



**Centre of Excellence - Innovation
Operational and Technical Excellence**

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**Society of Mining
Professors June 2006**

Industry Session

Chris Cross

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**RIO
TINTO**

State of the global industry

- High demand by China may slow but will Indian demand surge?
- Pressure on industry to have
 - High safety standards
 - Low society/environmental impacts
 - Improved image
 - Participate in sustainability
 - Meet raw materials demand
 - Make a profit
- But industry encounters
 - Higher capital and operating costs
 - Lower grades/technical difficulty
 - Severe staff shortage



Barriers to meeting demands

- *Lack of innovation*

Collaborative R&D required between industry, suppliers and universities (*universities tend to be the idea generators*)

- *Shortage of staff*

There is a world shortage of mining, geotechnical and metallurgical graduates due to lack of interest by young people and the consequent closure of courses

At the same time the industry is expanding whilst its ageing work force is retiring (*again the universities are the key*)

Supply/demand for mining engineers

- From industry working group study (RT/Anglo/BHPB/Xstrata) graduate supply is around 690 per year from current sources
- BUT only approximately 60% of university graduates enter the mining industry workforce directly - therefore only 414 graduates are available
- Extrapolating demand to the whole industry based on market capitalisation and employee numbers gives an approximate supply requirement ranging from 500 towards 800 graduates per year.
- When retirement issues are taken into account the number becomes far higher



Graduate supply, what industry can do

- Increased support for teaching - materials and in-kind assistance by industry to universities
- Provision of financial support such as targeted scholarships
- Industrial training opportunities for students - internships
- Support for research, to enhance status and provide the next generations of lecturers
- Increased involvement through industry advisory boards.
- Promotion of collaboration between universities
- Improve the industry image