

## Alcoa World Alumina Australia

Collaborating to boost the productivity, quality and efficiency of alumina production

### RMIT Applied Chemistry



*Funding for the project has been assisted by Australian Research Council Industry Collaborative Grants.*

*'The development of a Catalytic Wet Oxidation method would be a substantial technological achievement for the Australian alumina industry with many other applications in pollution control.'*

Suresh Bhargava  
RMIT Project Leader

### The Challenge

- To develop an improved process for removing organic pollutants from alumina.
- To make the Bayer Process cheaper, greener and more efficient.

### The Problem

Australia is the world's largest producer of bauxite and refiner of alumina with the industry contributing almost \$6 billion to the Australian economy. The Bayer Process, which refines bauxite to smelting grade alumina, is restricted by a high concentrate of organic contaminants.

These organic contaminants reduce the quality of alumina produced, at a significant cost in lost production to alumina refiners.

RMIT and Alcoa are collaborating to improve alumina quality, with RMIT developing the catalyst systems, and Alcoa testing the RMIT research outcomes on an industrial scale.

### The RMIT Team

The RMIT team comprises:

- A project leader, with expertise in applied catalysis and industrial chemistry.
- A senior researcher with expertise in catalyst selection preparation, development and reactor design.
- Two postgraduate research students in the area of organic substance removal from waste streams and catalysts testing.
- A senior expert in liquid phase catalysis, catalytic preparation and development.
- Two technical research assistants.

### The Synergies

The project brings together academic and industrial scientists, postgraduate and undergraduate students, with a user and manufacturer of technology. The project is the biggest commercial joint venture in the alumina industry between Alcoa and an Australian University.