

HARDCAT

Delivering Asset Certainty



www.hardcat.com

HARDCAT

OIL AND GAS INDUSTRIES



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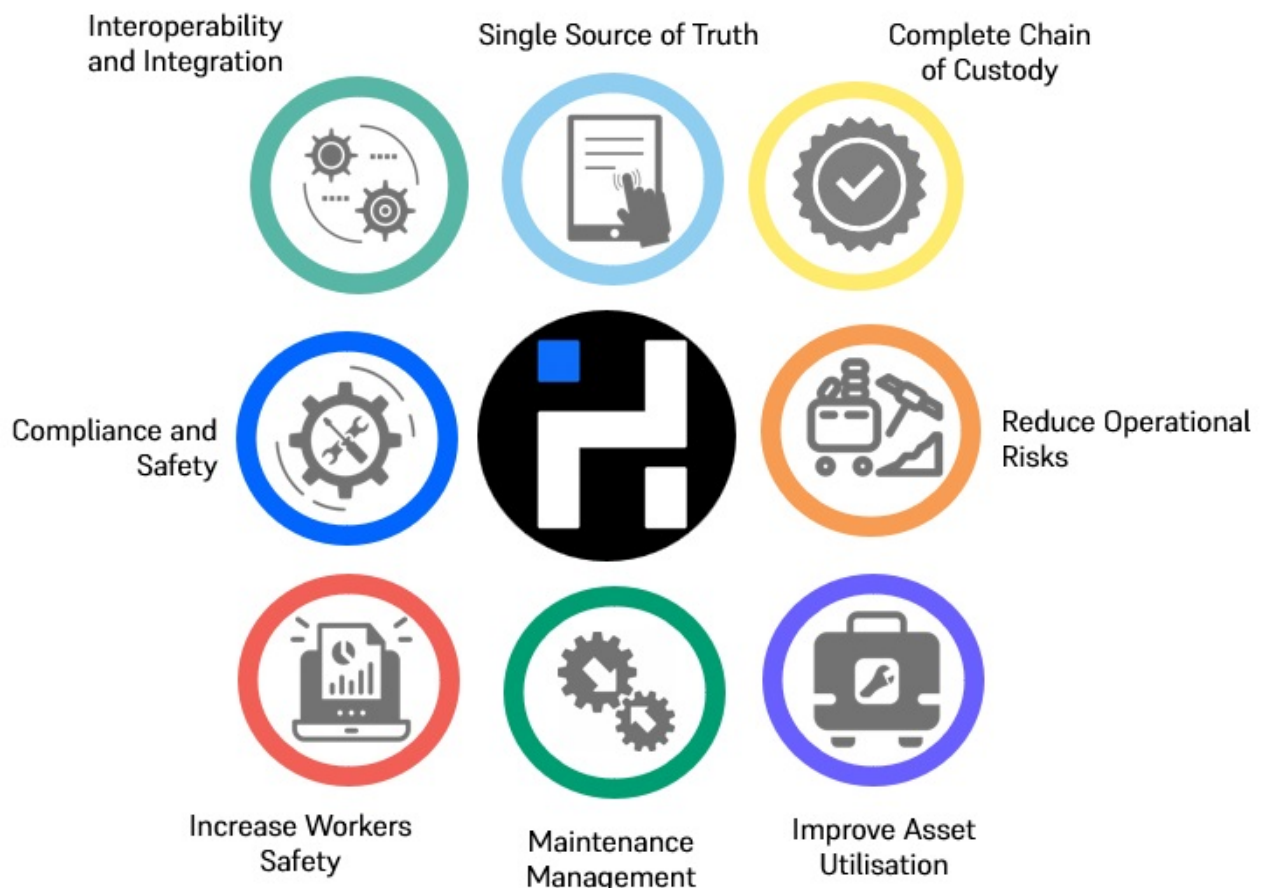
Improve Efficiency, Reduces Risk And Delivers Intelligence

Hardcat's Enterprise Asset Management Solution (EAMS) Hardcat Lebosi® is a specialist software suite that provides a single source of truth to support oil and gas enterprises in improving the utilisation, maintenance, and management of their asset base.

