820 ~ 1380 t/h	

* Actual Production Output Is Subject to Multivariate Influencing Factors

Wide-body Mining Truck

Model	Rated Power	Struck/Heaped Capacity(SAE)	Attachment	Tire
DW90A	353 kW (473 hp) @ 1,900 rpm	32/38 m³	Rock Bucket	E4 Pattern Radial Tire
DW105A	382 kW (512 hp) @ 1,800 rpm	36/43 m³		
DW120A	570 kW (764 hp) @ 2,100 rpm	45/52 m³		

Large Capacity:
The wide-body truck is designed for bulk material transportation, capable of carrying and conveying large-volume ores, soils, and gravels.

Powerful Performance:
Equipped with high-power engines that adapt to steep slopes and rugged terrains, ensuring efficient haulage operations.

Enhanced Stability:
A broadened chassis profile coupled with a low center of gravity provides superior stability, enabling secure travel on uneven mine roads.

Structural Durability:
Robust vehicular construction withstands intensive usage in harsh working environments.

Operational Efficiency:
Coordinated operation with loading equipment enhances material transport productivity while minimizing cycle durations.

Equipment Matching for Loading

Optimal | Suboptimal | Alternative

Loading (Passes)		Wide-body Mining Truck				Rigid Mining Truck	
Product	Model	60T	70T	80T	100T (Developing)	45T	91T
		DW90A/AE	DW105A/AE	DW120A	DW150A	DR50C/DR50CE	DE100C
Excavator	950/952	9 ~ 10				7 ~ 8	
	965	8 ~ 9				6 ~ 7	
	970/975	7 ~ 8	8 ~ 9	9 ~ 10		5 ~ 6	
	990/995	5 ~ 6	7 ~ 8	8 ~ 9		4 ~ 5	9 ~ 10
	9125/9135		5 ~ 6	7 ~ 8	8 ~ 9		7 ~ 8
Wheel Loader	890	6 ~ 7	7 ~ 8	8 ~ 9	10 ~ 11	5 ~ 6	
	8128	4 ~ 5	6	7	8	4 ~ 5	
	8250				4		4

Excavation/ Secondary Crushing

Due to uneven blasting quality, oversized rocks need to be crushed into smaller pieces suitable for processing by crushers. Typically, a hydraulic breaker attached to an excavator is used for secondary crushing of large rock blocks to meet the feed requirements of crushers. This process places high demands on the durability and reliability of the excavator and its hydraulic breaker.

LiuGong excavators are specifically designed for crushing applications, featuring reinforced chassis and boom structures to handle harsh working conditions. Enhanced radiators ensure effective cooling performance for the entire machine.

Hydraulic Hammer Specifications and Selection:

Triangular Hammer Type	Rod Diameter	Operating Weight	Working Flow	Working Pressure	Impacting Frequency	Applicable Models
LGB140	140 mm	1,809 kg	120 ~ 180 L/min	160 ~ 180 kg/cm²	350 ~ 500 bpm	922F
LGB150	150 mm	2,218 kg	150 ~ 190 L/min	160 ~ 180 kg/cm²	300 ~ 400 bpm	926F
LGB155	155 mm	2,577 kg	180 ~ 240 L/min	160 ~ 180 kg/cm²	300 ~ 450 bpm	930F
LGB165	165 mm	3,277 kg	200 ~ 250 L/min	170 ~ 200 kg/cm²	250 ~ 380 bpm	936F
LGB175	175 mm	3,905 kg	200 ~ 260 L/min	180 ~ 210 kg/cm²	200 ~ 350 bpm	939F
LGB185	185 mm	4,365 kg	220 ~ 270 L/min	200 ~ 240 kg/cm²	200 ~ 250 bpm	942F
LGB195	195 mm	4,841 kg	220 ~ 290 L/min	200 ~ 240 kg/cm²	180 ~ 200 bpm	952F

Main Choice for Quarries: Triangular Hammer – offers good maintainability, easy operation, and reinforced jaws ideal for flattening and breaking rocks.

LiuGong Hydraulic Hammers Features:

High Efficiency:
Utilizes advanced hydraulic technology and design, delivering strong impact and crushing force, effectively breaking various types of hard rocks.

Energy-Efficient and Environmentally Friendly:
Precision hydraulic control allows for efficient energy conversion and utilization, reducing energy waste. Additionally, hydraulic breakers have lower noise and vibration levels, minimizing environmental impact and aligning with modern green construction standards.

High Reliability:
Constructed with high-quality materials and advanced manufacturing processes, LiuGong hydraulic hammers are durable, wear-resistant, and impact-resistant.
Easy Maintenance: Designed for ease of maintenance, with a compact structure that facilitates easy disassembly and assembly.

