Groundbreaking Satellite Spying Technology

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'SAME' enables users to see any place on the planet in real time

York University Prof. Vincent Tao has developed groundbreaking satellite mapping technology that enables users to visually zoom in on – or fly over – any place on the planet in real time. Called SAME (an acronym for 'See Anywhere – Map Everywhere'), it is an Internet-based technology that provides 3-D imagery with ground resolution of a half-metre to one metre – close enough to identify automobile makes, for example, but not the human face.

"The most exciting possibilities for SAME are monitoring, surveillance and mapping of critical infrastructure sites and regions around the world," says Tao, Canada Research Chair (CRC) in Geomatics Engineering, and director of York's Geospatial Information and Communication Technology Lab (GeoICT). He notes that potential applications are broad, including defence, emergency response, environmental monitoring, telecommunications and urban planning, etc.

Tao's work – geomatics engineering – utilizes Geographic Information Systems (GIS), remote sensing and positioning and navigation systems to develop geospatial information technology. Modern geomatics is a Canadian invention that has spawned an industry generating over $2 billion in products and services annually, and employing a workforce of approximately 30,000. "The term 'geomatics' was invented in Canada in the late 1980s and has been adopted by most English speaking countries," says Tao. York houses one of only four Geomatics Engineering programs in Canada, and the GeoICT lab is one of the

largest in North America.

A familiar consumer application of geomatics is the dashboard-mounted map navigation systems in some automobiles: technology that Tao was working on in 1996. “Visualize that technology employed in the near future on a global scale,” says Tao, “where sensors monitoring traffic, weather, water and seismic variations are all connected to a central processor. It would provide an unparalleled opportunity to use that data for disaster preparedness and relief. ”

Source: York University