Hardcat software enables efficient and automated processes whilst also providing wide-ranging and instant visibility of asset information over its entire life cycle. Hardcat Lebosi is an enterprise grade, market proven 'Commercial Off The Shelf' (COTS) product providing speed of implementation and the benefits of further enhancements and features becoming available with the products road map. It is modular software providing a rich feature set for managing the full life cycle of assets and evidence (chain of custody).

All components of Hardcat Lebosi software are designed to provide superior asset management capabilities that stand alone or complement wider reaching ERP and Finance Systems such as SAP, Oracle, Technology One, Dynamics and Maximo among others. It delivers complementary capabilities to a customer's existing IT ecosystem with a high level of interoperability and integration capabilities, utilising the available product API's.

Hardcat Delivers Value





Hardcat EAM Deployed In Your Environment



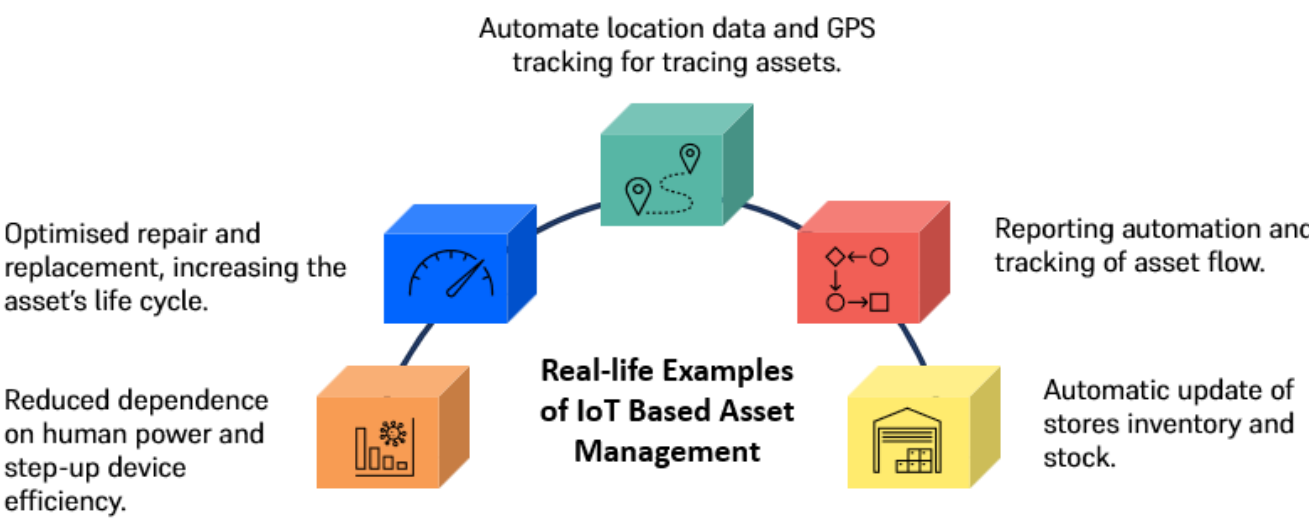
With Hardcat EAM deployed in your environment you will know:

- Where critical equipment is located.
- What assets and stock are required.
- Where inventory and stock are located.
- The quantity on-hand of critical inventory.
- What equipment is currently in use.
- How many of an item is available for use.
- When appropriate maintenance was performed after use.
- Who supplied assets and equipment.
- The details of the manufacturer of these items.
- When employees have conducted self-audit of assets under their responsibility and the results of such audits.
- Understand the actual value as well as location of your asset base.
- What the asset purchasing requirements are and thus be able to budget accurately.



