

Federation of European Mineral Programs (FEMP)

The future after fifteen year operations

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Structure European programs since 1996

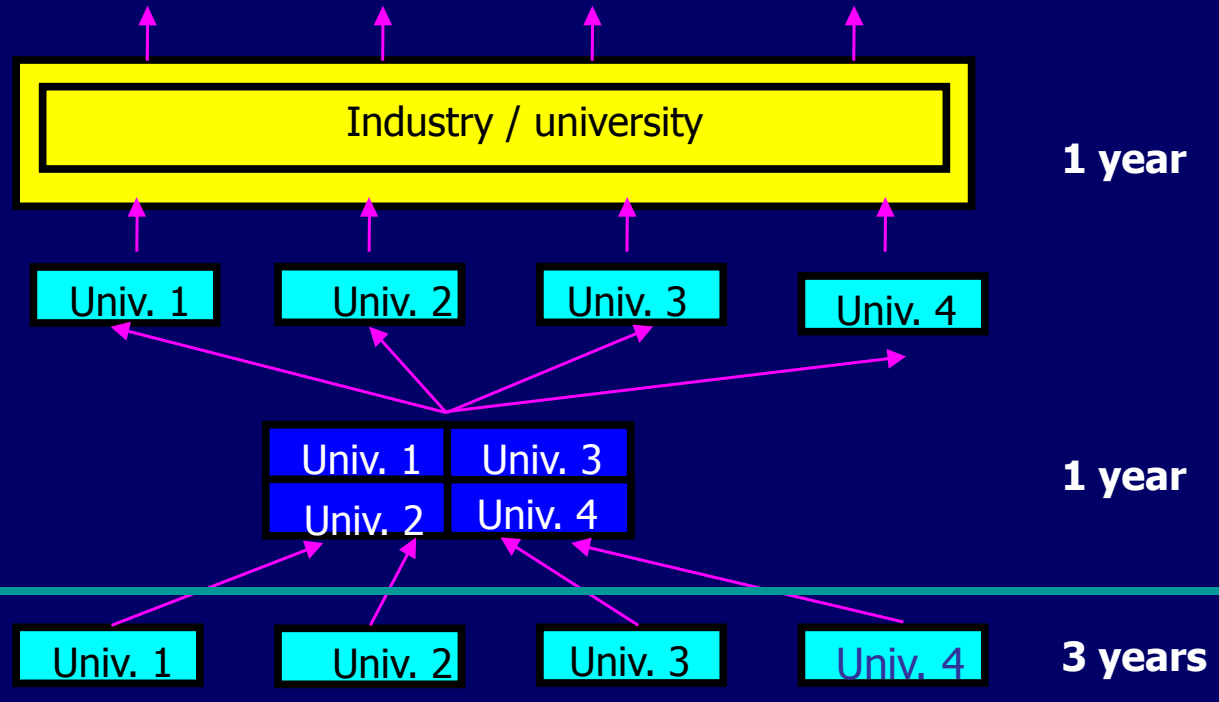
Degree

Thesis

M.Sc
European programs

Basic Level

B.Sc



European Mining, Minerals and Environmental Program (EMMEP)



1996



1998



2003



Structure FEMP

Associated universities

Canada: Queen's, McGill, UBC
USA: Colorado School of Mines,
Virginia Tech
Australia: Queensland
Chile: Concepcion, Catholica
Brasil: Federal do Rio Grande
Europe: France, Norway, Sweden,
Austria, Estonia etc.

European Universities

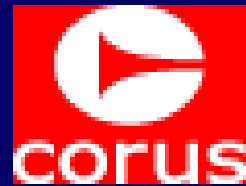
EMMEP
- EMC
- EMEC
- EGECE

FEMP

Industry

Agnico Eagle
AKZO-Nobel
Anglo American Plc.
Areva
Atlas Copco
Barrick Gold Corporation
BHP-Billiton
Caterpillar
Corus
Euromines
First Quantum
Freeport-McRoRan
Gemcom
IHC
Inmet
K + S
KGHM
Lhoist
Metso minerals
Nyrstar
Orica Mining Services
Outotec
RAG
Resource Capital Funds
RWE Power
SGS minerals
Shell
SRK Mining Services
Talvivaara
Rio Tinto
Sandvik
Vereinigung Rohstoffe und Bergbau
Walter Beckers
Xstrata

Current industrial partners



Erasmus Mundus

- Special 2 year MSc. courses with EU seal
- ~ 4 million Euro Scholarships for non EU students



- EMMEP received 53 scholarships since 2008
- Opportunity for companies to apply for young engineers



Conclusion after 2 years (presentation SOMP meeting 2010)

- Positive
 - Mix EU and non EU students (2:1)
 - “Prestigious” program
 - Expand the global network
 - Financially advantageous
- Negative
 - Based on harmonized Europe (visa + education)
 - Administrative nightmare
 - Difficult / impossible to adjust program, once approved
 - Decreasing financial benefits over next years
 - Difference between partner universities

