Opening address

MIN-GUIDE Policy Laboratory 3: Innovation and supporting policies for mineral and metallurgical processing
Luleå, Sweden, 18-19 May 2017
Facts about Luleå University of Technology

- Founded 1971
- Turnover EUR 180 million
- 19,200 students
- 1,670 employees
  - 255 professors
  - 487 teachers & researchers
  - 694 PhD students
- 70 research subjects in 9 research areas
- 30,000 people have graduated from LTU, of which 15,000 work in the region
Our 19 200 students study…

- MSc in engineering 3 468
- BSc in engineering 570
- Other programmes in engineering 1 227
- Business administration, economics and social sciences 2 505
- Health sciences 1 380
- Music, media and drama 741
- Teacher education 833
- Interdisciplinary educations 288
- Single subject courses 8 168

Total: 19 240

*About 600 exchange students are included in the total number of students
Education

**Mining & Metallurgy**

- 5-year MSC engineerings programmes
  - Civil Engineering, specialization in Mining and Geotechnical Engineering
  - Natural Resources Engineering
  - Sustainable Process Engineering

- 2-years international masters programmes
  - Exploration & environmental geosciences
  - Georesources Engineering - Erasmus Mundus
  - Minerals and Metallurgical Engineering
  - Civil Engineering, with specialization in mining and Geotechnical Engineering

- 2-3 years programmes
  - Bachelor of Science Mining and Geotechnical Engineering
  - Bachelor of Science Materials Engineering, specialisation metallurgy
  - Higher Education Diploma Programme in Mining and Geotechnical Industry
  - Higher Education Diploma Programme in Metal Industry Technology
Strong research and innovation areas at LTU

- Attractive built environment
- Effective innovation and organisation
- Future mining
- Renewable energy
- Innovative art and technology
- Sustainable transports
- Intelligent industrial processes
- Enabling ICT
- Smart machines and materials
Future mining

CAMM
CENTRE OF ADVANCED MINING AND METALLURGY

STRIM
Strategic Innovation Agenda for the Swedish Mining and Metal Producing Industry

Bergforsk

GREAT IDEAS GROW BETTER BELOW ZERO

LUÈLÀ UNIVERSITY OF TECHNOLOGY
SFO, Research projects, c. 20 M€/a

STRIX, Research and Innovation projects, activities, c. 22 M€ 2017–2019

CAMM, Research broker, business to business

Strategic “Think tank” for the mining industry and LTU
Luleå University of Technology is the Swedish Mining University

Strong research and innovation area “Future mining”

- Dept. Civil, Environmental & Natural resources, mainly
- >12 research subjects
- >20 full professors, ca. 50 senior researchers
- >70 PhD students, 6–10 dissertations/year
- Turnover >200 MSEK p.a. 20% of the LTU budget
The "hard rock-heavy metal" chain at LTU

- Find and characterize mineralizations and ores
- Construction, extraction and maintenance
- Process and refine minerals and metals
- Remediation, environmental aspects of mining

- Exploration Geophysics
  - Ore geology
- Rock mechanics
  - Rock engineering
- Mineral processing
  - Process metallurgy
  - Chemistry
- Operation and Maintenance Engineering
  - Industrial production environment
  - Sound and Vibration
  - Fluid mechanics
  - Geometallurgy
- Applied geology
  - Soil Mechanics and Foundation Engineering

Luleå University of Technology
Work packages

- Exploration  
  Thorkild Maack Rasmussen

- Mining  
  Erling Nordlund

- Mineral processing  
  Jan Rosenkranz

- Metallurgy  
  Caisa Samuelsson/Bo Björkman

- Environment  
  Bernhard Dold