The municipal police force in Belo Horizonte, the capital of the state of Minas Gerais, was one of the first in Brazil to introduce Crime Nabi for use on patrols. In December 2023, a function newly developed to support effective operation of the city's surveillance cameras was officially implemented.

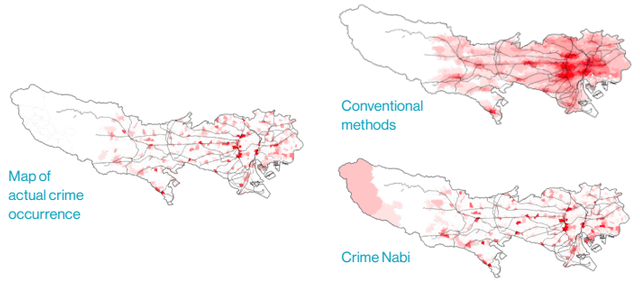
A NOVEL SOLUTION TO PUBLIC SECURITY:

JAPAN'S AI-BASED CRIME PREDICTION

A new technology from Japan that harnesses AI to predict the occurrence of likely crimes has come into the spotlight in Brazil, a Latin American country facing serious public security issues. As a system boasting a high level of prediction accuracy and ease of use, what does this innovative technology do to change policing operations on the ground and, consequently, society in general?

Latin America is a rapidly growing part of the world, yet it faces substantial societal challenges, including disparity and environmental destruction. It has a seriously high crime rate, with some surveys indicating that around half of the top 20 most dangerous cities in the world lie in the region. Japan has endeavored for many years already to assist those countries' efforts to tackle such problems. In Brazil, for example—an early adopter of Japanese-style Koban police boxes for community-based policing—Japan has continuously dispatched experts and provided training for over two decades now to aid in the system's spread. More recently, meanwhile, another new technology has come out of Japan that may enhance public security drastically: Crime Nabi, a crime-prediction system utilizing AI that has garnered attention for its effectiveness.

Created by Singular Perturbations Inc., a startup developing solutions for crime reduction, the system predicts, in detail and with high accuracy, both when and where crimes are likely to occur and meticulously formulates optimal routes for patrol. Simulations in Japan have demonstrated the system to be over 50% more effective than conventional methods in its coverage of locations where crimes occur. Though it uses reams of data—including on past crime occurrence, demographics, geographic data, and weather—that normally would require an enormous amount of time and money to process through conventional computational methods, the company's proprietary algorithm has succeeded in much faster data processing and lower costs.



Left: The red points and lines in the map on the left indicate areas where actual crimes have occurred in Tokyo Prefecture. The map showing Crime Nabi's predictions (lower right) is notably more detailed and accurate than the one made using conventional methods (upper right).
Right: After becoming a victim of pickpocketing, KAJITA Mami, a theoretical physicist who later founded Singular Perturbations as its CEO, started researching crime-prediction systems in her belief that crimes with a standard modus operandi could be predicted through an algorithm.

In Japan, Crime Nabi has primarily been used for crime-prevention patrols by local governments. Hoping to use this system to improve public safety in other countries, Singular Perturbations expanded its operations to Brazil in 2021, given the country's pressing need for heightened crime prevention. The following year, the company launched an experimental project in Belo Horizonte, the capital of the state of Minas Gerais, to address the problem of metal cable theft, and the number of crimes plummeted by approximately 69%. The results were widely heralded, and four state military police and two municipal police forces in Brazil, as well as one in Honduras, have since piloted the system aiming at implementation.

Below left: A pilot project on police patrols in Honduras, one of the Latin American countries besides Brazil to have started to introduce Crime Nabi for security.
Below right: The Crime Nabi mobile app, which uses GPS positioning, considers factors such as the time of day and the surrounding area's crime situation to immediately calculate the optimum route on patrol.

Another key feature of Crime Nabi is its easy-to-use design. By simply entering such variables as the final destination, transit areas, and distance in a dedicated mobile app, the system will present a route that prioritizes passage through areas with a high probability of crime. Even if an emergency dispatch interrupts the original patrol, the system updates the route from the current location whenever the user makes a new search and resumes the patrol. The routes and times of each patrol are automatically recorded and can be used as electronic journals and data to improve predictions. "No matter how accurate a system may be, it would be meaningless if people didn't use it. We handle all the complicated calculations and troublesome work so that police officers can concentrate on fighting crime," says Singular Perturbations CEO KAJITA Mami.

The app was originally developed to support citizen participation in crime prevention activities in Japan—another major reason for its user-friendly interface. "In Japan, we have a culture of the police, government, and citizens working together to prevent crime. Both the Koban system and this app originated from that foundation," says Kajita.

While fortifying its business in Latin America, the company is also surging ahead with such efforts as developing technology enabling highly accurate predictions even in areas where crime data is unavailable, as well as conducting a pilot project for robot patrols based on their crime predictions. "There will come an age when robots, self-driving cars, drones, and other autonomous systems work together for security. Our aim is to contribute to the optimization of security and thus realize a safer world."