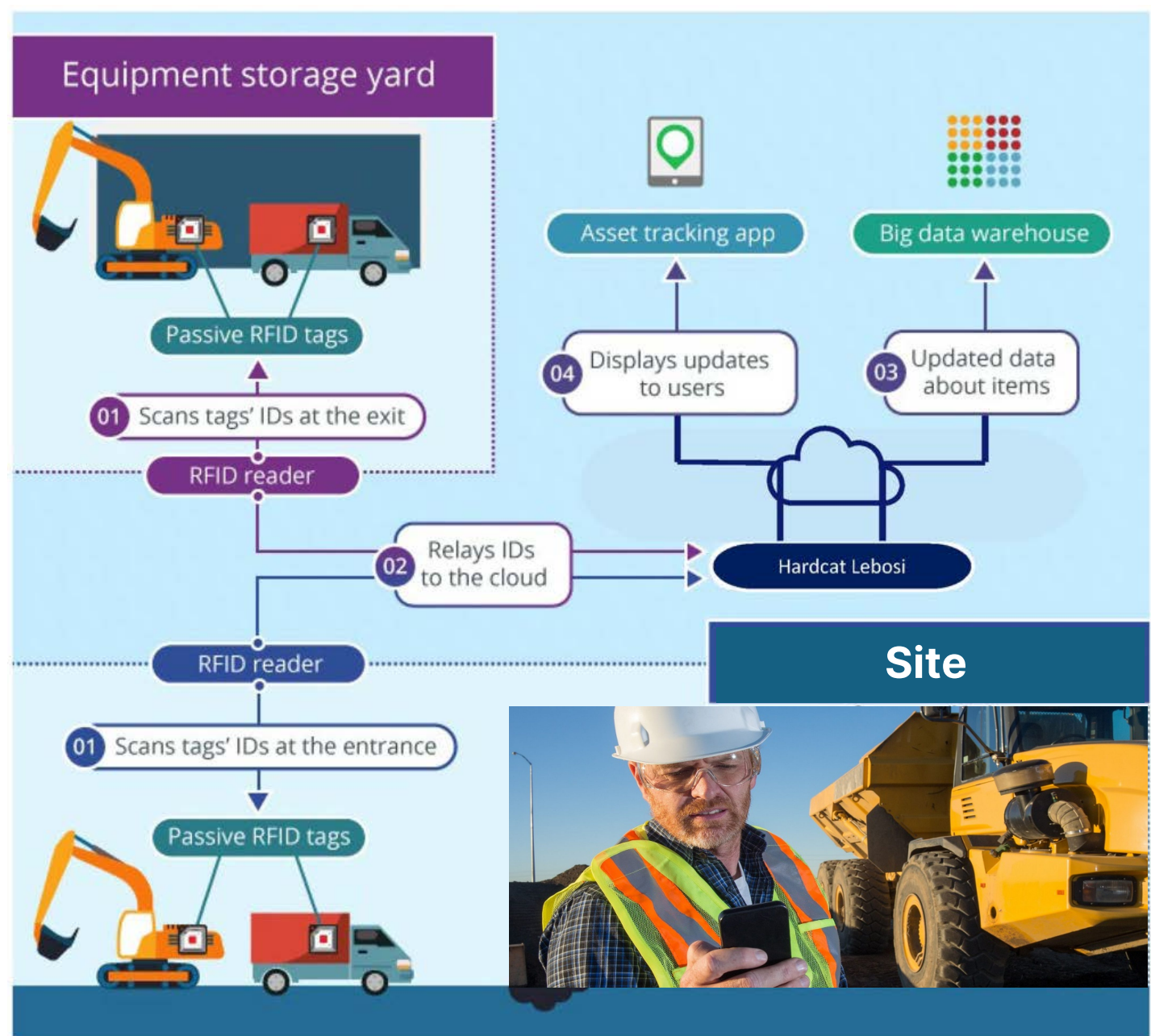


Examples Of IoT Based Asset Management





Examples Of IoT Based Asset Management





RFID – Improve Productivity, Cost Savings, Equipment Visibility And Speed Of Auditing

Many leading organisations are taking advantage of RFID's capability to deliver benefits such as real time asset tracking, instant bulk auditing and comprehensive governance and compliance over the full life cycle of individual assets.

Adopting RFID technology saves organisations labour time and money via self-service stores, while also providing comprehensive visibility on asset utilisation.

RFID and CCTV

RFID triggering CCTV images is an important deterrent in areas without physical security. Fixed RFID readers installed at prominent entry and exit points (unmanned or manned locations) will automatically detect assets and workers moving in and out of these doorways and choke-points.



RFID Worker Audit

Worker audits ensure that personnel are kept safe and accounted for. It can be as simple as allowing only identified staff into certain locations.

RFID and Fixed Readers

Fixed readers for doorways and choke-points. Hardcat's Sentinel software allows for automatic registering of both assets as well as workers.





Hardcat EAM For Oil And Gas

An Enterprise Asset Management (EAM) system is a critical piece of infrastructure for mining companies. Without EAM, it can be difficult for oil exploration and production companies for example, to keep track of assets, manage work orders and schedules, and ensure compliance with safety and regulatory requirements.



