

# Graduating Globally Employable Mining Engineers GEMEs

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# World's Demand of Mining Engineers

According to several studies:

- USA = 15% of worldwide mineral output
- Peru = 2% of worldwide mineral output
- USA needs 300 new mining engineers p.a.
- Peru needs 50 new mining engineers p.a.
- Correcting for differences between both mining industries and considering other cases like Argentina, Australia, Brasil, Canada, Chile and South Africa and other major mining countries
- **THE WORLD NEEDS AROUND 2500 NEW MINING ENGINEERS PER YEAR**



# World's Supply of Mining Engineers

- Around 250 mining engineering schools in the world
- 30 in North America (Canada, Mexico, USA)
- 45 in South America (16 in Peru)
- But only 20% considered strong schools
- A projection of the information available indicates 12000 mining engineering students worldwide.
- USA = 500 students, 100 graduates p.a.
- Peru = 4000 students, 400 graduates p.a.
- Approximately 2500 graduates per year worldwide.
- Demand = Supply - but this might change quickly



# The Real Problem

- There are enough young people worldwide willing to follow a career in mining.
- The imbalance between supply and demand varies between geographical regions. This is a problem of just looking in the wrong place.
- However not all mining schools respond to the needs of modern mining. This is a problem of quality.
- Therefore the real problem is the need of producing new mining engineers that fit the requirements of the XXI century mining industry and to look for them globally.
- **GLOBALY EMPLOYABLE MINING ENGINEERS**



# Global Consortium

- To address the educational and academic research needs of the global mining industry, the mining engineering departments of universities in major mining countries encouraged by support from the Newmont Mining Corporation, have taken the initiative to establish the
- **GLOBAL CONSORTIUM ON MINING ENGINEERING EDUCATION AND RESEARCH (GCMEER)**



# Objectives

- Increase enrollments in Mining Engineering programs by providing an attractive tool for recruitment and retention.
- Identify at an early stage the most talented students and encourage them to follow an international career starting by spending at least one semester at one of the other participating universities.
- To exchange faculty members and develop cooperative research projects



# Industry and Academia working together

- This program has been specifically developed under the consortium structure to provide a platform for industry and universities to work together towards meeting the demand for mining engineering graduates, both in quality and numbers.
- Its main purpose is to attract and retain talented students to the mining engineering programs in the major mining countries



# Making of a GEME

- Each participating university establishes the requirements for applying to the GEME program annually.
- Common issues will be the need to have completed the basic engineering and science courses in mining or other engineering disciplines, have a minimum academic standing and be proficient in english and a second language.



# Academic Activities

- To attend classes for a semester at a host university taking courses equivalent to those in the curriculum of their home university and with a similar academic workload (Standard student exchange program).
- To complete at least one internship in a foreign country sponsored by a participating mining company.
- To attend a short course at their home university offered by a Consortium professor



# GEME Scholarships

- The GEME students will be awarded a scholarship at an escalating level as they progress with their studies. The amounts will vary depending on the tuition fees at different universities and the living expenses in the host countries.
- The scholarship will be renewed on a per semester basis as long as the student performs according to the requirements of the program (academic activities)
- The cost of supporting one GEME student per year will vary between KUSD 20 to 35 depending on the country of origin of the home university and will last for two years



# Administration

- Initially, the Consortium activities will be coordinated by a program coordinator and an assistant at the Colorado School of Mines.
- An Advisory Board consisting of representatives from both industry and academia will oversee the Consortium activities.
- Each university will be responsible for its recruitment of GEME students and administration of the program at its mining department.



# How to join the GCMEER

- The only requirement for a university to join the GEME program is to establish a student exchange agreement with a Consortium university, preferably in a country with a foreign language.
- Companies can join by providing a significant financial contribution that can support at least one GEME student. Those providing over KUSD100/year will be Principal Members with a seat on the Advisory Board.



# Participants

## UNIVERSITIES

- Colorado School of Mines USA
- Pontificia Universidad Católica Peru
- Pontificia Universidad Católica Chile
- University of the Witwatersrand S.A.
- Others from Australia, Brasil, Canada and Europe in process of joining

## MINING COMPANIES

- Newmont Mining Corporation
- Minera Yanacocha
- Cia de Minas Buenaventura
- Hochschild Mining Plc.



# Pilot Exchange Program

- Pontificia Universidad Católica del Perú and the Colorado School of Mines have both chosen two mining engineering students to represent the preliminary exchange of the GEME program to occur in August 2007 and January 2008.
- Funding for the exchanges is provided by the participating mining companies and includes travel expenses, room and board, health insurance, visa fees, some pocket money, books and supplies. No tuition will be paid at the host universities.



# GEME

Globally Employable Mining Engineers

Be a part of something truly extraordinary

**Be a GEME!**