Intelligent Control:
Equipped with advanced intelligent control systems, allowing for remote monitoring and adjustment of hydraulic hammer parameters in real-time to adapt to varying working environments and project needs.

Crushing and Screening

Crushing and screening are critical steps in the quarrying process. They involve using specialized equipment to crush and screen rock materials, producing aggregates that meet specific standards. This process ensures that the aggregate quality and size are suitable for engineering applications, while also enhancing material utilization and reducing waste. Efficient crushing and screening are vital for smooth project execution.

Liugong's crushing and screening equipment enhances operational efficiency, reduces environmental impact, and ensures high-quality aggregate production, meeting the demands of modern quarrying and construction projects.

Equipment	Production	Dimension	
Jaw Crusher	< 500 T	≤ 700 mm	Jaw crusher: often used as head broken, coarse crushing processing, the working principle of extrusion crushing, deep cavity crushing, can handle large block stone, high efficiency, adjustable discharge.
Impact Crusher	< 540 T	≤ 900 mm	Impact crusher: suitable for medium hardness, soft material, medium and fine crushing processing, the use of impact to crush materials, specially designed rotor and cavity type, the finished product is cube, particle shape.
Cone Crusher	< 275 T	≤ 210 mm	Cone crusher: medium and fine processing, using the working principle of extrusion crushing, a variety of cavity combination, can deal with high hardness stone, wearing parts strong wear resistance, long service life, automatic control system + touch screen, more convenient operation.

Model	LJ106DP	LJ116E	LI1213DP	LI1214E	LC300DP	LS133DP
Type	Jaw	Jaw	Impact	Impact	Cone	Screener
Weight	52,000 kg	54,000 kg	63,500 kg	54,000 kg	56,000 kg	32000 kg
Crusher Model	C106	C116	C250	C315	HP300	/
Feeder Size	1,060 × 700 mm	1,150 x 760 mm	1,300 x 900 mm	1,300 x 960 mm	/	/
Hopper Capacity	4 m³	6 m³	5 m³	7 m³	3 m³	3.1 m³
Power Type	Dual Power	Cable Driven	Dual Power	Cable Driven	Dual Power	Dual Power
Engine Model	QSL8.9	QSB5.9	QSZ13	QSB5.9	KTA19	QSB5.9
Engine Power Rate	235 kW	113 kW	512 kW	133 kW	490 kW	120 kW
Output t/h	130-520 t/h	150-520 t/h	150-360 t/h	170-400 t/h	100-380 t/h	180-350 t/h

1.Liugong New series of Mobile crushing and screening product line provides excellent performance
2.We have dual power, external cable power, diesel engine power. With different power type, we can fulfill customers ’ various working condition, and we aim to provide lower energy cost to achieve better TCO
3.With low frequency reposition application, we also have modular crushing and screening plant to help our customer have a lower investment.

Material Feeding

1. Mobile Crushing and Screening Equipment: Directly fed by loaders or excavators.

2. Fixed Crushing and Screening Equipment: Typically requires transportation of material by trucks to the fixed crushing and screening plant. Excavators assist in material scraping and crushing, while loaders are used for secondary transportation and feeding at the stockpile.

Feeding equipment needs to operate continuously for long periods, demanding high load capacity and durability.

Large Wheel Loader

Model	Rated Power	Tipping Load Full Turn	Bucket Capacity Range	* Recommended Production	Attachment
856H	162 kW (217 hp) @ 2,000 rpm	11,900 kg	3.0 ~ 4.0 m³	450 ~ 860 t/h	BOT Bucket, BOC Bucket
870H	190 kW (255 hp) @ 2,200 rpm	17,166 kg	4.0 ~ 5.0 m³	530 ~ 800 t/h	
886T	240 kW (322 hp) @ 2,000 rpm	18,877 kg	4.0 ~ 5.0 m³	600 ~ 920 t/h	
890T	262 kW (351 hp) @ 2,100 rpm	21,350 kg	5.2 ~ 6.0 m³	710 ~ 1190 t/h	
8128H	419 kW (562 hp) @ 2,000 rpm	31,200 kg	6.0 ~ 7.0 m³	820 ~ 1380 t/h	

Excavator

Model	Opareting Weight	Rated Power	Bucket Capacity	* Recommended Production
922F	22,800 kg	124 kW (167 hp) @ 2,050 rpm	1.0 m³	140 ~ 335 t/h
936F	38,500 kg	264 kW (354 hp) @ 2,100 rpm	1.9 m³	215 ~ 430 t/h

* Actual Production Output Is Subject to Multivariate Influencing Factors

LiuGong wheel loaders are available with bucket capacities ranging from 3 to 7 cubic meters, suitable for material handling and feeding of crushers. While the 22-35 tons excavators assist in material handling and feeding, the robust frame and reliable performance make them ideal for demanding feeding tasks.