Erasmus Mundus future

- Erasmus Mundus not to be continued after year 5
 - Brussel made it financial unattractive
 - Lower fee allowed (8,000 instead of 12,000)
 - Less non EU students (8 instead of 18)
 - Result: decline from 440,000 to 120,000 per year
 - Organizational nightmare
 - Brussels administrative requirements
 - Different rules and regulations 6 partners
 - Lack of discipline partners
- No choice but not to continue

FEMP future

- FEMP successful
 - 15 years of programs
 - 600 alumni and students (40 missing contacts)
 - Work in > 50 countries
 - 35 companies support FEMP
 - Close and regular contacts
 - Renewed website (www.femp.org)
- Financial and management concerns

2011-2012

- 2011: 52 participants from :
 - 20 mining
 - 15 minerals
 - 17 geotechnical

Argentina	Ghana	Poland
Belgium	Hungary	Russia
Botswana	Indonesia	Suriname
China	Iran	United Kingdom
Colombia	the Netherlands	Yemen
Finland	Nigeria	Zambia
Germany	Philippines	Zimbabwe

FEMP Annual meeting / Reunion 2011

- Hosted & sponsored by **Caterpillar**
 - 2,5 days in Gosselies / Mons
 - Expected: 160 participants
 - 50 current students
 - 40 student alumni
 - 25 working alumni
 - 25 industry members
 - 20 academia

Challenges for FEMP

- Management more and more time consuming
- Succession coordinator ship FEMP
 - Conflict coordinator ship vs academic career
 - In general scientists have less interest
- Maintain FEMP membership (35 companies) to support 50-60 students
- Without Erasmus Mundus, keep 5 -10 fee paying students from outside EU
- Create activities which generate funds to replace EM support

Workgroup future

- *Frank Schippers (RWE) initiator*
- *Graham Brown (Anglo American)*
- *Henk van Muijen (IHC-Merwede)*
- *Renard Chaigneau (Rio Tinto)*
- *Bea Lozinski (Barrick Gold) incidental*
- *Mikael Rinne / Kari Heiskanen (Aalto University)*
- *Ludger Rattmann (RWTH)*
- *Hans de Ruiter / Wijnand Dalmijn (TU Delft)*

FEMP financial future

- Alternative sources for financing
 - Support from Brussels
 - Support from industry
 - Parallel programs for industry with commercial fees (pilot project with First Quantum in 2011-2013)
 - Different fee structure for industry (currently one fee: 5000 Euro/year)

EU raw materials initiative

Frank Schippers, with the help of Dr. Diercks (formerly Euracoal) and Dr. Steinhage (Euracoal) managed to get chapter 22 amended.

Amendment

22. Stresses the importance of skills and training and the role played by geologists, engineers, *miners and other employees*; calls on the Commission *and the Member States* to engage in a close dialogue with social partners, *academia and industry in this context*; calls on the Commission to identify the need for and availability of trained personnel in the field of RM R&D, extraction, refining, processing and recycling by 2012 and to share the findings with the European Parliament; calls on the Commission and Member States, in collaboration with industry and academia, to support education on RM via the establishment of special university programmes and scholarships; further supports, in this context, exchange programmes in this field such as the Erasmus Mundus Minerals and Environmental Programme;

Discussions Nick Warren (FQ)

- FQ expects difficult staffing their operations
- Multinational aspects FEMP attractive to get staff to obtain MSc
- Otafokus (Aalto) also attractive for “upgrading” staff, alternating study – practice
- FQ likes Aalto / FEMP to organize Otafokus course in Zambia for 15 students
- FQ likes to enroll 3 students in EMEC as pilot project

STRUCTURE OF THE PROGRAMME

OTAFOKUS

INDUSTRY ROADMAP – Increasing General Knowledge of The Mining Industry

Building Own Networks

Operative Company and Mine Visits

Participating Industry Events, Seminars And Forums

DEVELOPING PERSONAL TOOLBOX

Company practices

Special Assignments

Development Projects

Personal Directives

UNIVERSITY - COMPANY TRAINING - Total of 18 months (50 company weeks)

Aalto
1 wk

COMPANY
4 wks

Aalto
9 wks

COMPANY
10wks

Aalto
9 wks

COMPANY
12 wks

Aalto
9 wks

COMPANY
8+16 wks

VIRTUAL COLLABORATIVE LEARNING AND NETWORKING

OTAFOKUS DIPLOMA, 60 sp

Adding 3 FQ students to EMMEP

- Besides EMEC, also EGEC (+EMC) should be considered
- Wish of FQ is to spread them over a few years
- Age ???

Conclusion

- Maintain current 3 programs
- Consider new management structure
- Organise custom made courses for Industry
- Lobby in Brussels