

Star power helps fast track nanotechnology invention

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Peter J. Thompson/National Post Hy-Power Nano chief operating officer Hadi Mahabadi, left, and chief executive Joseph Gryzb, demonstrate their technology — powder coating for glass panels that keeps out heat in the summer and keeps it in during the winter.

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It's an exciting time for Brampton, Ont.-based Hy-Power Nano, a startup in the growing nanotechnology space, and there's a lot more to come, said Joseph Grzyb, the company's chief executive.

This summer the one-year-old company launched its first nanotechnology enabled product, the Hy-Power Clear Liquid Solar Blocker. The product's infra-red blocking properties keep heat out in the summer and in during the winter. It is the first in what Hy-Power Nano envisions as a series of proprietary technologies and products it will be developing.

The company was able to fast-track the development and commercialization of the solar blocker because of its relationship with Hadi Mahabadi, who received the Order of Canada in June 2012 for his internationally recognized innovations in the field of polymer science and his commitment to promoting scientific development in Canada. For many years he was vice-president and director of the Xerox Research Centre of Canada, where he was responsible for spearheading innovations and bringing them to market.

He joined Hy-Power Nano as chief operating officer this past summer.

But how he ended up at the company is a complex story.

"Hy-Power Nano is a subsidiary of Hy-Power Coatings and is focused on providing innovative nano-enabled industrial coatings," Mr. Grzyb said. It's the next generation of Hy-Power Coatings, which has been in business since 1967 and built its reputation as a pioneer of onsite electro-static refinishing and a leader in electrostatic powder coating in Canada.

Powder coating is a way of applying protective and decorative finish to a range of materials used in industrial and consumer applications. Electrostatic spraying provides a charge to the powder (finely ground particles of pigment and resin) as it is being applied. The finish is slick, durable and uniform.

"We started thinking about how we could improve, knowing that if we entered the nanotechnology space we could develop products that would offer solar, thermal and a number of other energy saving properties in the coating field."

Nanotechnology is going to be huge for coatings for the application process, Mr. Grzyb said. "We decided to create Hy-Power Nano as a separate subsidiary because we want to move beyond coatings into electronics."

"There are people who believe that in the next 20 years technology will mean nanotechnology because of the power of nanotechnology," Mr. Mahabadi said, pointing to the fact that about \$20-billion a year is invested in nanotechnology by industry worldwide.

Hy-Power Nano launched in 2011 and immediately forged a partnership with the National Research Council's National Institute for Nano Technology (NINT) in Alberta to help create a thermal product. "They took us to a point in the evolution of the technology and we were able to

complete it because the scientist from NINT wanted to finish what he started and join us as the chief science officer. And here we are with the clear glass solar product.”

Building the right team both in Brampton and Alberta was critical to the company’s success, said Mr. Grzyb, who met Mr. Mahabadi about nine months ago at Nano Ontario. “I knew his background, expertise and reputation in the industry and asked him if had interest in coatings or nano because of the direction we were going,” Mr. Grzyb said.

After numerous discussions Mr. Mahabadi joined the board of directors and three months in, became chief operating officer. “His involvement has raised the profile of the company and completed our circle of top-quality people. That has been huge.”

Mr. Mahabadi said he was attracted by the potential for the products Hy-Power Nano is developing to create opportunities for people and businesses and communities around the world to save significant amounts of energy.

“This is what intrigued me. There are many areas of interest when it comes to nanotechnology but this impacts energy consumption for all human beings around the world and what could be better than a Canadian technology solving a global problem,” he said.

“When I retired from Xerox my intention was to help small and medium-sized businesses because they are the engine of job creation here in Canada and in process help strengthen the country’s knowledge-based economy through a strong innovation ecosystem.”

Mr. Grzyb said he felt he could reach out to Mr. Mahabadi because he was confident in the direction of the company and the products it was developing. “You have to first be sure that you have what you feel is going to make it and then make sure you have the calibre of people with you. In this case, I think having already moved well into development and having the people we had at NINT he could see how he could help bring it to fruition that much quicker by being on board.

“If you feel intimidated to seek out top talent, then you’re only holding yourself back,” he said.