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An eye in the sky

 NISHIKA PATEL | April 16, 2010 | 00:00

Ankit Mehta, 27

Innovation: Netra, an unmanned aerial vehicle

Selling cost: Rs 10 lakh-1 crore according to the configuration

What it does: It can fly for half an hour up to a distance of 1.5 km, with a camera that provides live video feed



Left to right: Amardeep Singh, Ankit Mehta, Ashish Bhat, Vipul Joshi and Rahul Singh

The blockbuster *3 Idiots* saw an IIT student develop an unmanned aerial device that could snoop into his friend's dormitory room. It was more than familiar to Ankit Mehta, 27, who created the device during his student days at IIT-Bombay and loaned it to director Rajkumar Hirani. His story didn't end there. Along with two IIT-B friends, 26-year-olds Ashish Bhat and Rahul Singh, Mehta went on to set up Mumbai-based company Idea Forge in 2008 and has turned the college project into a high-tech, spying device called Netra. The budding entrepreneurs have received orders from the defence sector and are currently figuring out how to scale up production.

It took the team two years to create an application called Bluefire Ground Control, which uses Google maps to chart a route for the plane, which can travel at a speed of 35 kmph and up to 300 metres high. Once the route has been tapped into the system, the 1-metre wide plane will fly at the click of a button on its own for half an hour up to a distance of 1.5 km. A camera is placed in the middle of the machine, which provides a live video feed. Mehta says the device has multiple uses. It could be used by the army for reconnaissance work, by the navy to track pirate ships, as an internal security device in terror situations like 26/11 and in the surveillance of national monuments. "When a battalion is on the move, it is navigating in unstructured areas. Soldiers want to know what threat is directly ahead of them, so this device works," says Mehta, who adds that it comes with a military grade laptop from which the device can operate. Creating the product was no easy feat. It took the team three years of hard work to get it right. "This is a very complicated system that involves interaction between various components, plus aerospace challenges," says Mehta. The product could be priced anywhere between Rs 10 lakh and Rs 1 crore depending on the configuration.

This start-up has also devised other alternative energy solutions based on human power. One is a phone charger that can either be wound up by hand or rolled on to material, such as jeans. "The rotation movement pumps energy into the phone and converts it into electrical energy," says Mehta. In cranking mode, one minute of winding produces up to five minutes of talk time and 40 minutes on standby while in rolling mode. One minute of rolling produces one minute of talk time. It produces three watts of electrical energy. So far, 10,000 chargers have been sold online for Rs 350, mainly in urban and semi-urban areas. Now the team is looking at partners who can push it into rural areas. "This is very relevant even in semi-urban areas where there are sometimes power cuts for up to 16

They have also made a cellphone charger that works by hand winding or rubbing against fabric.

hours. You don't need electricity to charge your phone," says Mehta. To help market, sell and operate both products, mba graduate Vipul Joshi, 27, and IIT-B graduate and aerospace expert Amardeep Singh, 24, have joined the company.

The journey for the founding trio started in IIT where they were constantly brimming with ideas. Electrical engineering student Bhat dominated a national autonomous robotics competition for four years. His electronics skills have been crucial in the design of Netra, which is electronics heavy. Mechanical engineer Singh was fascinated by hovering platforms and was an event manager for IIT's cultural festivals as well as the Techfest. Mehta says his enthusiasm for technology, particularly perpetual motion systems, was planted at an early age. The unmanned aerial device won the prestigious MAV 2008 (Micro Aerial Vehicle) competition in the hovering category, organised by the National Aerospace Laboratories (CSIR), Aerial Delivery Research and Development Establishment (DRDO) and India and US Army RDECOM (International Technology Center-Pacific). "This really gave us the impetus to push it on a commercial scale," says Mehta. "We were always discussing how technological products could be made better. We all share a passion for delivering products that add value and are simple so they can make a difference to people's lives," says Mehta. Now, they'll have to see if their optimism can be optimised.

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