



PSI
Technologies Inc.

High Tech Road Applications

Curtis Berthelot believes we're spending too much money on building and repairing our roads — a bit surprising coming from a civil engineer and owner of a road building company. Berthelot's PSI Technologies Inc. is part of Saskatchewan's growing cluster of innovative municipal infrastructure companies. The way he sees it, we need to get smarter about building roads.

"Every dollar we spend on a road is a dollar we are not spending on schools and hospitals, or paying down debt, so we have to be very frugal with what we're doing," says Berthelot.

PSI Technologies began in 1998 as a platform to bring science to road building — an industry that Berthelot says hasn't changed much since the 1940's. Today with heavier demands on our urban roads, and cheap, high quality aggregate no longer available, he seeks to bring new methods to an old game.

They employ what is known as mechanistic or scientific design and assessment methods for road beds and pavements, employing tools like ground-penetrating radar and complex physics equations to decide what needs to be done and where. In addition, PSI has developed significant improvements in methods to recycle old materials such as broken pavement and concrete, and turn them into first class new materials.

"We traditionally viewed recycled materials as somewhat low quality, so we challenged ourselves to process materials to be as good as new material," says Berthelot.

One such application of the new technology, called the "Green Streets" project in Saskatoon, used project funding from Communities of Tomorrow and the City of Saskatoon to demonstrate the effectiveness of recycling materials. The project was highly successful showing that the City of Saskatoon could repair 30% more road surface while saving \$4.8 million over

Communities of Tomorrow is positioning Saskatchewan as a leader in the field of municipal infrastructure innovation by developing Canada's first infrastructure innovation hub. Through collaboration with industry firms, municipalities and various stakeholders, CT is transforming infrastructure ideas into practical solutions for the growing multi-trillion dollar world infrastructure market.



a three year period. In addition, the environmental benefits are significant due to the re-directing of materials from the landfill.

Saskatoon City Manager Murray Totland says the project met all of the city's objectives, "We had determined that we needed to take a new approach to the problem of the waste asphalt and concrete. This project demonstrated that innovative thinking can make our city services more efficient, and make us better stewards of the environment. We are extremely happy with the results."

This year PSI will generate revenues of over \$5 million and employ up to 70 people in the peak season, many of whom are student engineers that Curtis Berthelot expects to see building the roads of the future in Saskatchewan.

"The projects we've done with Communities of Tomorrow have been very instrumental in developing fundamental tools for us to go out and do some innovative things, and they are paying back now — not just for us, but to the industry and our society as a whole. When we can partner with an organization as a technology development partner, it reduces the risk enough that companies will be willing to give it a try — so Saskatchewan is a bit unique, and Communities of Tomorrow has been instrumental in moving a lot of these technologies forward."

Curtis Berthelot, President, PSI Technologies Inc.



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