Loading and Transportation

Loading and Transportation: The process involves loading excavated rock materials using loaders and transporting them to designated locations for further processing or utilization. Efficient loading and transportation are crucial for maintaining the smooth flow of material handling in mining operations.

LiuGong's large wheel loaders stand out in mining operations for their high loading efficiency, excellent adaptability, flexible operability, high safety, and significant economic benefits. These features not only improve work efficiency and reduce operating costs but also ensure work safety and reliability.

Backfilling and Reclamation

Backfilling and reclamation in quarrying are comprehensive processes that involve several aspects, including backfilling, soil improvement, vegetation restoration, and green maintenance. This process aims to restore the ecological environment of the quarry, reduce soil erosion and geological hazard risks, and provide strong support for local sustainable development.

Soil backfilling work is not only time-consuming but often conducted in harsh conditions, which poses significant challenges for operators. LiuGong excavators, bulldozers, and dump trucks are equipped with features such as a pressurized cab, air purification systems, and spacious seats, providing a comfortable working environment for operators and effectively alleviating the stress of prolonged operations.

Recommended Equipment for Backfilling and Re-greening

Bulldozer

Model	Opareting Weight	Rated Power	Blade Capacity Range
LD20D	17,500/20,000 kg	140 kW (187 hp) @ 2,000 rpm	3.8 ~ 5.0 m³
LD26D	24,000 kg	184 kW (250 hp) @ 2,000 rpm	5.4 ~ 8.4 m³
LD36D	40,000 kg	280 kW (330 hp) @ 2,000 rpm	11.7 ~ 21 m³

LiuGong Bulldozers equipped with high-volume buckets and backed by substantial power reserves, these machines deliver rapid cycle times in earthmoving and backfilling operations.

Cement Plant

In cement production, the main raw material is limestone, followed by sand, clay, shale, gypsum, iron, and other additives.

During the cement production process, construction machinery is involved primarily in:

Loaders handling various supplementary materials.

Forklifts loading and unloading bagged cement.

Wheel Loader

Model	Rated Power	Bucket Capacity Range
835T	113 kW (152 hp) @ 2,200 rpm	1.7 ~ 2.0 m³
856H	162 kW (217 hp) @ 2,000 rpm	3.0 ~ 4.0 m³
870H	190 kW (255 hp) @ 2,200 rpm	4.0 ~ 5.0 m³
886T	240 kW (322 hp) @ 2,000 rpm	4.0 ~ 5.0 m³

For material loading and handling, loaders with 13010t diesel and electric forklifts are suitable for finished product transfer.

Forklift

Model	CPCD20/25E	CPCD30/35E	CPCD40/45EL	CPCD45/50E	CPCD50/60/70E	CPCD85/100E
Power Type	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
Rated Power	36.8-45 kW	36.8-45 kW	36.8-45 kW	50-54.6 kW	85 kW	95.6 kW
Lift Capacity	2,000/2,500 kg	3,000/3,500 kg	4,000/4,500 kg	4,500/5,000 kg	5,000/6,000/7,000 kg	8,500/10,000 kg
Load Center Distance	500 mm	500 mm	500 mm	500 mm	600 mm	600 mm
Operating Weight	3,370/3,570 mm	4,260/4,630 mm	5,480/5,800 mm	6,630/6,880 mm	7,950/8,600/9,200 mm	11,300/12,500 mm

Model	CPCD30/35-EJL	CLGA16/18-T/C	CLG2015/18A-S	CLG2020A-S/E	CLG2020/25A-SC
Power Type	Electric	Electric	Electric	Electric	Electric
Traveling Motor Power	10 kW	4.5×2 kW	7.5 kW	7.5 kW	14 kW
Pump Motor Power	15 kW	11 kW	8.2 kW	8.2 kW	18 kW
Lift Capacity	3,000/3,500 kg	1,600/1,800 kg	1,500/1,800 kg	2,000 kg	2,000/2,500 kg
Load Center Distance	500 mm	500 mm	500 mm	500 mm	500 mm
Operating Weight	4,060/4,490 kg	3,350/3,430 kg	3,050/3,150 kg	3,300 kg	4,250/4,400 kg

ONSITE EVALUATION

When a new mining project starts, the selection and efficiency of the fleet are influenced by numerous factors and variables. Estimations often involve significant errors, leading to considerable deviations in fleet selection and Total Cost of Ownership (TCO) estimation, which can result in decision-making mistakes. Consequently, mining operational costs may increase, and investment returns could decrease, or even lead to losses.

