



INTERNATIONAL
MINERALS INNOVATION
INSTITUTE

FOR IMMEDIATE RELEASE

IMII funding new virtual mine lab with Saskatchewan Polytechnic

Providing innovative, engaging and labour market relevant learning to students in Saskatchewan

November 23, 2023

(Saskatoon, SK. Canada) - The International Minerals Innovation Institute (IMII) is pleased to announce an investment of \$102,000 to build a virtual mine lab for the Mining Engineering Technology program at Saskatchewan Polytechnic to enhance student and industry learning.

The rapid evolution of technology and industry is transforming job descriptions, roles and skills needed for a career in mining. One area experiencing significant change is 3D digital mining and simulation with virtual reality (VR) headsets. The virtual mine lab at Sask Polytech will simulate a real mining environment and equip students with the skills needed on a jobsite. VR headsets offer an unparalleled advantage in training students, creating immersive simulations to explore mining environments without physical risk, fostering a deep understanding of safety protocols and emergency procedures.

“Saskatchewan’s minerals industry is on an upward trajectory with announced and planned investments in new operations,” said Al Shpyth, IMII Executive Director. “Existing operations as well as those being built are becoming increasingly digital, and the opportunity to experience new digital technologies such as augmented and virtual reality while in school will provide industry with employees who are better trained for the job at hand and the dynamics of an industry undergoing a transformation.”

“Thank you to IMII for this important investment in our Mining Engineering Technology program. This new technology will positively impact the student learning experience,” says Dr. Larry Rosia, President and CEO at Saskatchewan Polytechnic. “Simulation learning enhances education by providing hands-on experience with equipment, safety procedures and problem-solving scenarios. It allows students to practice skills repeatedly and facilitates access to realistic, geographically diverse mining scenarios, preparing students for a successful mining career.”

Sask Polytech students will use VR headsets to complete virtual survey labs and coursework. The headsets allow students to feel as if they are working in a mine. VR controllers enable students to interact with the virtual mine and perform tasks while ensuring safety through the virtual environment where errors can be easily corrected.

The lab will include full assessment packages to support instructors in determining student competence. Once the virtual underground mine is created and has been successfully implemented in the VR headset, the Mining Engineering Technology program can continue to build a library of labs for different immersive learning experiences. These labs can include geological face mapping, underground safety checks, dip and dip direction, ground control and blast patterns.



Sask Polytech will be responsible for designing, building, and delivering a complete 3D mixed AR/VR lab to provide students and the Saskatchewan mining industry with diverse education, training, and upskilling options. This virtual lab will include a library of 3D "Open Space" site visual models of Saskatchewan potash, uranium, gold, and copper mines. Outside of the core program hours, this lab will be available to other programs in Sask Polytech's Faculty of Technology and Skilled Trades and School of Continuing Education. The lab will also be available to outside institutions such as the University of Saskatchewan, University of Regina, high schools, first nations communities, colleges, and mining company worker upgrade programs.

Sask Polytech plans to purchase 20-30 VR headsets powered by a software system from ICOM Productions. Realistic scenarios will enable hands-on practice in equipment operation, enhancing technical skills and reducing the learning curve. Additionally, students can access remote or otherwise inaccessible locations, broadening their exposure to diverse mining conditions. The virtual mine lab will be piloted in the Mining Engineering Technology program next fall.

About IMII:

IMII is a non-profit organization jointly funded by industry and government and is committed to developing and implementing innovative education, training, research and development partnerships for supporting a world-class minerals industry.

IMII serves as an Innovation Steward to strengthen the Saskatchewan minerals industry's competitiveness and growth through Research, Development & Demonstration and Education & Training to drive the future's Qualified & Representative Workforce.

About Saskatchewan Polytechnic:

Saskatchewan Polytechnic serves students through applied learning opportunities on Treaty 4 and Treaty 6 Territories and the homeland of the Métis. Learning takes place at campuses in Moose Jaw, Prince Albert, Regina, and Saskatoon and through extensive distance education opportunities. Programs serve every economic and public service sector. As a polytechnic, the organization provides the depth of learning appropriate to employer and student need, including certificate, diploma and degree programs, and apprenticeship training. Saskatchewan Polytechnic engages in applied research, drawing on faculty expertise to support innovation by employers, and providing students the opportunity to develop critical thinking skills.

Media Contact:

Al Shpyth, Executive Director

Email: al.shpyth@imii.ca

Phone: 306-668-2057

Brianna Bergeron

Saskatchewan Polytechnic

Email: bergeronb@saskpolytech.ca

Phone: 306-250-3978