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'I am proud to help in the defense of my country'

Gordhan Patel's gizmo will help measure radiation exposure levels

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New York

First it was the shoe-bomber. Then 'dirty bomb' suspect Jose Padilla. Now, as the US unleashes its military strikes against Iraq, the threat of Weapons of Mass Destruction does not seem such a far-fetched idea. For the average citizen living with the fear of exposure to radioactive material, Gordhan Patel has something to sell.

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The 60-year-old scientist recently invented a low-cost version of a radiation dosimeter - a credit card-sized badge that measures exposure levels in human bodies. The detector, made with the help of a modest $105,000grant by the federal government's Technical Support Working Group - which provides funding for antiterrorist gadgets - is already in use by military officials and key government officials.

This latest product from Patel's warehouse-turned-lab in Middlesex, New Jersey, holds a market value of $30million to $50million in the US alone, he says, making it the acme of his scientific career. "When you have so many babies, you know that one of them is bound to be a big guy," he said.

He has named the 'big guy' SIRAD (Self-indicating Instant Radiation Alert Dosimeter). It was created at Patel's JP Laboratories - named after his chil-

dren Jessica and Paresh - and will be marketed by Paresh.

Paresh left his job with Sun Microsystems December 2002to join his father's company as vice-president of marketing. "Growing up I did not fully comprehend the impact of his work nor did I understand the commercial and scientific end of it" he said.

"Now I know how worthwhile his work is. It is much more satisfying than dealing with large corporations. This will help more people than I could ever help at Sun Microsystems."

"If there is a nuclear war between India and Pakistan, God forbid, this could help monitor the radiation dose in people who are affected," he said.

Patel started research on the detector as early as 1992when he received a grant from the US Navy. Funding for radiation detectors followed the widespread threat posed by 'dirty bombs,' which contain a mixture of radioactive substances and the explosive TNT and which produces airborne contamination. While much less destructive than a nuclear bomb, these bombs result in large-scale turbulence and are included under weapons of mass destruction.

After 9/11, when the threat of these bombs became increasingly evident, the newly created Department of Homeland Security pledged more than $30 million to the TSWG for research. One of the direct beneficiaries was JP Laboratories.

SIRAD will be sold at $5 a piece - a far cry from radiation detectors priced between $45 and $100 currently available in the defense field. The existing detectors are not available for sale to civilians and are bulky and hard to use.

"They wanted a simple device that a soldier can put in his pocket," Patel said.

In his career, Patel has innovated various devices such as time-temperature indicators, security inks, forgery indicators, and color changing film.

While he has licensed about eight of these to large companies like Avery Dennison, Patel, who carries more than 45 patents under his name, plans to manufacture SIRAD himself.

Realizing the overwhelming financial potential of the dosimeter, Patel says, "I knew what I had to do." He decided that JP Labs - a privately held company - would have

its own manufacturing plant, which would produce, market and distribute the detector.

Manufacturing the product will significantly change the face of a company run by less than five employees with annual revenues of less than $1million. “We will be hiring lots of people in coming weeks,” Patel said.

Patel founded JP Labs in 1983 after he left Allied Signal, a large research conglomerate based in Morristown, NJ. “I took the highest risk a research scientist can take,” he said, “which is to go out on his own. It takes multi-millions to do that and I did not even have half a million.”

What Patel did have then were more than 100 published articles in some of the world’s most prestigious scientific journals and more than 20patents. His credentials helped him win numerous grants from the Small Business Innovation Research - a federal program that supports research projects of businesses with less than 500 employees.

During the early 1980s,JP Laboratories received more SBIR funding than any other company in the New Jersey. “If it had not been for the SBIR program, I may have made the biggest mistake of my life. I would not have survived,” he said.

“The greatest thing about this country,” he added, “is if you have a good idea, there is a lot of help available.”

Patel, who grew up in Manund, a small village in Gujarat, said he wanted to become a farmer like his father. It was his mother who persuaded him to go abroad for further studies after he received his Ph D from the Sardar Patel University in Vidyanagar in 1970. For now, Patel feels it is time to give back to the government that helped him become a successful scientist. “I am proud I am helping the defense of my country and contributing in some way to its war abroad.