

SMART ROCKS enter the world of mining

Sudbury (Ontario) – Penguin Automated Systems, Inc in conjunction with Centre for Excellence in Mining Innovation (CEMI) announced a new research project called, “Smart Rocks”. Penguin ASI is led by Dr. Greg Baiden who is a world leader in mine automation and robotics. In addition to his role with Penguin ASI, Dr. Baiden is a Professor at Laurentian University and holds the Canadian Research Chair in robotics and mine automation at Laurentian.

Project Smart Rocks is designed to track rock flow on a regular basis using a three-dimensional underground fencing system. The purpose is to transmit information concerning blockages occurring in certain types of mining operations using synthetic powered “smart rocks” with built in computer, radio transmission, and positioning capability. When these “smart rocks” are injected into the rock mass, they will have the capability to transmit data as far as 2000 metres for a period of up to two years. According to Dr. Greg Baiden, “One of the innovative things about (the project) is that we will have to get into very accurate clocks to be able to put them inside the Smart Rock.” He added that “It will be the equivalence of an underground GPS system.”

The commercialization of telerobotics technologies helps to provide a new generation of high technology jobs in mining research, engineering and instrumentation for the benefit of Northern Ontario SMEs. Project Smart Rocks uses telerobotics technology in order to observe and measure rock flow for block caving operations and, in so doing, helps create mines that have lower costs of production and improved safety standards.

The project has direct applicability to mining operations in Ontario because of the frequent utilization of caving methods to access lower grade ore bodies. Smart Rocks will make it possible to increase both profitability and safety in these operations. Dr. Baiden explained that there is an additional benefit in that the technology “can be licensed to companies across other industries whose interests would be benefited by obtaining access to data generated by

movement within other environments such as extreme weather conditions, underwater and outer space.”

CEMI is a new mineral sector research corporation in Northern Ontario, led jointly by industry and Laurentian University in collaboration with regional, national, and international R&D partners.

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