Driving operational efficiency with asset management in construction and heavy asset industries

A complementary report from asset tracking and fleet management provider Navman Wireless
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Introduction

Effective asset management can have profound implications for the operational efficiency and overall profitability of companies in the construction, mining and transport industries. Heavy assets like cars, trucks and construction equipment, if left unmanaged, can result in higher than optimal fuel and maintenance costs, which place burdens on businesses that rely on them.

To determine the challenges faced by these construction-centric organisations – and the opportunities asset and fleet management solutions present – Navman Wireless commissioned independent technology research firm Telsyte to survey more than 300 businesses across Australia and New Zealand. The respondents were asked to identify key challenges to their organisation’s profitability and how technology is being used to deliver business outcomes.

This report investigates how asset management and fleet tracking can have a direct impact on construction and other heavy industries, such as reducing operating expenses, and consequently improve business profitability.

Telsyte research respondent profile

Telsyte conducted primary research with 310 business leaders in the construction and other heavy asset industries in Australia and New Zealand. In total, 256 respondents were from Australia and 54 from New Zealand. Participants were distributed across 20 key vertical industries including construction, transport and manufacturing. The largest pool of respondents were from construction with a total of 114 business leaders participating, including 94 from Australia and 20 from New Zealand.
Figure 1: Respondent title

- 94 MD/CEO (30%)
- 76 Operations (25%)
- 59 CFO/Finance (19%)
- 44 IT/CIO (14%)
- 38 Management (12%)

Figure 2: Respondent industry

- Construction: 114 (37%)
- Transport & Storage: 34 (11%)
- Manufacturing: 29 (9%)
- Government: 26 (8%)
- Utilities: 21 (7%)
- Agriculture: 18 (6%)
- Mining & Resources: 18 (6%)
- Other: 50 (16%)

Figure 3: Respondent head office location

- NSW: 106 (34%)
- Victoria: 69 (22%)
- New Zealand: 54 (18%)
- Queensland: 32 (10%)
- South Australia: 19 (6%)
- Western Australia: 16 (5%)
- Australia (other): 14 (5%)

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Construction business priorities beckon more efficient operations

To investigate how advancements in technology and asset management can improve overall business operations in construction companies, Telsyte asked business leaders in heavy asset industries to indicate their main business challenges, both internal and external.

The most pressing internal challenges to profitability are operational efficiency (58%) and lack of people and skills (41%), while the main external challenges are around labour costs (55%) and rising production and energy costs (43%). Clearly survey respondents are a reflection of the economy. With a shortage of skilled labour across Australia and New Zealand coupled with the rising cost of production and labour, businesses need to be more efficient with how they manage their resources.

With integrated asset management, construction and heavy asset businesses can improve the way their assets and resources are utilised. This leads to reduced costs and better business processes.

Figure 4: The top internal challenges to construction and heavy asset companies

Operational Efficiency 58%
Lack of People/Skills 41%
Lack of Standardisation 38%
Cost of Customer Acquisition 37%
Financial Management 36%
Poor Internal Collaboration 32%
Old IT Systems 29%
Poor Project Management 28%
Lack of Asset Management 21%
Poor Access to Information 20%
Old Fleet Equipment 19%

n=310, multiple response
Among construction companies the cost of labour is closely aligned to how well projects are planned and how efficiently resources are allocated. And the number one external business factor seen to be impacting profitability is labour costs.

Using IT to gain a firm understanding of how assets are managed can have a positive outcome on operational efficiency, which is even more pertinent when the labour market fluctuates.

Figure 5: The top external challenges to construction and heavy asset companies

- Labour Costs: 55%
- Rising Production Costs: 43%
- Rising Energy Costs: 43%
- Domestic Competition: 38%
- Falling Market Demand: 37%
- More/Higher Taxes: 35%
- Regulatory/Compliance Costs: 33%
- International Competition: 24%
- High AU/NZ Dollar: 21%
- Lack of Innovation: 18%
- Less Government Investment: 18%
- Poor Comms Infrastructure: 17%
- Rising Communications Costs: 17%

n=310, multiple response
Asset and fleet management: from opportunity to business benefit

In investigating the opportunities for construction and heavy asset organisations, Telsyte’s research looked at the penetration of asset tracking and fleet management solutions.

Asset and location-based tracking technology is used by only half of construction and heavy industries. This indicates there is still plenty of scope for asset tracking technology deployment to deliver real business outcomes. While only half currently use it, there is a high rate of intention to use asset management at 23 per cent.
Asset tracking and fleet management is paying off for construction and heavy industries with an overwhelming 93 per cent of organisations that measure return on investment (ROI) for asset tracking experiencing a positive ROI. On average organisations surveyed achieved 124 per cent ROI on asset tracking solutions, however, lack of ERP integration leads to a lower ROI for construction-only organisations.

