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## Strong links in the supply chain

FROM a supply chain perspective, mines have historically been managed as independent sites using relatively unsophisticated techniques.

However, the trend of industry consolidation means that mining companies are increasingly operating multiple mine sites.

GRA is Australia's premier specialist supply chain and logistics consulting firm. The company offers expert consulting professional services and advanced planning systems.

Supply chain improvement opportunities multiply when industry consolidation occurs as there is greater potential to build and operate more sophisticated supply chains that deliver superior performance.

Effective mining supply chains underpin operational asset availability, supply

side requirements and customer delivery capabilities.

The mining demand boom has been a blessing, but rapid growth puts extreme pressure on supply chains.

As a result, many mining companies are experiencing supply chain bottlenecks that lead to increased operating costs, capacity constraints and a weaker bottom line.

Challenges include poor operational and information management infrastructure at mine sites and ports, incorrect forecasting to meet market demands, inadequate stockpile and overland transport management, and critical equipment failures.

To deal with volatile markets, extractive industry companies rely on traditional strategies such as varying idling capacity, drawing down inventories and leveraging low freight costs.

In addition, anecdotal evidence from GRA Australia's engagements shows many mining companies use basic techniques to manage inbound and outbound logistics plus critical decisions about repair pool size, repair induction times and levels of maintenance spares. The result is that many mining and oil companies, despite investments in ERP systems, are paying too much for under-performing supply systems.

However, there are supply chain practices that can improve availability and capacity while lowering costs. These include expert networking and capacity planning, which can optimise complex supply chains, and the use of constrained assets to maximise availability at the lowest cost; leading procurement practices, which can reduce spending in

many categories including raw materials, indirect supplies, inventories and labour; maintenance inventory optimisation, which can consistently increase the availability of spares and rotables/reparables by up to 99 per cent or more while simultaneously reducing overall levels by 20 to 40 per cent; and transportation and distribution scheduling, which can optimise, at a detailed level, the usage of rail, road, sea and air to ensure capacity and service is maximised at the lowest cost.

These are existing, proven techniques, and the key to their sustained success is in the implementation.

The challenges of scale, complexity, rapid growth and relatively low sophistication in mining supply chains are significant.

As such, the opportunities to outperform are equally significant and real.