

**MANTA**

**C O N T R O L S**



**Leaders in Advanced Process Control**

**MANTA**  
C O N T R O L S

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**MANTA**



## About Manta Controls

Manta Controls is a dynamic company passionate about process control, automation and plant optimisation. Our focus is on implementing the best possible control strategy for a particular piece of equipment or area of the plant.

We believe that whilst having the right equipment is important to achieve success, ensuring it runs optimally and with minimal down time will almost always guarantee success.

A plant that is automated correctly will run at the highest throughput levels and should be resilient to process disturbances. The continual steady performance of the plant will reduce the number of process shocks the plant is exposed to, which in turn will reduce the level of maintenance required and therefore, downtime.

Most turnkey solutions are not automated optimally; as soon as the functional specification has been met the project is complete. This means the plant might be able to run at its designed throughput for short periods of time, any small process upsets can cause hours of reduced or off spec output. Manta Controls specialises in taking a good processing plant and turning it into a great processing plant through effective automation. Often a large portion of time expires from post commissioning of a project to the implementation of effective controls, which proves there is a need for process control involvement in the commissioning stages of most projects that require automation.

### Our Expertise

Our expertise in optimising existing control systems ensures that plant operations run in a regime of maximum throughput and quality. Manta Controls engineers work closely with site personnel to develop unique advanced control solutions, ranging from regulatory control through to advanced multivariable control systems depending on the specific requirements of the application.

### Inside Manta Controls

Manta Controls was established in response to industry demands as a niche provider of excellent automation expertise. In addition, the business has developed a number of unique control philosophies and algorithms specifically designed for control and other multivariable processes which have proven difficult to control.

The company has grown by employing skilled professional engineers who are passionate about control systems. As control systems, safety systems and information technology are so closely related, the natural progression was to develop specialized skills in these fields as well as to provide the customer with a total solution package through partnerships who have similar values and reputation in the industry.

### Proven Track Record

We have worked with a large number of companies throughout the world who have implemented our solutions. For information relating to our solutions or client references, please e-mail us on [info@mantacontrols.com.au](mailto:info@mantacontrols.com.au)



# Services

## Key Services Provided

Manta Controls provides specialist knowledge and expertise in the following fields;

- Plant Optimisation
- Process Control Design, Implementation and Commissioning
- Safety Systems Design and Evaluation
- Hazardous Area Evaluation
- Alarm Management and Minimisation
- Management Information Systems

## Plant Optimisation

Manta Controls develops unique advanced controls systems specific to each customer's need. We begin by analysing the existing field instrumentation, data reliability and control philosophies then identify their shortcomings before making a proposal and implementing any improvements.

By determining the process characteristics, optimal loop tuning is achieved by applying fundamental mathematical methods. During this stage we provide informal training to improve the user's knowledge of control and, ultimately, put the user in a position where they are self-reliant.

## Process Control Design, Implementation and Commissioning

Manta Controls has developed a number of unique control strategies utilising a combination of advanced control techniques such as feed forward, ratio control, gain scheduling and cascade control.

We design the best control methods for mineral processing plants during the design phase of the plant, reducing the teething time period between the completion of commissioning and achieving the maximum possible sustainable throughput.

## Alarm Management and Minimisation

For every plant, alarm and event recording is critical. It is the primary tool for control room operators to effectively run the process and manage process disturbances. If alarms are not managed correctly, the operator's alarm log can become inundated with messages, potentially leading to operators missing critical alarms amongst the 'nuisance alarms'. Often this results in plant trips and in extreme situations this can lead to plant damage or personnel injury.

Manta Controls has developed a specialised alarm management package which is capable of retrieving alarm and event information from any process control system with OPC capabilities. This package summarises alarms and provides data analysis to identify those systems that cause high alarm activity.

Working with your systems team, Manta Controls can develop and implement a site alarm specification and provide a clear minimisation strategy.



## Safety Systems Design and Evaluation

Functional Safety is more than the design of a Safety Instrumented System to achieve safety targets. Functional Safety involves the integration of process control system design and management, the company's safety management, and plant availability. It is Manta Controls firm view that by correctly integrating these elements it can not only be shown that the plant is safe but also more reliable and robust.

An Emergency Shut Down (ESD) system is often regarded as purely a statutory requirement, however if not implemented correctly can lead to excessive nuisance trips or worse the failure to react to an unsafe condition.

Manta Controls can provide:

- Expertise in Functional Safety Management and control system management
- Development of Safety Requirement Specification
- Training in Functional Safety Management and Safety Instrumented System realisation
- Audit for compliance to AS/IEC 61508 and AS/IEC 61511

## Hazardous Area Evaluation

Manta Controls have the expertise to assist with the design and implementation of electrical installations in hazardous areas. This includes laying out the structure of the hazardous area verification dossier to suit the user's infrastructure.

## Management Information Systems

Today's climate of increasing flexibility in the manufacturing and process industries provides the driving force behind providing state of the art production reporting and management information systems. Manufacturing is clearly moving from connected to integrated enterprises that demand truly unified information systems.

Architecture and interoperability strategies are thus becoming inseparable and together may determine the success of your information system evolution.

Making decisions and taking action today requires visibility into applications across the enterprise. Two types of interoperability are critical: financial for those with P&L responsibility and performance for operational personnel.

Leveraging technology to deliver superior performance and growth is a key aspect to Manta Controls strategy in providing consulting services in this arena. Changing marketing models, global shift in supply and demand and increasingly varied feedstock all demand superior planning and decision analysis.

Our capabilities cover all aspects of "shop floor to business systems reporting" such as Regulatory Control, Optimisation Control, Performance Monitoring and Information Management Systems implementation including the latest innovations in Web based technology.

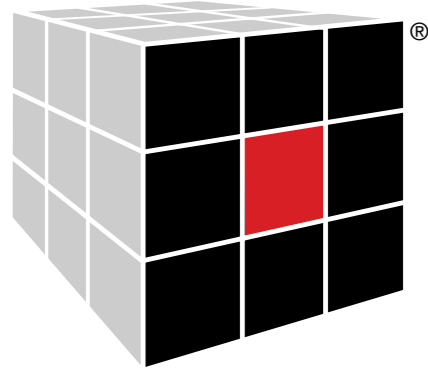
## Products

### The MANTA CUBE

The Manta Cube control system installed on various process units such as SAG Mills, Ball Mills, Flotation Circuits, Thickeners, CCD Circuits and more, utilises advanced control fundamentals. The fundamental techniques used include constraint control, feed forward control, expert system control, gain scheduling, object-oriented control, decoupling control and new process control technology solely developed by Manta Controls.

Advantages of utilising the Manta Cube control system include:

- Guaranteed improvement in plant or circuit performance.
- Free upgrades of Manta Cube control systems – conditions apply.
- Off site support – conditions apply.
- Continual development of new process control technology design.
- Training of your staff on the Manta Cube control system.



**CUBE**  
TECHNOLOGY



## Training

Manta Controls conducts training in process control. Our course is accredited by W.A.S.M. (Western Australian School of Mines) and covers the basic fundamentals of process control, control system design and controller tuning as well as understanding the dynamics of enhanced control and control strategy design.

Visit our web site at <http://mantacontrols.com.au/main/Training/> to download our training brochure.

A unique course can be tailored to meet specific client requirements so please contact us at [training@mantacontrols.com.au](mailto:training@mantacontrols.com.au) for further information.