Maintenance Management

Enable centralised reporting to support audits, risk assessments, compliance and the claims processes utilising the full history of all jobs, transactions and user interactions associated with any Asset.

Asset Audit Solutions

Dramatically simplify your organisation's audit activity through Hardcat scoped audits, targeting what's important for your business.

Enabling comprehensive enterprise-wide Audit projects to be centrally planned and executed.

Risk and Safety

Hardcat solutions support workplace health and safety outcomes through enforcing standards, scheduled safety check activities, condition and risk audits and reporting as well as managing planned, preventative initiatives.

Integrated EAM Solutions

Hardcat Enterprise Asset Management Solutions provides specialist capabilities you need for efficient Asset Management support your business practices and is implemented to complement the existing business applications within your Enterprise IT ecosystems.





ADNOC - Tool Tracking Case Study

The Organisation

ADNOC Gas Processing (formerly GASCO), is a natural gas producing company of Abu Dhabi. The company uses Hardcat solutions to track the usage of over 6000 tool assets in 319 categories by 287 staff in the centralised tool room of its Habshan 5 Plant in UAE. The tools range from small hand tools to chain hoists and large scale maintenance equipment.

Customer Drivers

- No formal asset register software.
- No asset tags or markings.
- No automated way of tracing which employee ID is issued what item.
- No product categorisation.
- No issue and return history against each item.
- No system for inventory or maintenance audit.
- No standard list for location and people.
- No automated identification of employee whom the asset is issued.
- Spread sheet asset register has no security.
- No system transaction history available -who did what.



The Solution

Implemented the Hardcat tool management solution, which created the following results:

- Reduced time to perform workshop audits by 80%
- Reduce time to perform issue and returns by 90%
- Reduce time to produce tool usage reporting by 80%
- Ability to report on complete audit trail of individual tools and equipment
- Monitor consumable stock and spare parts, usage and store levels





BAE Systems Australia - Tool Tracking Case Study

BAE SYSTEMS

The Organisation

BAE Systems Australia is leading the design and build of a fleet of Hunter class frigates. The Hunter Class Frigate Program (HCFP) is transforming Australia's shipbuilding industry by supporting the building of a world-class, continuous naval shipbuilding capability for our nation.

Customer Drivers

BAE Systems Australia showcases a resolute commitment to embracing Digital Transformation. Within the framework of the Hunter Class Frigate Program at the Osborne Naval Shipyard, this commitment takes shape through the integration of digital solutions and cutting-edge technologies. One notable innovation is the introduction of a digital 'tool tracking' capability, with the objective of establishing a capability that can be adopted across the shipbuilding enterprise. The implementation of digital tool tracking has been identified as a pivotal opportunity to enhance shipbuilding productivity, elevate quality standards, bolster safety measures, and ensure comprehensive tool accountability.

"This integration of digital technology into our business and ways of working will result in fundamental changes to how we operate to deliver better value to our Customer. The right technologies coupled with the right people, processes and operations will give our organisation the ability to adapt quickly to opportunities, meet new and evolving business needs, and drive future growth and innovation."

The Solution

The tool tracking capability has effectively superseded labour-intensive paper-based processes with a streamlined digitally automated system for overseeing thousands of tools at the Osborne Naval Shipyard.

This implementation encompasses the following key features:

- Authentication of employees using security pass scanning.
- Effortless tool issuance with job card association facilitated through wireless scanning.
- Robust tool calibration and service management.
- Validating Suitably Qualified and Experienced Personnel (SQEP) during tool issuance, significantly improving safety by ensuring proper tool qualification before distribution.

The tool tracking system incorporates automatic employee authentication through precinct security pass RFID swiping, tool/job card scanning hardware, and SQEP compliance checks, utilising unique identifier tags on tool and consumable assets in Tool Cribs for continuous monitoring; it records Job Cards to trace tools used for each specific job, ensuring comprehensive traceability, including tracking tools not returned within the designated time-frame and those returned to a different location (tool crib).





BAE Systems Australia - Tool Tracking Case Study

The Solution - continued

The system rigorously records details for both tools and consumables. This includes critical information like historical issuance and return dates, projected return dates, unique identification tags, serial numbers, tool classifications, calibration and service histories, qualification certificates, present location, and status (e.g., Issued, Available, Quarantined, Retired, Lost and Faulty). Additionally, it keeps track of inventory counts and any relevant notes.

