

# Laser Ore Car Profiling System

Productivity and Safety through technical innovation.



## System Features

- > Real-time calculation of remaining volume, imbalance & alignment.
- > Dual laser scanning for complete - coverage.
- > Direct communications interfaces to PLC based control system.
- > Ruggedized industrial components capable of operating in the harshest environment.
- > Data logging to built-in Microsoft™ SQL or networked database server.
- > Full diagnostics and condition reporting.

## Technology At Work

Partially dumped ore cars (PDOC) are cars that have ore remaining inside the wagon following the dumping operation. These cars present an operational and safety risk due to the increased likelihood of derailment.

BEC has developed the Laser Ore Detection System, a unique and cost effective solution to the problem of detecting and reporting the amount of material remaining in rail cars.

Using laser-scanning technology, BEC's system can accurately and reliably measure volume, alignment and imbalance of the rail cars as they exit the cells.

## Laser Scanning Technology

Laser scanning is the only technology that can provide complete, accurate, high-speed data profiling of the inside of a rail car.

Utilising the latest high resolution, Ethernet based laser line scanners, the system is able to measure the amount of material inside the rail car following the dumping cycle or load out operation.





### Performance and Reliability

Designed for performance and built for reliability to operate in the most challenging environments, the system utilises the best of breed components to ensure minimal maintenance or lost time.

### Control System Integration

Using Industry standard protocols, the Laser Detection System integrates seamlessly into your existing control system with built-in support for:

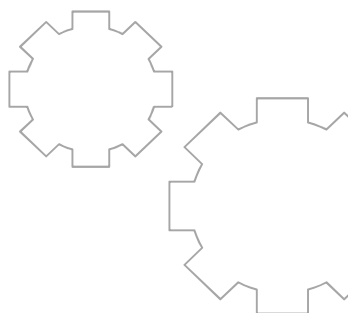
- > Modbus/TCP
- > Rockwell Automation Ethernet/IP
- > GE-Fanuc STRP

### Integration and Support

BEC has the capabilities and experience to provide a complete turnkey solution.

Our team includes dedicated individuals specializing in the fields of:

- > Project Management.
- > Electrical Design and Integration.
- > PLC and HMI Programming.
- > Mechanical Design.
- > Documentation and Design Drafting.
- > Site Installation, Commissioning and Training.



### Technology Solutions

At BEC we believe no problem is too difficult. Our team of experienced engineers can design, develop and install custom applications or integrated solutions to meet your exact requirements.

If you have a problem, we have the technical know how to help solve it. Contact BEC and arrange a confidential discussion today.

BEC is an engineering consultancy providing professional services to the mining, utilities, materials handling, oil and gas, industrial and petrochemical industries across Australia and around the world

Established in 1996, BEC has completed projects for major clients throughout Australia, North and South America, Africa, Asia, Europe and the Pacific.

We have proven capabilities across all aspects of:

- > Project management
- > Power generation
- > Power systems
- > Control systems
- > Information and communication technology (ICT)
- > Automation
- > Plant integrity
- > Operations support

phone: +61 8 9472 4224

email: [info@bec-engineering.com.au](mailto:info@bec-engineering.com.au)

web: [www.bec-engineering.com.au](http://www.bec-engineering.com.au)

#### Images:

Front from left to right: Laser PDOC Installation, Port Hedland, Western Australia; Ore train entering unloading facilities, Pilbara Western Australia; Sick LMS 511 Laser Scanner; Ore Car single scan line profile.  
Back from left to right: PDOC Iron Ore Car; Derailed Ore Car, Pilbara, Western Australia