

Innovative film developer receives foundation funding

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A super-efficient film developed at the Université de Moncton that deflects heat is one step closer to commercial success - lead researcher Pandurang Ashrit has received \$150,000 from the New Brunswick Innovation Foundation.

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Submitted Photo

Pandurang Ashrit says the money means his team can hire additional staff and focus on tailoring the invention for commercial use.

The film has a wide range of applications including use in aerospace and laser development.

A specialist in materials science, Ashrit and his team developed the film, which reflects heat at temperatures higher than 68 C.

The thin film becomes non-reflective to heat at temperatures below 68 C.

Ashrit gives the example of the material applied to glass.

"A window allows heat to go through it and raises the temperature inside a building, but with the film, the surface becomes a mirror to heat-causing inferred energy," he said.

He won't go into specifics on how exactly it works because the technology isn't patented.

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There is excitement on the application of the film to satellites, Ashrit said.

Satellites can reach an internal temperature of 150 C which can cook key components, he said.

The material could mean satellite companies don't have to install bulky and heavy cooling systems, he said.

Ashrit's super-thin film is only 300 nanometers thick and could be applied to the outside of the satellite to protect it.

The team has been in talks with the Canadian Space Agency and recently won a grant from the National Research Council and the Atlantic Innovation Fund.

Although the film itself is not expensive the application may be, Ashrit said. But he expect with economies of scale it will be very marketable.

Already several companies have expressed interest.

Lambda Research Optics Inc. is a European manufacturer that develops laser technology to cut steel sheets. The high-powered lasers are limited because they are not visible to the human eye and must be viewed through special cameras. But the strong light beams also damage the cameras. The application of a film to the steel could decrease the complexity of the process and simultaneously boost productivity.

"They want to use it for its reflectiveness," Ashrit said. "If you change the temperature of the steel you would change the optical properties."

The team of scientists is also working with Gentec, a Quebec-based company which tests lasers.

His team includes Université de Moncton scientists Nait Ajjou and Alain Haché

The the New Brunswick Innovation Foundation is an independent organization that invests in applied research in an attempt to bridge the gap between the laboratory and industry.

Calvin Milbury, the foundation's CEO, said the film could result in the development of a new company.

"It excites us that industry has taken notice of the research and is contributing cash," he said.

"The fact this work applies in so many domains is exciting and means we can diversify, thereby increasing the probability of success," Milbury said.