Business rules consider employee qualifications and certifications. Alerts are generated if a tool is issued to an employee without the necessary compliance or if an employee is issued a tool type they already possess. From a maintenance standpoint, the system proactively generates alerts to prevent the issuance of a tool if its calibration and/or servicing status (e.g., Quarantined, Retired, Lost, Faulty). Moreover, the solution serves as a valuable asset for overseeing maintenance activities related to tool calibrations, servicing, and Break-Fix status, while also efficiently managing spare parts inventory. Additionally, the system offers a comprehensive array of reports detailing the status and availability of tools and consumables, empowering the organisation to facilitate strategic planning and meet essential compliance requirements.

Outcomes and Benefits

Throughout 2022 and 2023, Hardcat Lebosi has effectively enabled the issuance, return, and calibration of thousands of tools from the HCFP's initial three tool crib locations. This innovative tool tracking capability has systematically replaced traditional manual paper processes with streamlined digital work-flows and automation where possible. Evaluating the anticipated benefits resulting from the implementation of digital processes compared to manual methods reveals substantial potential for efficiency gains throughout the entire Hunter program. A comprehensive analysis suggests that adopting advanced digital work-flows can improve time efficiency, enhancing operational productivity and effectiveness. This transition not only streamlines tasks but also fosters an environment of enhanced accuracy and speed, propelling the program towards optimised performance outcomes.

The implementation of Hardcat Lebosi has delivered a range of significant outcomes for the BAE Systems Australia organisation, including:

- Improved safety through qualification validation and comprehensive traceability.
- Enhanced compliance via traceability and robust reporting capabilities.
- Substantial reduction in losses through the visibility of all issued items.
- Increased operational efficiencies, notably in the swift issue and return of tools.
- Effective qualification management with associated training and qualification checks.
- Enhanced inventory tracking with complete visibility of all issued items.
- Individual accountability established by tracking tools and providing insights into their usage (what, where, who, and when).
- Optimisation of asset life cycles through maintenance tracking and cost collection process.





Hardcat EAM Helping Companies Succeed

Maximising the reliability, uptime, and performance of assets

Forward-thinking exploration and production firms are known to take a proactive approach to asset maintenance by having their assets in optimal condition. Hardcat Lebosi's preventative maintenance capabilities enable organisations to identify potential problems with an asset before they occur, schedule the necessary repairs, and avoid unplanned downtime. This helps improve equipment reliability and reduces the need for emergency repairs, which can be both costly and time-consuming.

Streamlining asset purchasing and procurement

Acquiring new assets is a complicated and costly process. Our market proven software solution helps in streamlining this process by providing a single source of truth for asset data and integrating with an organisation's purchasing and procurement systems. This not only saves time but also reduces the costs associated with purchasing new assets and makes the procurement process more seamless.



Efficiently tracking and scheduling maintenance

Keeping track of all the assets in an organisation and their maintenance schedule can be a daunting task. With its complete asset life cycle management capabilities, Hardcat Lebosi solution makes it easier for organisations to track and schedule maintenance by digitalising work orders and automatically scheduling necessary preventive maintenance. This innovative solution automates maintenance processes thereby allowing upstream energy companies to focus on more important things – like maximising production.

Tracking of labour costs

One of the benefits of using Hardcat Lebosi is the ability to track and manage labour costs. Our solution's labour tracking capabilities enable organisations to track the hours worked by employees, the type of work being performed, and the associated labour costs. This information can be used to improve workforce productivity, optimise maintenance processes, and reduce labour costs.





Hardcat EAM Helping Companies Succeed

Efficiently monitoring asset condition and reducing downtime

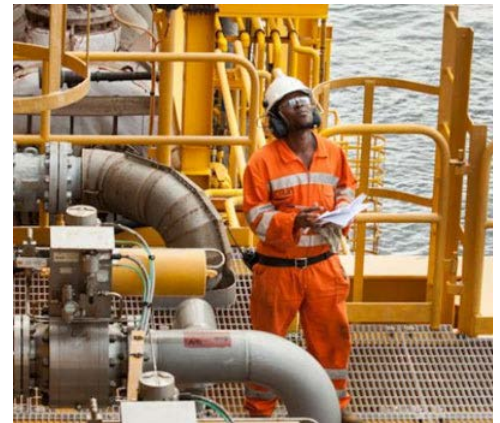
Monitoring the condition of assets is critical to ensuring their reliability and uptime. Hardcat Lebosi's condition monitoring functionality enables organisations to track the condition of their assets in real-time and identify potential problems before they occur. This helps organisations avoid unplanned downtime and improve the overall efficiency of their asset management processes.