Drawing on years of mature experience, LiuGong ensures more accurate fleet selection and TCO estimation for open-pit metal mines through expert on-site evaluation and advanced data analysis techniques.

LiuGong's application experts conduct on-site evaluations to thoroughly understand the actual operational needs of mining customers. Through precise and meticulous on-site investigations and data collection—including road planning, mining processes and schedules, production requirements, information gathering (climate, working hours, local government environmental policies, safety regulations, local work practices, etc.), and sample analysis of mining materials (such as density, hardness, loose coefficient)—LiuGong uses its proprietary product matching calculation system to accurately match machine performance with production efficiency requirements.

This approach enables LiuGong to provide optimal fleet recommendations tailored to the customer's needs. Following TCO assessment, LiuGong delivers a comprehensive analysis report that details the comparison of production efficiency and costs among different fleets, along with operational recommendations. So as to help clients make informed decisions, reducing cost per ton.

Customer requirements

↓

Fleet matching

↓

Fleet TCO estimation

↓

Optimal Fleet Recommendation (OFR)

↓

Report generation

Product matching calculation system

Support system

TCO estimation system

Technologies

Systematic Evaluation

- Fleet matching recommendations
- Recommended equipment and technology
- Equipment selection
- Site layout
- Expert on-site guidance
- Service fees

Information Collection

- Equipment cycle time
- Equipment configuration
- Transportation road analysis
- Measurement of material density
- Production capacity requirements
- Operator efficiency and working hours
- Selection of ground engaging tools

Analysis Tools

- Fleet output and cost
- Cycle time calculation software
- Onboard load data
- iLINK data
- Smart Mining Management System data

Analysis

Productivity Analysis

- Equipment load analysis
- Equipment loading and weighing System
- Belt weighing system
- Volume measurement system
- Equipment/fleet/mine production statistics
- Comparative analysis of different fleet production

Fuel Analysis

- Equipment/fleet fuel consumption
- Equipment/fleet fuel efficiency analysis
- Emissions
- Equipment idle time analysis

Transport Road Analysis

- Comprehensive transport road conditions
- Heavy load section analysis
- Safety ramp analysis
- Optimization recommendations
- Analysis of transport roads and vehicle speeds

Application Analysis

- Equipment/fleet quantity
- Working load size
- Equipment and fleet optimization plans
- Equipment and fleet utilization efficiency analysis

Recommendation

Recommendations to Customers

- Fleet output and cost
- Configuration recommendations for optimizing fleet productivity
- Improvement plans after detailed site inspection
- Analysis of operator techniques

Value-Added Services

Safety Services

- Fatigue and distraction management
- Cultivating a safety culture
- Product safety operation training

TECHNOLOGICAL SOLUTIONS

iLINK Equipment Intelligence System

Based on the iLINK system analysis, we will provide the following reports:

- Detailed operation and equipment usage reports.
- Recommendations for improving operator skills based on the mineral and mining environment.
- Total cost of ownership analysis.
- Sensitivity analysis, ideal combination of equipment for operations.

Scalability
Third-party platform compatibility, custom open API data integration interface

Positioning

EQUIPMENT MONITORING

- **Path Track**
- **Electronic fence**
- Positioning tracking

Maintenance and Diagnosis

MAINTENANCE REMINDER

- **Preventive maintenance (under development)**
- **Remote Diagnosis**
- Engine fault codes

Management
matrix access management (6 level access)

Asset Safety

ASSET MANAGEMENT

- **Driver Behavior**
- **Accident prevention**
- in time feedback

Operating Parameters

DATA REPORTS

- **Running time (engine hours)**
- **Data analysis reports (daily, weekly, monthly)**
- Fuel consumption (electronically controlled engine products)
- Load factor
- Energy-saving report
- **machine MCU operation parameters acquisition (real time)**

