Freight Rail

As international demand for raw minerals continues to grow and the need to move cargo increases, rail operators require efficient haulage solutions that maximise their operational performance. Having extensive knowledge of the Australian rail network, UGL’s latest generation of high performance diesel electric locomotives and wagons have been developed with a focus on customer requirements, sustainability and varying track conditions.

UGL continues to set the benchmark in performance, reliability, feasibility and profitability for its freight rail products. In doing so, we are able to draw on our immense potential as one of the leading suppliers of diesel electric locomotives, freight wagons, bogies and other sub-assemblies to suit a range of applications.

The benefits we deliver

COMPLETE TURNKEY SOLUTIONS IN RAIL
Possessing broad industry expertise and optimised solutions for every segment of the rail market, UGL is a multifaceted specialist in rail transportation. The diversity of UGL’s rail portfolio means that clients are delivered a complete solution, totally integrated from a single source. UGL draws on advanced technology, proven processes and a skilled workforce to offer clients world class turnkey solutions. Our offering covers the entire spectrum of rail transportation products and services which includes the design, engineering, manufacture, construction, maintenance, refurbishment and asset management of locomotives, passenger cars, trams, freight wagons and rail infrastructure systems.

SOLUTIONS FOR THE ENTIRE LIFE CYCLE
Committed to serving our clients well after an asset is commissioned, UGL has extensive experience in supplying and serving the rail sector. The company offers comprehensive whole of life solutions for rail assets that help our clients achieve competitiveness and profitability, ensuring long term operational success. Whatever the application, our solutions will meet the requirements for efficiency, reliability and environmental compatibility, providing lower lifecycle costs and the best possible return on investment.

DELIVERING PERFORMANCE AND ENVIRONMENTAL BENEFITS
By integrating cleaner technologies from leading Original Equipment Manufacturers (OEMs) and employing the most efficient engineering processes, UGL is able to provide rail products and services that deliver superior economic and environmental outcomes. In freight transport, the company delivers advanced locomotive technologies that deliver substantial improvements in areas such as haulage, emissions, fuel efficiency, power and reliability. In passenger transport, UGL continues to deliver advanced rolling stock for metropolitan systems that deliver superior economic performance and technological innovation to serve commuters and meet the challenges of sustainable development.

FUELLING CLIENT COMPETITIVENESS
With the ability to respond to operator requirements with optimal, innovative, efficient and cost effective solutions, UGL can contribute to its clients’ competitiveness. Operators require maximum availability for their rail equipment and infrastructure. This is where UGL’s intimate knowledge of local conditions, life cycle costs and integrated logistics support can achieve greater competitiveness and reliability. UGL offers its clients a comprehensive approach that includes supplying the train and responsibility for its lifecycle including maintenance, repairs and refurbishment.

INNOVATIVE TECHNOLOGIES
Our proven ability to absorb, improve and integrate new technologies has long fuelled our clients’ competitiveness and growth. Our partnerships with General Electric (GE) and Mitsubishi Electric amongst others, allows us to lead the way as the ‘integrator’ in the delivery of cutting edge technologies and solutions. Working closely with OEM partners provides UGL with access to an array of next generation technologies that meets the rail needs of tomorrow, from higher efficiencies to fewer emissions.

EXPERIENCE THAT DELIVERS PEACE OF MIND
UGL has consistently responded to challenges and opportunities with innovation and client driven solutions. UGL’s turnkey rail solutions provide peace of mind to our clients having grown from extensive experience, comprehensive knowledge of local rail networks and our intimate understanding of operator requirements. Our business evolved from the strength and experience of the region’s leading rail service provider, namely United Goninan, which has a long and rich history dating back to 1899.

BUILDING LONG TERM CLIENT RELATIONSHIPS
In everything we do, we strive to build long-term relationships with our clients to ensure operational success. This approach extends to the development and wellbeing of our staff, subcontractors and suppliers. UGL strives to become an organic extension of our clients’ businesses, providing high levels of service, together with a strong client commitment and focus.

CREATING SUPERIOR VALUE THROUGH AN OPTIMAL SUPPLY CHAIN
UGL has achieved an optimal balance between local and overseas content with the objective of providing superior value to clients, at a competitive price, delivered through an optimal supply chain. Overseas content is necessary to realise lower cost on fabricating materials and components and UGL does this through its joint venture partnership with Texmaco Rail based in Kolkata, India.
Locomotives

UGL has the resources to expertly tailor locomotive power for the application at hand from the heavy haul requirements of the resources sector to the high speed demands of the nation’s freight networks. UGL’s portfolio of future ready locomotives allows our clients to operate efficiently and economically while reducing environmental impacts.