Extending asset life and increasing efficiency

Our software's condition monitoring functionality enables organisations to track the condition of their assets in real-time and identify potential problems before they occur. This helps organisations improve the overall lifespan and efficiency of their assets. This means going from reactive to proactive maintenance operations. As a result, your equipment or machinery runs more smoothly and for a longer time, avoiding or at least delaying the costly process of replacement while improving production rates.

Efficiently managing spare parts inventory

Spare parts inventory management is a critical part of asset management. Hardcat Lebosi comes with tools for managing the procurement, receipt, storage, and issuance of spare parts. Oil and gas companies have been using these tools to streamline spare parts inventory management, reduce costs, and improve asset availability.



Improving safety and compliance

Safety is of paramount importance in the oil and gas industry. Complying with legal and environmental regulations is critical to the success of any organisation operating in this sector. Hardcat Lebosi allows you to keep track of maintenance records for presenting to authorities. You can also generate safety reports and compliance audits. This helps organisations improve their safety records and reduce the chance of costly accidents and incidents.



Economic Value Delivered By Hardcat

The below are indicative cost savings based on average wages; time taken for manual process vs time taken in the Hardcat Lebosì solution against such transactions.

Activity	Location savings per year	Number of Locations	Total Savings per year
Audit time reduced	\$3,750	400	\$1,500,000
Transfer equipment between locations	\$1,000	400	\$400,000
Reduced training time	\$1,000	400	\$400,000
Reduced IT support costs	\$500	400	\$200,000
Reduced current annual maintenance	\$500	400	\$200,000
Reduced purchasing	\$500	400	\$200,000
Staff movement between locations	\$1,000	400	\$400,000
Personnel leaving the organisation	\$1,000	400	\$400,000
Reduced time looking for assets	\$5,000	400	\$2,000,000
Issue and return loaned equipment	\$11,250	400	\$4,500,000
TOTAL SAVINGS	\$25,500		\$10,200,000





Asset Tags And Hardware

"As well as enterprise software we supply everything you need"

A mix of RFID tags and barcode labels can be used to tag assets, depending on the equipment surface and material suited to its environment and conditions. Equipment tags can be made to withstand harsh environments and conditions.



MC3300 RFID
Series Barcode
Scanners



RFD 8500 RFID 1/2D
Scanner



Laser Etched 2D
Barcode



Barcode on metal
surface



Fixed Readers





Hardcat Solutions Trusted By The Oil And Gas Sector

- ADGAS
- ADNOC Habshaan Plant
- Advantage Petroleum T/S Shell
- Alcoa of Australia
- BHP Billiton Iron Ore
- BHP Billiton Nickel West
- BHP Billiton Kalgoorlie Nickel Smelter
- BHP Billiton Uranium SA
- CITIC Pacific Mining Management
- Derfell Pty Ltd T/A Shell
- Fuelink Pty Ltd T/A Shell
- INPEX Browse
- INTECSEA
- Laing O'Rourke Australia
- Minara Resources
- Monadelphous PNG
- National Petroleum Investment
- Newmont Suriname
- Ok Tedi Mining
- Pilbara Iron Company
- Pilbara Manganese
- Qatar Petroleum
- QMRS Rio Tinto Cape Lambert
- Queensland Mines Rescue Service
- Rio Tinto Marandoo
- Rio Tinto Rail Network Maintenance
- Rio Tinto Resource Development
- Santos (SAMPANG)
- Shell Direct (Sungold)
- Shell Egypt N.V.
- Syria Shell Petroleum
- Tullow Ghana Limited
- VivoEnergy
- Woodside Energy
- Yem Technology
- Zinifex Century Mine





Delivering Asset Certainty

Hardcat solutions have been chosen by more than 2,000 of the world's most prestigious corporate and government bodies in 121 countries around the world.

Join our list of satisfied clients who have already performed your due diligence for you. No one else has our credentials or credibility when it comes to asset management solutions.

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