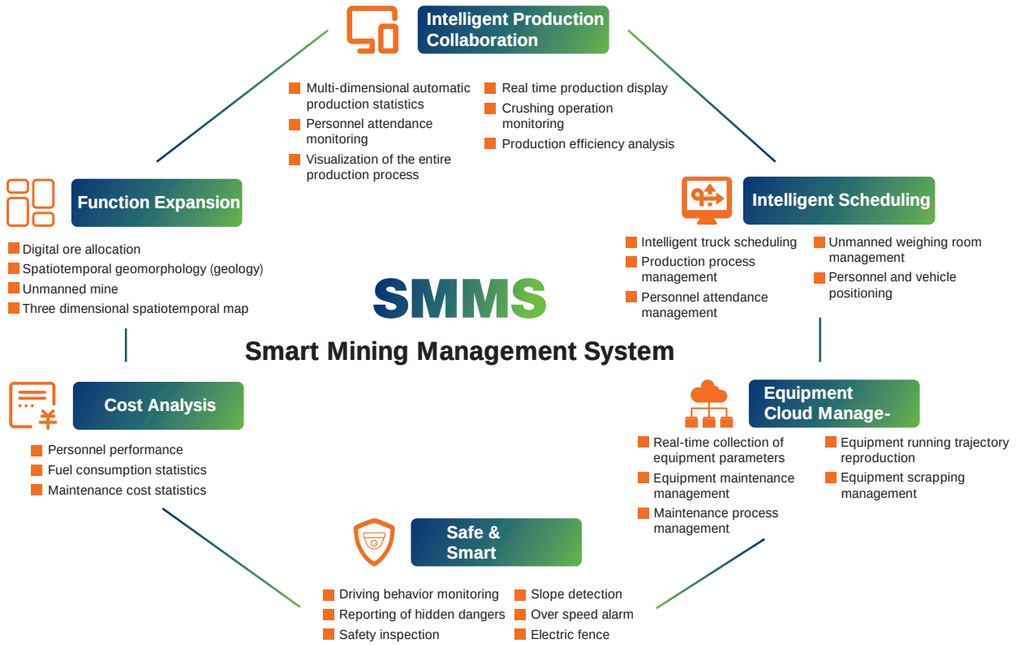
Smart Management Platform, Digitized Decision-Making

LiuGong's iLINK Equipment Intelligence System gives you real-time information on all of your machines. It provides you with equipment productivity evaluation, fault analysis, equipment maintenance reminders, remote equipment management, and other value-added services. For example, it provides you with a comprehensive analysis of equipment usage and the entire operating system to optimize the operation process.

We have global customer references with operations in various mining environments. Based on the knowledge and experience we gained from our global customers, we are able to provide you with the right guidance for your mining operations.

Smart Mining Management System

The Smart Mining Management System (SMMS) integrates LiuGong's iLINK system to monitor key equipment status information such as position, fuel consumption, operation, and remote diagnostics in real-time. It manages the entire lifecycle of equipment including regular/preventive maintenance, repairs, and spare parts inventory to increase equipment uptime, reduce maintenance time, and lower TCO. SMMS monitors real-time production, progress, and safe operations of the entire fleet, digitally and intelligently schedules and dispatches based on actual mining conditions, optimizing equipment matching, and enhancing fleet productivity. It provides technological support for efficient, safe, and intelligent mining operations.



Benefits of the Smart Mining Management System (SMMS) application to its mine users:

1. Digital management of all mining process, real-time data statistics and intelligent deployment improve operation efficiency by over 10%.

2. Precise digital management of production, equipment, and personnel, reducing overall costs by more than 10%.

3. Real time & comprehensive monitoring eliminates overloading and speeding. E-fence and fatigue management systems avoid safety accidents, enhance supervision capacity, and reduce on-site safety personnel.

System Structure

Application Layer

The application layer is the front-end of LiuGong Smart Construction System. Users can access the real-time mining production situation, as well as equipment operating status at anytime, anywhere, easily achieving one-click scheduling and data query.

Network Layer

Vehicle-to-vehicle communication is realized through the self-organized vehicle network, which offers low latency and easy maintenance, and is highly applicable to mining operations. Through the 4G/5G networks of telecom operators, vehicles realize data interaction with servers. The data interactions have no regional and time restrictions, and do not require users to build their own base stations.

Perception Layer

The perception layer collects data from drivers, vehicles, and loading points in real time through data acquisition equipment such as in-vehicle TBOX terminals and sensors, and monitors the operating status of vehicles in real time.

AFTERMARKET SOLUTIONS

Product Training

We provide customers with professional product training, including basic theoretical knowledge training, online learning platform, equipment operation training, equipment maintenance and professional technical skills training for service engineers. Customized training programs are offered based on the actual level of each customer's team.

Service Solutions

With over 500 certified and trained dealers in more than 130 countries around the world, we provide trusted and local support to our customers. With more than 30 overseas subsidiaries and agencies, over 20 overseas regional parts distribution centers (PDC), and 16 regional joint training centers, as well as call centers covering multiple countries, we provide a variety of customized service solutions to meet the actual needs of our customers.

