

ISRAEL AT SIXTY

From Modest Beginnings to a Vibrant State

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Salio's Nanotechnology Engine Springs Into Life

*By Karin Kloosterman,
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Some scientists believe that nanotechnology is the future, and like the railroad and the industrial revolution to our ancestors, will affect every industry known to mankind. From healthcare, to the defense industry and the environment, nanotechnology operates at a very small scale, but its impact could be massive.

A number of Israeli scientists are on the forefront of research in nanotechnology, and the country's universities, backed by President Shimon Peres, are making the field a priority. Among the latest research to go commercial is that dreamt up by two Israeli scientists, Prof. Avigdor Schertz, from the Department of Plant Sciences at the Weizmann Institute in Israel and Roie Yerushalmi, currently a post-doctoral researcher at Berkeley in California.

Their company Salio was founded in 2005 to commercialize research on a molecular "spring." The core technology, which can be applied to a range of industries, literally springs into action when it comes in contact with a certain stimulus.

ANSWERING A NEED

With an ability to convert energy from external sources such as light, heat or pH into kinetic energy, the company predicts its invention will answer a need in multiple industries such as the pharmaceutical, diagnostic medicine, sensing technologies and chemical industries.

Salio's technology is licensed by Yeda, the technology transfer arm of the Weizmann Institute. And although the science is very complicated, the company's core technology platform has been scientifically documented in the *Journal of Materials Chemistry*.

Ehud Arad, from Coronis Partners in Israel, represented the company at Israel's annual Biomed convention in Tel Aviv. He says that Salio, which is headquartered in New Jersey, with R&D in Ness Ziona, Israel, is now in the process of analyzing how the molecular spring responds when it comes in contact with dangerous gases, so that a piping system could "change" (possibly self-repair) to address any problems before an accident occurs.

FABRICS THAT CAN EXPAND, OPEN, OR RETRACT

One application that the company is investigating is in soldiers; uniforms: "If a soldier is wounded,

there would be heat,” Arad tells ISRAEL21c, explaining that the clothing’s physical properties could be augmented at that particular site to facilitate healing, or make the wound accessible. The fabric could expand, open or retract, in a predetermined way, to external stimuli.

The basis of this science-fiction sounding technology is the molecular spring - a nanomolecular engine thousands of times smaller than any device today. Once “activated” these tiny springs revert to their original state, poised for the next stimulus. According to the company, their technology has already been incorporated into sensors, detectors and polymers, and preliminary tests show that the technology is operating successfully.

Funded by the Chief Scientist’s Office in Israel, and others, Salio is headed by Omer Eiferman, its CEO. Prior to Salio, he was at Medisafe, a patient safety services firm, and a partner in Heinemann & Co., a New York-based investment bank.

Salio now seeks financing in order to spring to the next level.

Salio - www.salio.com

Salio Inc. is a privately-held U.S. company with an R&D subsidiary based in Israel.

For another example of a successful U.S. Nanotech company with an R&D subsidiary in Israel see: [*Cima NanoTech Selected as a 2008 Technology Pioneer by the World Economic Forum, Nanowerk News.*](#)