Our locomotive product portfolio spans heavy haul, intermodal and passenger applications. Since 1953, the company has delivered over 600 high performance GE locomotives to clients including Pacific National, Aurizon, Xstrata Coal, CFCLA, Rio Tinto, BHP Billiton and Fortescue Metals Group. We are one of only three recognised partners for GE Transportation globally.
Our Products

PIBLARA STANDARD GAUGE HEAVY HAUL LOCOMOTIVES

The PowerHaul Series is the most advanced heavy haul locomotive ever built using up to 5% less fuel and can be configured to produce 40% fewer emissions than its predecessor. Manufactured on a forward looking and flexible platform, GE’s Evolution Series is an incredible combination of power, performance and efficiency designed to meet regional market needs while complying with current and future emissions standards. These locomotives provide measurably higher reliability, having fewer components, and lower life-cycle costs than previous models. Leading miners such as Rio Tinto rely on these locomotives to haul iron ore from mine to port in the Pilbara region of Western Australia.

STANDARD GAUGE HEAVY HAUL AND INTERMODAL LOCOMOTIVES

The C44ACi is the latest generation of high performance diesel electric locomotive from UGL. Its flexible design allows the locomotive to operate both heavy haul applications (including coal haulage within the Hunter Valley of New South Wales) and high-speed freight operations across the national standard gauge network. UGL has adopted a standardised platform approach for the C44ACi with a view to cutting engineering costs for new models and allowing the company to offer attractive prices even for small quantities.

NARROW GAUGE HEAVY HAUL AND INTERMODAL LOCOMOTIVES

The PowerHaul Series is UGL and GE’s most technologically advanced, fuel-efficient and emissions capable narrow gauge diesel-electric freight locomotive to date. Designed with high pulling power to support lighter axle load applications, the PowerHaul Series is engineered to generate superior horse power and tractive effort while lowering fuel consumption and greenhouse gas (GHG) emissions when compared to alternative locomotive offerings in its class. This locomotive is perfect in meeting the requirements for coal haulage and intermodal operations across the Queensland rail network.

ELECTRIC LOCOMOTIVES

UGL can deliver tailor made electric locomotives able to meet the requirements of individual clients utilising leading global technology. Working closely with OEM partners, our electric locomotive solutions can be especially designed for heavy haul and or intermodal applications featuring advanced technology that achieves considerable increases in transport capacity.

FUEL SAVING SOLUTIONS

Fuel represents approximately 60% of the total life cycle cost of a locomotive. UGL, together with technology partner GE offer clients fuel solutions that provide measurable savings across multiple applications. UGL is uniquely equipped to integrate fuel reduction products with the complex engine propulsion and control systems for both GE and EMD locomotives. Operators will realise the benefits of employing our fuel saving solutions without compromising adhesion, tractive effort, auxiliary loads, transient response, emissions levels and safety.

BOGIES & SUB-ASSEMBLIES

UGL’s engineering team in Newcastle, harnesses best of breed rail technology and houses one of Australia’s largest rolling stock design facilities. The company is a leading designer and manufacturer of cast steel and pre-fabricated bogies for freight locomotives. Recent examples of the company’s engineering expertise are two projects in partnership with GE. This includes the production of robust heavy haul bogies for use on UGL designed C44ACi diesel electric locomotives and the development of a family of light-weight fabricated locomotive bogies for GE.

Our Services

ENGINEERING

- Product development
- Design, mechanical and electrical engineering
- Manufacturing engineering
- Instrumentation and controls
- Project controls and governance
- Commissioning philosophies and procedures
- Completions management
- Constructability reviews and site surveys
- Technology and systems integration

MANUFACTURE

- Manufacture of Locomotives
- Manufacture of locomotive subassemblies such as bogies, platforms and frames
- Original Equipment Manufacturer (OEM) and contractor management
- Technology integration
- Procurement and logistics
- Project planning, governance and reporting

FABRICATION

- Design, mechanical and electrical engineering
- Machining, pressing and welding

COMMISSIONING

- Testing, commissioning and practical completion of locomotives

SUPPLY CHAIN & TECHNICAL SERVICES SUPPLY

- Procurement for new rolling stock build, maintenance and refurbishment
- Part sales and rotable component repair
- Field support services

REFURBISHMENT & UPGRADES

- Locomotive fleet upgrades
- Engineering, planning, procurement, preparation and execution services for major upgrades
- Managed and coordinated specialist subcontractor services
- Inspection, removal, repair, assembly and reinstatement of equipment

MAINTENANCE

- Locomotive fleet maintenance
- Component overhauls, heavy maintenance and presentation services
- Mechanical and electrical equipment overhauls of transmission units which exclude motor rewinds
- Lean Six Sigma processes
- Reliability monitoring and optimisation
- Field service and provisioning
- Maintenance planning, audits and reviews
- Call centre and remote support

ASSET MANAGEMENT

- Design, build, maintenance, modification, and disposal of rolling stock assets
- Implement management and maintenance programmes
- Asset lifecycle planning
- Continuous improvement of assets through the use of Lean Six Sigma practices
- Complete system diagnosis and the proactive integration of all maintenance elements
- Budget preparation, planning, management and execution services
- Reliability Centred Maintenance