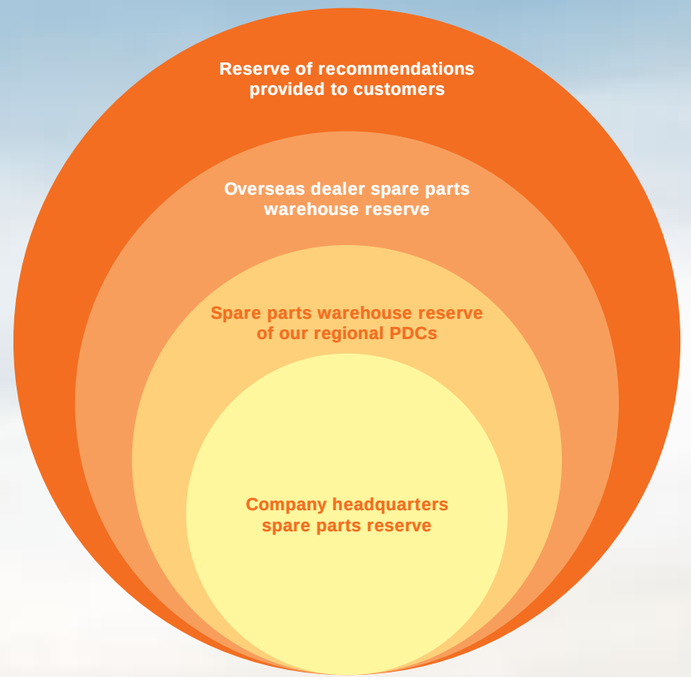
Our service solutions include

- Equipment Maintenance Plan
- Maintenance Training Program
- Equipment Disassembly, Assembly, and Transportation
- Equipment Downtime Service
- Equipment Upgrade and Replacement Services
- Service Package
- Customized Product Warranty Options

Parts Guarantee

Adequate and accurate spare parts reserves are very important for mining users. What's more, we can also provide appropriate consignment plans based on the business needs of our coal mining customers. We also offer various forms of credit sales, such as installment payments and deferred payments.

LiuGong meets the needs of mining customers through four levels of spare parts reserves.



FINANCIAL SOLUTION

We are committed to continually improve full solution, including credit and financial solu tions for our dealers and customers by innovation in equipment and service network to meet with their needs.

LiuGong began to offer financial leasing solutions to global customers since 2010. We understand our customers' businesses and provide multiple solutions to fit their needs.

Financial Leasing

Financial leasing is a great solution for customers to procure new machinery without the pressure of making a large payment in one go. Customers don't need to pay the full amount at once, which greatly reduces their payment pressure. Customers can use the equipment they need to complete their job and earn income to pay off the equipment. This provides our dealers and customers with more business opportunities.

Other Creative Financial Solutions

LiuGong is also actively exploring partnerships with Sinosure, and a number of Indonesian banks and leasing providers to offer our customers more creative leasing and insurance solutions that meet their needs.

Looking toward the future, LiuGong is planning a number of new credit and financial solutions which includes customized leasing, diverse payment scheme, etc. for our key customers and dealers.

INTELLIGENT, GREEN MINING SOLUTIONS

Solar Power Plants

Energy Storage Stations

LiuGong Electric Products

As electrification deepens, LiuGong collaborates closely with customers to deploy clean energy solutions (wind, solar) and energy storage charging equipment, gradually achieving intelligent, green, and low-carbon mining operations goals.

Intelligent, Green, Low Carbon Mining

Electric Product Solutions

Site Preparation and Road Construction

Motor Grader: 4280DE

Roller: 6622E

Surface Stripping

Excavator: 922FE

Mining Truck: DW90AE, DW105AE, DR50CE

Drilling and Blasting

Loading and Hauling

Wheel Loader: 870HE

Excavator: 922FE

Mining Truck: DW90AE, DW105AE, DR50CE

Crushing and Screening

Mobile Crusher

Mobile Screener

Site Reclamation (Re-greening)

Wheel Loader: 870HE

Excavator: 922FE

Mining Truck: DW90AE, DW105AE, DR50CE

Storage and Secondary Transportation

Wheel Loader: 838TE, 856HE, 870HE

Forklift: CPCD30/35-EJL
CLGA16/18-T/C
CLG2015/18A-S
CLG2020A-S/E
CLG2020/25A-SC

Machine	Model	Battery Capacity	Operating Weight	Bucket Capacity	Blade Width	Centrifugal Force Range
Electric Wheel Loader	838TE	193 kWh	12,760 kg	2 ~ 3 m³	/	/
Electric Wheel Loader	856HE	350/423 kWh	19,400/22,280 kg	3 ~ 4 m³	/	/
Electric Wheel Loader	870HE	423 kWh	24,200 kg	4.7 m³	/	/
Electric Wide-body Truck	DW90AE	423 kWh	95,500 kg	32 ~ 36 m³	/	/
Electric Wide-body Truck	DW105AE	423/428 kWh	109,500 kg	36 ~ 40 m³	/	/
Electric Rigid Truck	DR50CE	423 kWh	85,000 kg	22 ~ 30 m³	/	/
Electric Motor Grader	4280DE	423 kWh	24,000 kg	/	4,270 mm	/
Electric Roller	6622EE	423 kWh	22,000 kg	/	/	400/335 kN

