



# Advanced Controls

Model Predictive Controls · Fuzzy Logic · Rule based Controls · Soft Sensors · Statistical Modelling · Advanced Regulatory Controls



## How advanced do you need?

Do you have the 'gut feel' that advanced controls could help you reach your performance targets, but are unsure of where to start? Or have you seen too many 'Advanced Control' or 'Expert' systems fade and die away owing to over-complexity and lack of maintainability?

Based on our solid background in the industry we will steer you towards the most appropriate solution for your process and for your situation. Furthermore we recognise that *robustness* and *maintainability* are just as important as system performance.

Advanced Controls Solutions implemented may include:

- Advanced Regulatory Control strategies (using existing control system)
- Model Predictive Controls (external system)
- Fuzzy Rule based controls (using existing control system)
- Statistical Process Modelling
- Condition Monitoring Systems

Where it will greatly speed the implementation process, we may bring a 3rd party to the table. This provides greater depth in post commissioning support and allows you to reap the benefits of advanced controls as soon as possible.

## Past Clients & Activities...

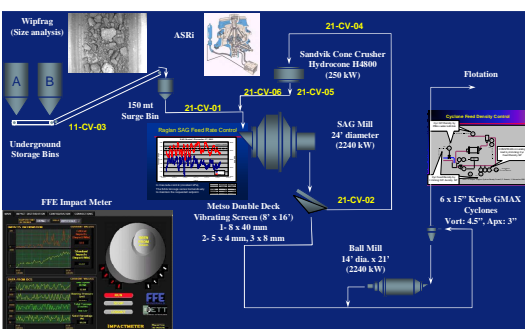
- Falcondo (Xstrata Ni) - Model based controls on all 12 reduction shaft furnaces. Enhancements to Arc Furnace SPLC system.
- Sudbury Smelter (Xstrata Ni) – Fe/Si ratio controller. Tap-hole integrity monitor.
- Kidd Creek (Xstrata Cu) – Copper furnaces integrity monitor. Furnace Matte Grade Control.
- Raglan Mill (Xstrata Ni) – Mill Charge controller.
- Kidd Creek (Xstrata Cu) – Roaster Controls.

## Did you know?

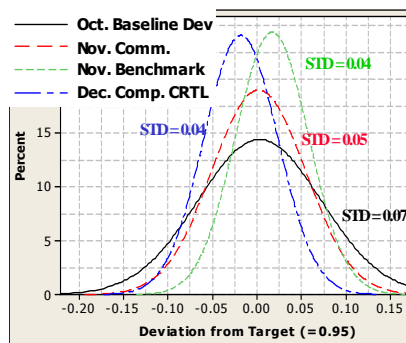
- The Process Control group has registered a patent application: "System and Method for Furnace Monitoring and Control" (CA 2469975).

**"...the overall production increase (with the Connoisseur Advanced Control system) has been approx. 7%. Another benefit is the stable operation of the furnaces resulting in hotter calcine which has improved productivity of the EAFs by another 3%."**

(E. Mast, Former President, Falcondo , Xstrata Ni,

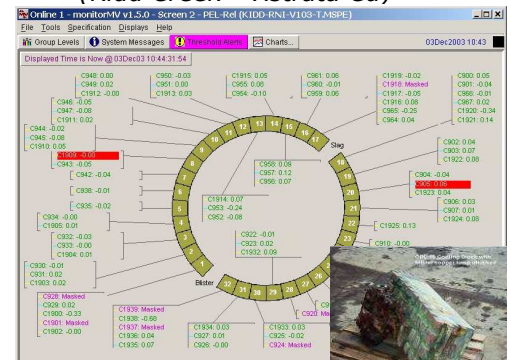


**Entire Grinding Controls Focus**  
(Raglan Mill – Xstrata Ni)



**Flux Addition (Fe/Si Ratio) Controller Performance**  
(Sudbury Smelter – Xstrata Ni)

## 'C' Furnace Bathline Monitoring (Kidd Creek – Xstrata Cu)



## Contact Us...

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