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IoT-based tech helps keep watch on trees, sends alert

45 Sensors Put On Trees In Wood Science Institute

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Bengaluru: Imagine a forest officer or a farmer getting an alert on his mobile phone whenever somebody tries to cut a sandalwood, rosewood or any other high-value tree in his jurisdiction/land. This smart forest intervention, the result of a collaboration between scientists from Institute of Wood Science and Technology (IWST), Bengaluru, and Hitachi India, a private firm, could go a long way in not just saving trees, but also nabbing the culprits.

E-PROTECTION

The system, which runs on Internet of Things (IoT) technology, includes a small smart device installed on the tree that needs to be secured. Whenever the tree faces any threat of chopping, cutting or uprooting, the device, which is water and weather resistant, sends an alert to the cellphone of the user via cloud.

As a pilot, 45 sensors have been installed on trees in the 25-acre IWST campus at Malleswaram. The IoT sensors installed on the trees are already sending information about any disturbance and their location to users; 35 more sensors will be installed on the campus this month.

Photo for representation only

ON GREEN GUARD

Poachers targeting high-value trees have always caused losses to the forest department and farmers who cultivate them with requisite clearances. On the IWST campus itself, an institute under the ministry of forests, cases of sandalwood poaching are common. In 2015, thieves chopped a 20-foot-tall sandalwood tree, notwithstanding the presence of six security guards.

Surendra Kumar, director, IWST said, "This research project is to develop a solution for monitoring and standardizing the e-protection system of valuable trees. IWST has become the first institution in the country to have tried such a system and develop a protocol for its commercial adaptation through a public-private-partnership."

Hitachi India is funding this initiative under its CSR programme and has deployed its Hitachi Anomaly Detection To Prediction and Prescription (HAD2P) technology to monitor and detect illegal cutting and movement of high-value trees. Gnaneshwar Kambali, general manager, digital solutions and services group, Hitachi India said, "This CSR project is an amalgamation of our business and technological strengths such as IoT to create disruptive transformation for the environment and the society at large."

THE WAY IT WORKS

- Sensor-based gadget attached to trees
- Instant alert or alarm on mobile phone if a tree is in danger
- Sensors, through wireless network, are connected to the cloud and in turn to mobile phones or other devices to send alerts
- Saves valuable trees from theft/ uprooting/chopping
- Location-tagging of assets, real-time tracking (GPS and Google Maps) and easy installation of sensors on trees are added advantages

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