Ultra-long endurance, low-carbon & environmental protection

Equipped with a 423 kWh large-capacity battery, providing ultra-long endurance, electric energy-driven, using lithium iron phosphate batteries, zero emissions, low noise, and intelligent temperature control.

Intelligent Matching for Optimal Efficiency

LiuGong's unique whole-machine matching technology and motor control technology ensure optimal machine performance under rigorous operation conditions. Greater traction force increases significant efficiency advantages under heavy-duty applications.

Optimal matching of the entire machine with the motor ensures operation in the high-efficiency zone, achieving significant energy savings.

High Efficiency and Energy Saving

The independently innovated energy recovery system can achieve reverse charging of the battery during gear shifting or braking, saving 15-20% energy.

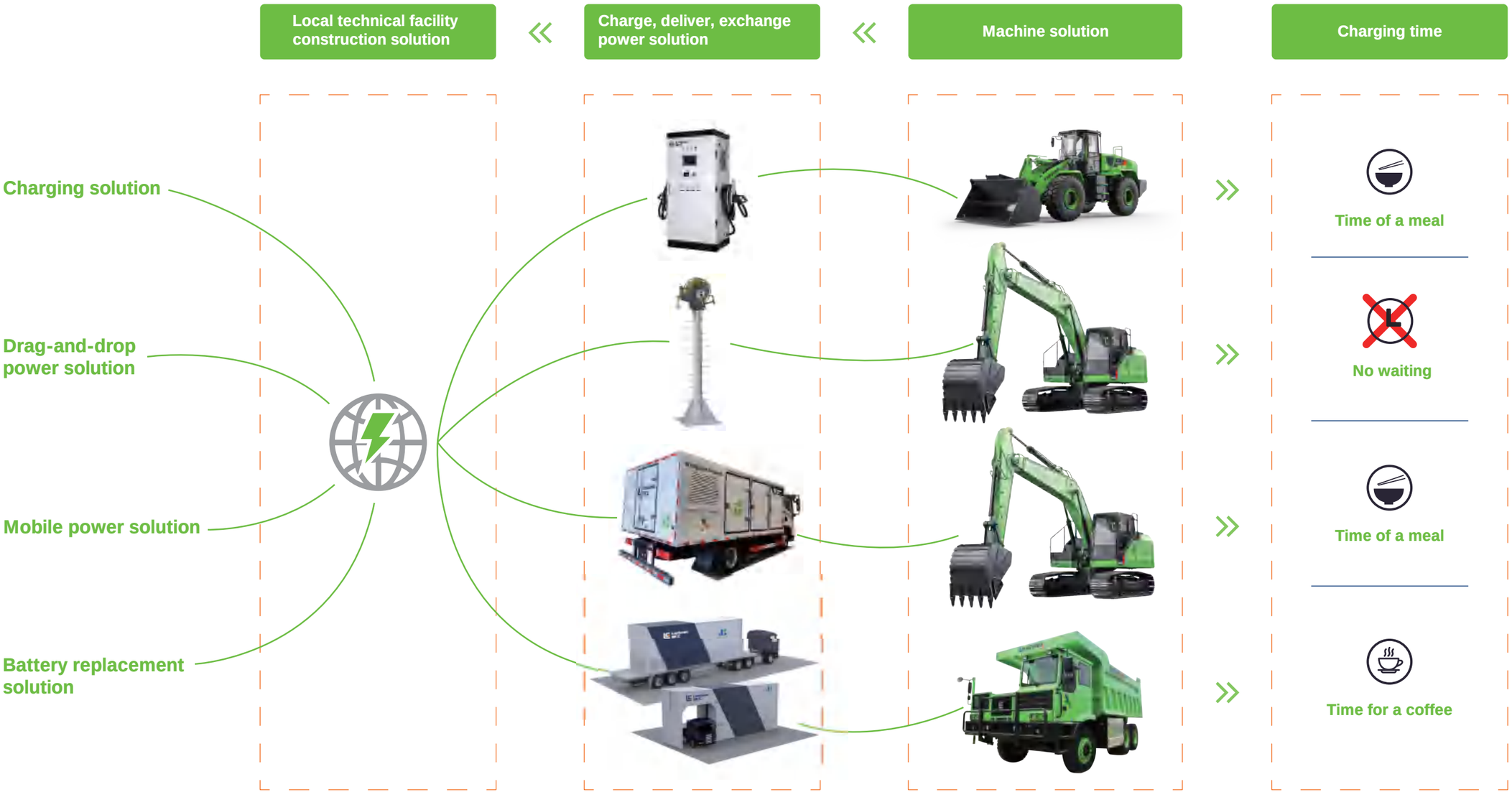
Economically Robust

Utilizes maintenance-free batteries, with low overall machine maintenance costs and long maintenance cycles. Strong traction force and power, capable of handling heavy-duty mining applications with ease. Reduces frequency of shovel adjustments, significantly improving efficiency. Lower operating costs compared to fuel-powered machines.

Comfortable Operation

Spacious cab with high-quality interior, high-back shock-absorbing seats, sliding and tilting windows, makes operators feel more comfortable during long time working. Active noise reduction layout design plus multiple noise reduction measures reduce cabin noise by over 10 dB(A). Intelligent temperature control, three-dimensional air supply for heating and cooling.

Power Distribution Solutions for Electric Products



LiuGong provides customers with various charging solutions to meet their diverse charging needs, enabling electric machinery to complete charging in the shortest possible time and meet their high-intensity endurance requirements.

EQUIPMENT APPLICATION IN GLOBAL CEMENT GROUP

	Conditions	LiuGong Equipment to Meet Conditions	Application Case
Aggregate (Quarries / Aggregate Storage)	Crushing stockpiling transportation (road construction)	Large excavator (50 ~ 70 T) Large wheel loader (9 ~ 12 T) Medium bulldozer (300 hp) Mining truck (40 ~ 60 T) Crushing machine Roller, motor grader	A customer's annual output of 2.2 million tons of limestone quarry, for example. Equipment list: ■ Down-the-hole drill ■ Excavator (970E) ■ Excavator (925E+150 mm Hydraulic hammer) ■ Bulldozer (B320) ■ Wheel loader (8128H+838H / 856HE) ■ Mining truck (DR50CE) ■ Skid Steer loader (365 / 395)
