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NETRA: Gujarat bets on indigenous UAVs to keep surveillance & help in public security

By *Vishal Dutta*, ET Bureau | 7 Jul, 2013, 10.37AM IST

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When the 136th edition of the Jagannath Rath Yatra starts next week in Ahmedabad, the police of Gujarat will have the comfort of an extra pair of eyes manning the security of pilgrims — from the skies.

The police will for the first time deploy two unmanned aerial vehicles (UAVs), which they bought in May, for the yatra. The 'eye in the sky' project will give the state police a bird's eye view in terms of surveillance, according to DIG (modernisation) Rajiv Ranjan Bhagat.

The UAVs are indigenous (they have nothing to do with the US drones), produced by a start-up called ideaForge Technology, in collaboration with the Union government-run Defence Research and Development Organisaton.

Home-Made Product

ideaForge is promoted by three former IIT students — Ankit Mehta, Rahul Singh and Ashish Bhat. They have aptly named their product NETRA. NETRA is small and light. It can be launched from a small, clear area and made to fly over a desired area at 300 m above the ground. The device will send continuous real time video of every movement on the ground within a 5-km radius. NETRA boasts a "zoom-in" facility, which will help identify human activity up to 500 m away and can fly up to 2.5 km distance from the take-off point.

That's not all. The UAV can fly autonomously. In other words, it flies and returns on its own to the base after completing its task. It is also user friendly —anyone can operate it after a few days of training, according to its makers. NETRA is fitted with day and night cameras. A 'fail-safe' system has been installed to ensure it returns even if communication breaks down or when battery power depletes.

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View From Above

Snapshot of Gujarat's air surveillance system

Cameras
Fixed 2 megapixel high-resolution cameras & PTZ (Pan Tilt Zoom) 36X Zoom with 360˚ rotation

104: No. of cameras installed in Phase I

5,000: Total no. of cameras after 5 phases (104 cameras currently)

Data
Capacity for 30 days of storage at one location

Command & Control Software
Use of Physical Security Infrastructure Management (PSIM) – a software platform that integrates multiple security devices and applications under one interface

Video Wall
A video wall consists of many computer monitors, video projectors and television sets tiled together to form one large screen. Gujarat has the largest in the country among police departments – a state-of-the-art 280 sq ft video wall having DLP LED technology

Data Centre
Built-in facilities for fire detection & suppression, access control, precision air conditioning, water leak detection system, rodent repellent system and the like

And it doesn't cost a bomb because it is locally made. Actually, it costs a fraction of the costs involved with helicopters fitted with surveillance equipment that are used in developed countries. Indeed, India will be among the first countries to use UAVs for crowd management. The US, which has been using UAVs over the Mexico border to keep watch on drug trafficking, is also looking at using these devices for homeland

security.

Amardeep Singh, chief marketing officer, ideaForge Technology, says: "An eye in the sky can surely ensure public security." In India, NETRA had already found several takers, including the CRPF, for a host of operations such as counter insurgency, border and industrial security, and disaster management. Ahmedabad will be the first city in India to use NETRA for crowd management, says Singh. Another city in Gujarat, Surat, meanwhile, has implemented a CCTV network — again a first in India — to keep a watch on every nook and corner of the city.

"Without technology you cannot do policing in today's hi-tech crime and terror," says Rakesh Asthana, commissioner of police, Surat. The CCTV network has a full fledged integrated system that gives real-time view of 23 areas fitted with cameras. The origins of the initiative can be traced back to a project called Safecity, initiated by Surat Traffic Education Trust in 2008 after the serial bomb blasts in Ahmedabad. Based on a PPP model, the project was implemented and executed by Innovative Telecom & Softwares and has now been handed over to the Surat Police.

The project, which became operational in December 2012, has created a vigilance network covering 23 neighbourhood spread over 200 sq km in Surat, a city that spans 326 sq km and has a population of 55 lakh. The 23-CCTV network has 104 cameras connected to a hi-tech control room at the commissioner's office. The cameras feed images to a 280 sq feet video wall. Phase II of the project will add another 1,000 cameras and will also have a face recognition system. By the end of Phase V, the city will have 5,000 cameras in total.

The Surat police say crime rates have drastically fallen in crucial areas of Bhagal, Chowk, railway station, ST Bus Depot, Hira Bazaar and Rangila Park Thanks to the CCTVs, Surat police have managed to nab criminals as well as are being able to efficiently manage the city's traffic.

Setting an Example

While Gujarat is making rapid strides in public security, other major cities in India, such as Delhi, are moving slowly. Even after the public outrage over the Delhi gang rape, the Delhi Police are struggling to make the city safe for women. The capital's police have so far only managed to shortlist IT and consultancy firms to advise and support the government in implementing a project to make the city safe.

Delhi Police need to only look at Surat's progress. Citing data from Bureau of Police Research and Development, Central Police Organisation, Asthana says out of 53 cities, Surat is ranked at 43 when it comes to crime rate despite having a police force of only 3,000 (No. 1 having the highest crime rate). Ahmedabad is ranked 23rd with nearly 8,000 police personnel. As per the same data, Delhi, with 85,000-plus police personnel, is ranked 10th.

Use of technology is critical to public security, according to ideaForge's Singh: "UAVs can act as deterrents and help reduce crime because miscreants will fear that they are under watch."