In addition to the financial benefits, asset management has a clear impact on operational factors like asset utilisation. Respondents using asset management have six per cent less need for “better utilisation of existing assets” indicating higher satisfaction with the way assets are used within the organisation.
Construction and heavy industries across Australia and New Zealand have a good opportunity to use asset and fleet management to streamline their business processes, reduce fuel costs and improve occupational health and safety. And emerging trends like IT-as-a-service make asset management available to more organisations.

Figure 7: The benefits of asset management

- Better operating efficiency
- Higher asset utilisation
- Fuel cost reduction
- Reduced maintenance
- Occupational health & safety
- Data capture & intelligence
- Business process inefficiency
- Financial losses
- Ad-hoc maintenance requirements
- Poor asset utilisation
- Asset theft
Operational efficiency key as fuel costs and carbon tax take hold

With constant deliveries and machinery use, construction companies can pay a hefty price for inefficient operations. Telsyte’s research looked at what requirements construction business leaders have when it comes to asset management solutions and an overwhelming 64 per cent stated “improving operational efficiency” as a desired outcome. The second most desired benefit is better “utilisation of existing assets”, which also relates to operational efficiency and can be directly improved through asset management solutions.

Figure 8: How construction and heavy asset industries use energy

What are the biggest sources of energy consumption in your organisation?

- Vehicle Fleet Fuel: 55%
- Building Power: 39%
- Project Equipment Fuel/Electricity: 31%
- Operations/IT Power: 30%
- Construction Fleet Fuel: 14%
- Other: 2%

n=310, multiple response
Vehicle fleet fuel remains the highest cost for heavy asset-intensive industries. Fuel reduction benefits associated with asset and fleet management systems can result in significant operational efficiencies. This is similar for construction vehicle fleets, which consist of machines that consume a higher volume of fuel than regular road vehicles. Construction companies also manage a lot of diesel-powered equipment that add to the overall fuel bill.

Not surprisingly, almost 40 per cent of the respondents view the legislative parameters associated with the carbon tax as a hindrance to their business. Effective asset and fleet management can reduce transport requirements and hence fuel usage. As carbon emissions increasingly impact construction companies, asset management can help reduce the cost.

**Figure 9: The benefit of asset management on fuel costs**
- Better construction fleet management
- Better transport fleet management
- Improved accounting
- Least-distance routing
- Renewable energy offset management

**Occupational health and safety compliance an important asset**

*How does workplace health and safety stack up in construction? Telsyte’s research indicates OH&S is top of mind with construction business leaders with 36 per cent stating it as a top feature requirement of asset management solutions. Fleet management can improve operations and workflow management, and hence reduce the occurrence of driver fatigue and help improve driver behaviour. Directing drivers the shortest, most efficient way, is a good example of how asset management improves OH&S compliance.*
Equipment to ERP: asset visibility means optimal savings

Construction and heavy industries have a lot of assets to care about. In addition to road transport vehicles like cars, more than half of the organisations surveyed have forklifts (56%) and more than 40 per cent have air compressors and generators. Other heavy assets include lifting, drilling, digging and pumping equipment. The main challenge for many organisations is equipment maintenance. Half of the survey respondents indicated maintenance as the top driver for asset tracking solutions.

The running costs and usage history of their assets with the corporate ERP systems to ensure compliance, and keep track of profitability.

Figure 10: Getting data from asset management into ERP is still largely a manual process

How well integrated is your asset tracking solution with your back office/ERP and general asset management systems?

About $369,000 is lost each year by construction companies in Australia and New Zealand due to poor asset management and utilisation

Construction business leaders must be aware that simply placing a tracking device on an asset is not enough to ensure it will be effectively utilised as well. Organisations need the ability to integrate
Telsyte investigated how well construction companies tied together asset management and fleet tracking data with their back office ERP systems. More than half (58%) of organisations rely on manual data processing for integration and about one-fifth have no integration at all. This means key metrics like asset utilisation and costs are not immediately visible across the company’s finances.

Among organisations that have integrated asset management and ERP, more than 40 per cent use the software provided with the asset management solution. Interestingly, there are as many organisations doing their own custom integration work with their ERP provider.

**Figure 11: How construction and heavy asset companies integrate asset management and ERP**

**How do you integrate your asset tracking solution with your back office/ERP and general asset management systems?**

- 27% Software from asset/fleet tracking system
- 23% Software from general asset management system
- 23% Custom development/integration work
- 14% Software from the ERP system
- 12% Third-party data integration product
- 1% Other

Nearly one-third of the organisations surveyed are not using a top 10 commercial software package for their ERP requirements. This indicates a high amount of in-house developed applications and use of ad-hoc solutions like spreadsheets, resulting in error-prone batch processes.
The ability to capture data from asset management devices and integrate it with other enterprise applications can make asset auditing more streamlined, but it also opens up opportunities for better data analytics and business intelligence. If diagnostic data can be captured from construction machinery it can be used to report efficiency and maintenance information.

