



# ICOM

Icom Australia:

Flexibility and adaptability of an IDAS  
Communication system in a remote mining  
environment.

Moolart Well  
Case Study

Regis Resources Ltd, a gold production and exploration company who manage mines all over Australia and Africa, saw the need to improve and set the foundations for future communication across one of their Western Australia mines. Icom Australia and Comm Systems worked with Regis Resources to set up a robust network to support their communications' requirements.



Company: Regis Resources Ltd

Location: Perth, WA, Australia

Industry: Gold Production & Exploration

Business Situation: The client's existing radio communications did not allow for scalability and had limited coverage.

Solution: CommSystem working with Icom (Australia) provided Regis Resources' Moolart Wells an IDAS solution which could be added to in the future to meet their growing communications needs.

Features & Benefits:

- Improved Site Coverage
- Scalable to meet site demand
- Units manufactured to operate in tough environments.
- Able to integrate existing Analog units with new Digital units.
- Emergency Features - Lone worker, man down.

## BUSINESS REQUIREMENTS

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The open cut mine site can produce up to 100,000 ounces of gold annually and the capability to handle up to two million tonnes of blended oxide and laterite ores a year. The site has its own private airstrip and can hold up to 130 staff at any one time.

Like all mines, the remoteness of the location is a major factor that contributes to staff safety and transportation of materials. With this site, being situated 350 kilometres North East of Kalgoorlie in some of the harshest environments in the world, communication is a number one priority. The slightest delay in response to emergencies can lead to dire consequences and perhaps loss of life.



Image: CommSystem - Moolart Wells

## Moolart Well's requirements included:

- Reliable and Scalable two-way radio communications able to cross a mine spanning in excess of 50km.
- Coverage of multiple open pit operations and haul roads.
- Future expansion in terms of system capacity and intercommunication with other mining centres within the region.

Other factors that Comm Systems had to consider included:

- Reduction in downtime by allowing for clear communication between parties.
- User friendly technology.
- Durability to be able to handle the dust, temperatures and round the clock operation.
- Flexibility to allow for future expansion.

**“I am completely blown away with the coverage and functionality of the IDAS system. It really hit me when one of our maintenance personnel was able to call me from one of our neighbouring sites an hour away. With our previous systems we were lucky if we had coverage 10 minutes down the road.”** Kym Zanker, Electrical Superintendent, Regis Resources Limited

Image: CommSystem - Moolart Wells



## A Solution to meet the Client's needs.

Comm Systems understood all the variables that could impact upon the Regis Resources mining operation at Moolart Well. With over 15 years' experience in the communication industry Comms Systems reviewed the requirements of the mine to tailor a structured proposal for Regis Resources to meet their specific needs and be flexible enough to integrate current hardware and offer the capacity to expand in the future.

After the review with the client a consensus was reached that it would be best to use Icom's IDAS system. Working closely with the Icom (Australia) team to work through solutions and options for the Moolart Well projects. They chose the handheld IDAS IC-F4263DS and mobile IC-F6063D which could be interconnected to a nominated UHF CB channel and to a commercial UHF system.

Like all Icom products ranging from commercial to domestic the IC-F4263DS was engineered to meet MIL-STD 810 G and IP67. This means that the products are designed and tested for a range of conditions that include low pressure for altitude testing; exposure to high and low temperatures plus temperature shock; humidity, sand and dust exposure; explosive atmosphere; leakage; acceleration; shock and transport shock; gunfire vibration; and random vibration. The strict testing ensures that the units can be used in a variety of tough environments.

The handheld unit also offers emergency features which include man down and lone worker features that when activated can be sent with GPS positioning data to alert a despatcher or co-worker of their geographic location. With the size of an open cut mine the difference between a major and minor emergency and the necessity of fast flowing communication is imperative in these time sensitive situations. The unit also offers an 800mW (typ.) Audio Output helping to push the sound out over the loud machinery operating across the mining site.



Image: CommSystem - Moolart Wells

For the 135 onsite vehicles and mining equipment, Comm Systems chose the IDAS mobile unit IC-F6063D that are also engineered to the same strict MIL-STD. The mobile unit also has the noise cancelling microphone capabilities ideal for an environment where noise is a major factor in daily activities. Icom's noise cancelling transceivers digitally remove background noise and transmit your voice clearly. The Active Noise Cancelling also improves an incoming signal, by increasing the voice quality as the result of Digital Signal Processing (DSP). For added security across the mine site when transmitting sensitive information, the mobile unit also has a built-in inversion type voice scrambler provides secure conversation.

### Flexible Mixed Bag

During the course of reviewing the mines requirements and Comm System's discussions with Icom it was found that one benefit of using an IDAS system is that it works as a bridge between Analog and Digital radio. Using the NXDN interface a complete digital solution that



can be added as budget or requirements arise. Comm System also felt that the IDAS radios offered a higher level of performance, value for money, reliability and the ability to receive both analogue and digital mode signals on a single channel. The IDAS system allows for scale migration to narrow band digital at your own pace and need, while running your existing analogue system. It is a cost efficient way to obtain the next generation two-way radio technology and protect your current system investment.

As well as offering the efficient flexibility that comes with FDMA (Frequency Division Multiple Access). Which enables "peertopeer" communication between radios in 6.25kHz digital mode. It ensues communication with no reduction in channel capacity, even if a repeater site is not available, or goes down. A must have for the remote location and strict working environment of the site.

Comm Systems felt that the cross compatibility of the IDAS system with older analogue systems meant that Regis Resources could have the flexibility to integrate older analogue handhelds or mobile units into their network when production required a ramp up or remove them from service when no longer required. Over time the units could be phased out and replaced with newer models. Removing any added expense or investment to finance a complete new network across the mine site.