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Collaboration on a roll in India

Curtis Instruments supplies key part for REVA electric cars

By Eugene Driscoll
The Patent Trader

CHAPPAQUA — Seated at the head of the table in a secluded downstairs room in Crabtree Kittle House here, Chetan Maini chats politely about the newspaper business with a group of local reporters and executives from Mount Kisco-based Curtis Instruments.

Small newspapers in his native India remain independent and are not interested in expanding their coverage area, he says softly. The small talk idles as Curtis Instruments company Chairman Edward Marwell asks a waiter to light two candles carefully placed on the table. Directly behind Marwell is a large wine cellar (formerly used as horse stables in the 200-year-old building), containing some of the best bottles in the Hudson Valley, Curtis communications director Frank Matheis mentions.

It's all very elegant, very northern Westchester — and Maini doesn't seem interested.

He comes alive when the conversation turns to his passion: electric cars. Maini's eyes become wide when he speaks about the subject. He uses his hands and lurches forward to emphasize points. He smiles. He stresses key phrases by saying them slowly — "It must be cost effective."

Even media reports about a potential war between India and its neighbor Pakistan do not dampen his spirits.

A first in India

Maini is the managing director of REVA Electric Car Co. Ltd., based in Bangalore, India. The company manufactures REVA, India's first zero-emissions vehicle. It is a tiny two-door hatchback, specifically designed to traverse India's densely populated cities.

There are no plans to introduce the vehicle here, but Maini and executives from Curtis believe the market in Asia and Europe is huge.

Curtis supplies the REVA with its motor speed controller — "the heart and soul of the vehicle," according to information provided by the company. The motor controller allows the vehicle to feel like a traditional car with "seamless" acceleration and deceleration.

"Alternative-energy vehicles" is a subject obviously close to Maini's heart. It was the focus of his studies at the University of Michigan and Stanford University in the early 1990s.

Meanwhile, the car is named after his mother. The REVA company is a subsidiary of Maini's family business, The Maini Group.

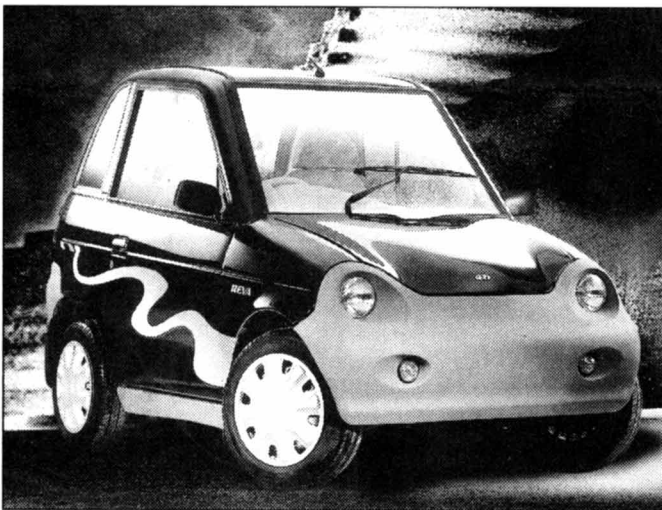
Filling a need

Air pollution in India is terrible, Maini said, and it's getting worse. More and more people use cars, motorcycles and mini-buses for transportation in the clogged cities, where 50 percent of a commuter's time is spent in traffic. Some vehicles there use a mixture of gasoline and kerosene to propel them, which exacerbates the smog problem.



Stuart Marwell and Chetan Maini with a computer demo of the REVA car.

Derek Davis/The Patent Trader



The REVA electric car is India's first zero-emissions vehicle.

small, we've tried to build a lot of safety in it," Maini said.

The speed is perfect for foreign city traveling, he said, where vehicles rarely have the opportunity to exceed 25 mph.

The 'long haul'

REVA expects to churn out 600 cars a month by next year, which would make it the biggest manufacturer of electric cars on the planet. Future markets include Asia, especially China, where a booming driving population is leading to higher pollution levels.

Curtis, with headquarters on Kisco Avenue, has facilities stretching from Puerto Rico to Sofia, Bulgaria. Curtis CEO Stuart Marwell said it is too early for his company to turn a profit supplying motor controllers to the REVA.

The company is in it for the "long haul," said Curtis sales head Steve Waite.

"With correct goals and visions, the money will come," Maini said.

Curtis and REVA began their collaboration in 1995 after discovering they shared a common vision. "The future is electronic in a lot of ways," Marwell said.

Finally, Maini said India's turbulent relationship with Pakistan and America's nearby war in Afghanistan has not impacted business. He appeared surprised by the number of questions members of the press posed about India's dispute with Pakistan over the Kashmir territory.

"Things are a lot more stable there than you see," he said.

Kashmir has always been an issue in India and the recent saber rattling between the two nuclear powers does not concern the average resident, Maini said.

"People do not feel any instability."

Marwell said the conflict was not a concern to his company.

"The future is electronic in a lot of ways."

Stuart Marwell
CEO
Curtis Instruments
Mount Kisco

80 percent capacity and about six hours for 100 percent capacity.

The batteries run dry after approximately 50 miles, but "running out of gas" is difficult because the vehicle has a number of built-in safeguards. If the operator lets the batteries run low, the vehicle switches to a "limp mode" to conserve energy.

While 50 miles may not sound like a long trip in America, Maini said it more than suits the needs of commuters in India, where the average trip is 1.5 miles.

The REVA's top speed is 45 mph and Maini said a steel space frame "cocoon" occupants, ensuring their safety. "Although the car is