

ISICPlus

**AN INTEGRAL ELEMENT OF ORICA
EXPLOSIVE'S DIGITAL MINING AND
BLAST MANAGEMENT SYSTEM**

OEM Technology Solutions makes a big bang with the design and development of the first integrated worldwide explosives delivery system.

ISICPlus is a computer application designed and developed by OEM Technology Solutions, formerly the Engineering Services Division of Dominion Electronics, to provide a corporate interface to Orica's worldwide mobile explosives manufacturing processes.

Explosives manufacturing is a precise procedure and must be performed to the highest standards to achieve the required results.

Orica Explosives computer controlled manufacturing systems ensure that all stages of the manufacturing process, from the blast design, through to product formulation and delivery are done accurately and efficiently every time.

ISICPlus forms an integral part of that process by providing an interface from the Orica Explosives blast design and business systems to the ISIC control systems located on the specially designed trucks delivering explosives. These trucks are called Mobile Manufacturing Units.

ISICPlus down loads shot plans, through a high-speed communications link, to the control system on each truck. Each truck then manufactures the specified explosive products and delivers it in the hole at the mine site.

The manufacturing and delivery process is electronically recorded and delivery docket are printed on site to be handed to the customer. All delivery details including stock usage is up loaded to ISICPlus for dissemination to other business systems. Information is passed to SAP for inventory management and customer invoicing.

ISICPlus also provides an extensive array of reports to furnish area managers with up to date information to assist in the day to day operation of the manufacturing fleet. Full maintenance details including calibration data of each truck is stored in ISICPlus for immediate access or down load to a truck if required.

The relational database management system of ISICPlus provides efficient storage and retrieval of information while the menu based operator interface allows ISICPlus information to be displayed and modified in an ergonomic, user friendly environment.



OEM Technology Solutions apply technology, innovative engineering and design services to develop products & systems to deliver a competitive edge to our customers.

OUR SERVICES

- Research
- Design
- Development
- Manufacture
- Validation
- Commissioning
- Support

OUR SKILLS

- Complex Solutions
- Systems Engineering
- Electronics
- Software
- Mechanical Design
- Production
- Integration
- Testing

**Delivery dockets printed on site Design and delivery of shot plans
Product formulations MMU calibration and maintenance data
High speed wireless communications Corporate intranet interfaces
Multi-product facilities Extensive reports GPS interface**

OEM Technology Solutions was commissioned by Orica Explosives to provide and innovative and cost effective solution for their explosives delivery system. OEM Technology Solutions conducted a thorough analysis of Orica's requirements researching all areas to provide a comprehensive solution.



The Graphical User Interface (GUI) replaces the sun visor on the truck. The GUI provides all the controls needed by the operator to make explosives.

OEM Technology Solutions set out a timeframe for the design, development and rollout of the major system, which included electronics design and manufacture, software development, thorough testing and on-site commissioning before a worldwide rollout including countries such as Australia, South Africa, Canada, USA, South America and Asia.

OEM Technology Solutions used the latest in technology with the integration of tiny single board computers to provide the functionality needed in the trucks. This strategy reduced the cost of the system while maintaining extensive computing power for the application.



The first Mobile Manufacturing Unit following commissioning in August 1994.

Spread spectrum high-speed wireless links were used to provide a communications link between the trucks and the rest of the Orica business management systems infrastructure. Spread spectrum technology utilizes a license free frequency band, which provides a communications medium free of on-going charges.

FEATURES

Delivery & loading data

- Product and operator details
- Shot plans with or without GPS
- Samples
- Raw materials inventory
- Delivery dockets

Reporting

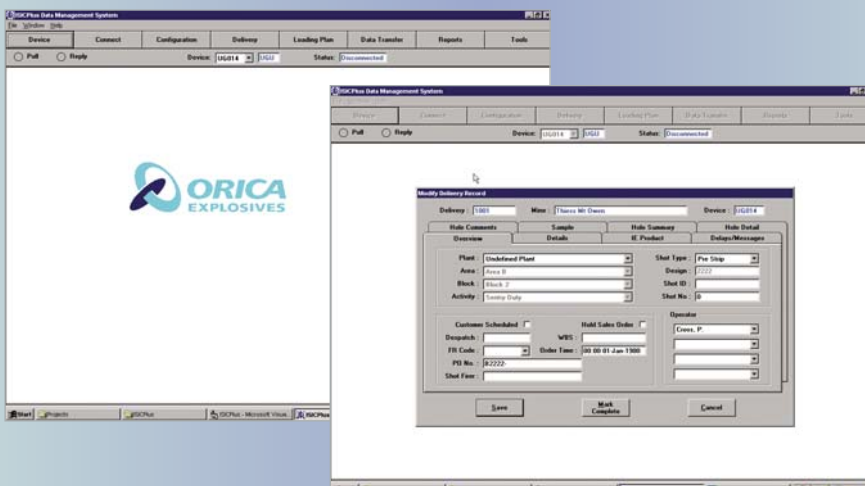
- Customer delivery details
- Daily delivery summary
- Design information (loading plan)
- Loaded shot report (multiple deliveries)
- Variance reports (designed vs delivered)
- MMU configuration information
- Process monitoring

Interfaces

- LOADPlus (Blast design system)
- Accounting system (SAP)
- SURVEYPlus
- Internet and E-commerce (future)

Fleet management

- MMU configuration and set up details
- Setup and calibration data for drives and sensors
- I/O point records and names
- Customers, mines and operators
- Product information and formulations
- Process information
- Operation and equipment data logging
- Alarms



Typical ISICPlus screens. The software was developed using an open architecture to provide powerful interfaces to other applications such as SAP.



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