In the case of fleet management it can be used to improve operations and workflow, and hence, reduce the occurrence of driver fatigue through better trip planning and rest breaks.

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**Big data and analytics link into asset management**

*The ability to monitor the properties of an asset can yield important metrics like location history, fuel consumption, operating conditions and driver behaviour during a trip. However, simply gathering a lot of data from many assets will not necessarily lead to better business decision making. The raw data from asset management systems should be integrated into analytics applications that can handle this “big data” so key performance indicators can be monitored and acted upon. Big data has attracted a lot of attention in recent years, and many organisations are still defining use cases. According to the Telsyte research, about 12 per cent of organisations surveyed are using big data applications. Combine this with asset management systems that integrate with ERP and companies can benefit from operational efficiencies and true business intelligence.*
Mobile network flexibility enables real-time asset management

The growth of mobile communications has brought with it a new era of IT by enabling data to be generated and accessed from any location. With mobile and satellite management, construction companies across Australia and New Zealand have a real opportunity to improve their operations with real-time asset management.

With geographically distributed projects to manage, construction companies are taking advantage of mobile technologies with 67 per cent using mobile applications and 57 per cent using GPS for navigation. A combination of mobile (cellular) and satellite communications enables asset and fleet management to be always-on and data to be collected in real-time, regardless of network coverage.

Construction and heavy industries also have an opportunity take advantage of new delivery models for asset management and fleet tracking, including telco channels and cloud services.

Satellite data services are already in use by 27 per cent of organisations.
Companies currently prefer to buy and manage asset tracking equipment in-house with more than 70 per cent installing and managing the equipment themselves. Additionally, 16 per cent are engaged with a telco provider for asset management solutions. As telcos continue to diversify their services beyond voice and data, procuring asset management alongside mobile services has the potential to reduce time to market and expedite the ROI. Engaging with a telco can also simplify billing.

**What type of company is your preferred provider of an asset management solution?**

- Asset tracking solutions specialist: 40%
- General IT service provider: 40%
- Telco provider: 16%
- Other: 4%

**n=310**

A good user interface is valued by construction and heavy industry organisations with 42 per cent of respondents rating an “easy to use, good user interface” as one of the top three desired features of an asset management system. Furthermore, 82 per cent indicated usability was an important factor when choosing an asset management solution.

With assets often in disparate locations, construction companies can also benefit from remote management and reporting, which allows fleet managers to avoid having to be in a particular office or on site.

**Asset management not just for enterprises**

With telcos increasingly offering asset management as part of their service portfolio, smaller, mid-market organisations have the opportunity to take advantage of the technology without upfront capital investments. Smaller organisations that need to know the location of assets should evaluate asset management tracker products that can be self-installed and can be easily scaled to thousands of assets.
Conclusion

Through surveying Australian and New Zealand construction organisations, Telsyte found that the main challenges that heavy asset industries experience, both internally and externally, are closely aligned with the benefits asset tracking can bring. For example, operational efficiency and rising fuel costs can be reduced through asset tracking. Organisations that have invested in asset tracking on average achieved 124 per cent return on investment, further making the case for investing in technologies that can help with asset tracking and management.

However, only half of construction and heavy industry companies are using asset tracking meaning there are still opportunities for many related businesses to benefit from asset tracking solutions. Construction business leaders must be aware that simply placing a tracking device on an asset is not enough to ensure it will be effectively utilised. Organisations need the ability to integrate the running costs and usage history of their assets with the corporate ERP systems to ensure compliance, and track profitability in real time.
About this report

This report was commissioned by Navman Wireless and produced by Telsyte. The primary research involved a survey of business leaders in construction and other heavy asset using industries on their attitudes and use of asset tracking and other technologies. 310 respondents were surveyed with 256 from Australia and 54 from New Zealand. The 30 minute online survey asked respondents their key business challenges, technology uptake and use, preferences and views on of asset tracking and location-based services.

About Navman Wireless
Navman Wireless is a world leader in GPS based technology and information. We provide the tools you need to improve customer service, reduce fuel and fleet management costs, and increase productivity. For more than ten years we have been providing GPS Fleet Management and Tracking Solutions to transport, utility and service organisations around the globe. Our ongoing commitment to research and development ensures you exceed your return on investment expectations. With our continued training and support we can help you drive your business to the next level.

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About Telsyte
Telsyte delivers strategic insights and advisory services to businesses that are producing, or are impacted by, disruptive technologies. Telsyte publishes studies into emerging consumer and business markets and provides custom research and advisory services. Our market leading coverage includes emerging technologies, mobility, enterprise IT, digital media and telecommunications. Telsyte is a wholly-owned, independent business unit of UXC Limited. UXC is an ASX- listed Australian IT services company and the largest Australian-owned ICT consultancy firm with over 2,500 customer organisations in the private and public sectors across Australasia.

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