Advanced Product Recovery and Tails Management

The Advanced Product Recovery and Tails Management (APRTM) Project was proposed by Industrial Machine & Mfg. Inc. (IMM) and Global Potash Solutions (GPS) as a multi-phased project to address the separation of specific fine particles to improve the management of tailings (tails) and enhance the recovery of potash product. The approved project provided front-end engineering and design of an advanced centrifuge as the first phase of this potentially larger project.

IMM designed and used 3D printing to build a 1:10 scale model of both a traditional centrifuge and a centrifuge that incorporated the new IMM/GPS technology. The working scaled model provided multiple test runs to provide ample and repeated phase 1 results.

The testing concluded there was a material improvement in the effectiveness of the APRTM centrifuge design versus the conventional design as it relates to the percentage of solids and particle size captured when a moderate feed rate was applied. As such, it demonstrated an appropriate degree of technical validity to the proposed new centrifuge design.

Proponent: Industrial Machine & Mfg. and Global Potash Solutions
Project Duration: March 2019 to March 2020

Project Cost:	$195,667
IMII & Industry Contribution:	$ 62,500
Innovation Saskatchewan:	$ 37,500
IMM / GPS:	$ 95,667

International Minerals Innovation Institute

IMII is a unique innovation supporting network of mining companies, government departments and agencies, and post-secondary and research institutions, jointly funded by industry and government. It exists to deliver innovations that matter to mining in Saskatchewan.
www.imii.ca