PROJECT DELIVERY & IMPLEMENTATION

- Project management for new rolling stock build, maintenance and refurbishment
- Planning, integrated design, procurement, Lean manufacturing, commissioning, operation, refurbishment and asset management and maintenance services
- Lean Six Sigma practices
- Management of sub-contract services
- Budget preparation, planning and management

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Wagons

Since the 1970s, UGL has mass produced well in excess of 8,000 custom built freight wagons to public and private enterprise. We have strategically placed workshops throughout Australia to manufacture, maintain, service, refurbish and provide a complete range of components and spare parts to our clients.

The company’s expertise also encompasses the design and manufacture of specialised freight vehicles customised to match haulage capacity, operational performance and service life requirements. These include flat top wagons, skeletal wagons, well wagons, bulk hopper cars for iron ore, coal and grain products, gondola cars and tank cars for both hazardous and non-hazardous liquids.
Our Products

COAL WAGONS
UGL is able to deliver innovative wagon solutions for coal haulage tailored to suit a wide variety of operator requirements from 100 to 120 tonne load capacities in narrow and standard gauge. Our advanced wagon designs bring together a culmination of benefits to the rail operator that maximise productivity and minimise whole-of-life costs.

More recently, UGL delivered 310 QHAH and 160 QHBH standard gauge coal wagons to Aurizon to support their growth strategy in the Hunter Valley coal haulage market in New South Wales.

IRON ORE WAGONS
Our iron ore wagons have been critical in supporting mining leaders such as BHP Billiton during the resources boom forming an important link in their mine to port rail supply chain. We have a range of proven designs which include the GoLynx wagon for maximum carrying capacity and the WOE wagon for medium load haulage operations.

The GoLynx is a state of the art top load and rotary dumper discharge iron ore wagon. UGL has delivered more than 3000 GoLynx wagons to BHP Billiton for its iron ore operations in the Pilbara.

The WOE Wagon is a low tare mass 100 tonne standard gauge coal wagon equipped with high performance Barber bogies, and an effective rotary dumper discharge and bogie mounted braking. In 2011, UGL delivered 227 WOE wagons to Aurizon to support their growth strategy in the Pilbara.

INTERMODAL WAGONS
UGL has the capacity to produce a variety of intermodal wagon solutions including the design and manufacture of low level articulated skeletal wagons for vehicle transportation, articulated skeletal wagons and well wagons which can be tailored to suit specific configurations.

FQWY well wagons manufactured by UGL are engineered specifically for intermodal haulage operations. This well wagon in two pack configuration was designed for combinations of 20 foot to 48 foot containers with a double stacked well.

Optimal wagon bogie performance is paramount in meeting the gruelling service requirements of the rail operator. With this in mind, UGL employs high performance bogies from Standard Car Truck (SCT) which have been designed specifically to meet the rigorous requirements of heavy haul freight wagon operations. This successful collaboration has delivered thousands of wagons to the Australian market using SCT’s proven Barber bogie technology. These bogies also provide a substantial load carrying capacity advantage over alternative bogie designs.

WAGON BOGIES
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MANUFACTURE
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- Manufacture of wagon subassemblies such as bogies, platforms and frames
- Original Equipment Manufacturer (OEM) and contractor management
- Technology integration
- Procurement and logistics
- Project planning, governance and reporting

FABRICATION
- Design, mechanical and electrical engineering
- Machining, pressing and welding

COMMISSIONING
- Testing, commissioning and practical completion of wagons

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- Part sales and rotatable component repair
- Field support services

REFURBISHMENT & UPGRADES
- Engineering, planning, procurement, preparation and execution services for major upgrades
- Managed and coordinated specialist subcontractor services
- Inspection, removal, repair, assembly and reinstatement of equipment

MAINTENANCE
- Rolling stock fleet maintenance
- Component overhauls and heavy maintenance
- Mechanical and electrical equipment overhauls
- Lean Six Sigma processes
- Field service and provisioning
- Maintenance planning, audits and reviews
- Call centre and remote support

ASSET MANAGEMENT
- Design, build, maintenance, modification, and disposal of rolling stock assets
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- Asset lifecycle planning
- Continuous Improvement of assets through the use of Lean Six Sigma practices
- Complete system diagnosis and the proactive integration of all maintenance elements
- Budget preparation, planning, management and execution services
- Reliability Centred Maintenance

PROJECT DELIVERY & IMPLEMENTATION
- Project management for new rolling stock build, maintenance and refurbishment
- Planning, integrated design, procurement, Lean manufacturing, commissioning, operation, refurbishment and asset management and maintenance services
- Planning and workflow management
- Lean Six Sigma practices
- Management of sub-contract services
- Budget preparation, planning and management