



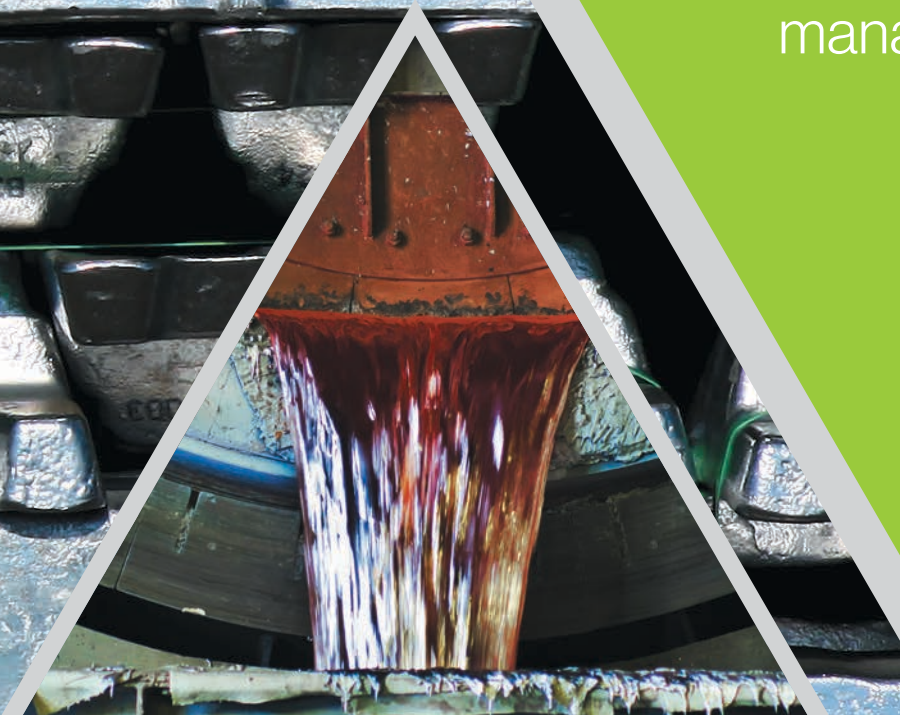
A first of its kind, purpose-designed
centralised aluminium smelter
management and control system




IN CONTROL LOW RISK HIGH RISK ON PLAN

Transforms aluminium smelter operations
through a generational leap in management
and control strategies

A comprehensive smelter
operation, control and
management package





Gen3 is designed to maximise and simplify system-human integration for continuous process improvement

Integration

The Gen3 potline control system integrates the work of operators, engineers and managers.

Continuous improvement

Gen3 learns and adapts to changes and new findings, through continual tracking of diagnosis, response performance and removal of the causes.

Simplicity

The simplicity and transparency of Gen3 allows users to carry out their work with clear objectives while incorporating learning and improvements to their work.



Gen3's advanced control and management systems enable smelter operations to:

- Identify variance for early detection of abnormalities
- Improve efficiency and energy consumption across the potlines
- Reduce carbon consumption, emissions and man hours per tonne
- Systematically reduce voltage

Increase
overall smelter
profitability



Gen3
integrates with
and improves
existing pot
controller
operations

- Improves heat balance control
- Reduces noise level, reduce anode effect frequencies and durations
- Increases pot life
- Focuses operator effort to address critical issues and prioritise work streams
- Reduces unnecessary human intervention and manual workloads
- Improves workforce knowledge base
- Optimises staff performance and utilisation



IN CONTROL



LOW RISK



HIGH RISK



ON PLAN

Gen3 offers significant advantages to current control technologies:

- Centralises, processes and analyses of all available potline data for fast and effective user-friendly management and operational reporting
- Utilises diagnostic tools, advanced control strategies and scientific decision guidelines for smelter management, supervisory and operator roles
- Provides Standard Operating Procedures (SOPs) for training and guiding smelter personnel to operational excellence
- Continuous improvement tools of control, operations and management systems
- Advanced and automated reporting of potline process and operational status presented in visual graphic format for each level of operations and management

Gen3 Software Modules

1. Data Acquisition and Calculation
2. Feeding Control (including normal control strategies and abnormality control strategies)
3. Noise Control
4. Heat Balance Control (including normal heat balance control strategies and abnormality heat balance control strategies)
5. Abnormality Detection
6. Root Cause Diagnosis
7. Response Plans



Contacts

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Gen3 - The Complete Package

- Gen3 software modules and server linked and integrated with the smelter's pot controllers
- Smelter customisation and implementation package
- Training modules – high level management philosophy through to operator/user level
- Coaching of operators and managers
- Individual manager and operator certification
- System operation and software maintenance
- Optional smelter technical support

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