Cement Plant	stockpiling transportation	Compact & Medium Wheel Loaders (3 ~ 8 T) Forklift (3 ~ 16 T)	Cement plant Equipment list ■ Wheel loader (3 ~ 8 T) ■ Forklift (3 ~ 5 T)

Case Studies of Leading Clients in the Global Cement and Building Materials Industry

NO.1

LiuGong proactively evolves with future market demands by continually advancing comprehensive electrification solutions and innovation-driven transformations, empowering key accounts and the broader construction industry to achieve decarbonization targets and advance green sustainable development.

LiuGong Equipment: Electric loaders, loaders, excavators, rollers, graders, skid steer loaders, backhoe loaders, forklifts, etc.

Operation: Blasting, stockpiling, mixing plant feeding.

Client's Evaluation of LiuGong Equipment: LiuGong equipment is robust and reliable, with low carbon emissions and environmental protection. Key account partners with LiuGong to "become a leader in innovative and sustainable building solutions."

NO.2

Conditions: Presence of fragmented rocks, hard ground, uneven terrain, medium to small-sized blasted piles.

Temperature: -2~10°C

LiuGong Equipment: 890H, 8128H

Operation: Loader loading.

Client's Evaluation of LiuGong Equipment: The equipment has strong power, reliable performance, reinforced buckets, and durability. It ensures efficiency while maintaining very economical fuel consumption.

The products are highly competitive.

Client's Evaluation of LiuGong's Comprehensive Solutions: LiuGong has extensive experience in the mining industry, providing comprehensive quarry equipment solutions with well-coordinated and efficient equipment, as well as one-stop service to reduce mining operation costs.

NO.3

Conditions: Dry, hard, flat ground with gravel, high dust, small aggregate particles.

Temperature: 33°C

LiuGong Equipment: 877H, 890H

Operation: Loader loading, aggregate stockpiling, ground cleaning.

Client's Evaluation of LiuGong Equipment: The equipment meets company needs, with fuel consumption below industry levels, high product reliability, and specialized mining buckets that can handle blasted rock for 5000-6000 hours.

Client's Evaluation of LiuGong's Comprehensive Solutions: LiuGong offers a range of equipment configurations that meet the needs of both mining and cement plants, providing complete and practical solutions.