NEXT-GEN DISASTER TECH:
AI TRANSFORMS SOCIAL MEDIA AND BIG DATA INTO LIFE-SAVING INSIGHTS

A new, rapidly growing crisis management service in Japan is using artificial intelligence (AI) to analyze social media posts, weather and traffic data, and more to convey accurate, real-time insights into what is happening and where in disaster situations. Now set to expand into the Asian market, starting with the Philippines, the cloud-based service has the potential to radically improve disaster response.

Left: MURAKAMI Kenjiro, CEO of Spectee Inc., has continuously refined the service since launching the first social media data-based app in 2014, incorporating extensive feedback from local governments and businesses.
Below: Spectee Pro has been used by local governments across Japan as a critical information source for disaster response. Pictured: A disaster drill in Nagoya City, Aichi Prefecture. SPECTEE INC.

Recently, the impact of climate change and other factors has amplified the intensity of natural disasters worldwide. Against that backdrop, many countries have grown more interested in *bosai*, a Japanese concept encompassing traditional disaster prevention and mitigation that, at base, aims to develop comprehensive disaster-resilient systems. Owing to its long history buffeted by numerous natural disasters including earthquakes and tsunamis, Japan has accumulated valuable experience that has enabled it to develop multiple unique *bosai* systems and innovative disaster-prevention technologies.

One such system is Spectee Pro, a cloud-based AI crisis management service inspired by lessons from the March 2011 Great East Japan Earthquake, during which accurate information about the current situation in the disaster area was often scarce. The system uses AI to analyze various data—social media posts, meteorological measu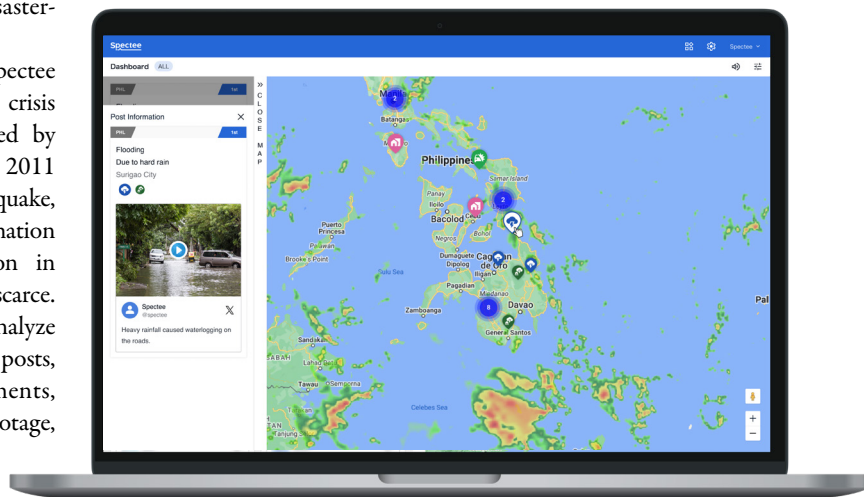rements, river and road camera footage, local vehicle data—to provide real-time reports on disaster conditions and locations. Since Spectee Pro was launched in 2020, it has gained widespread adoption, receiving support from numerous local Japanese governments and companies engaged in disaster response and management, and amassing over 1,100 contracts with a near 100% retention rate.

MURAKAMI Kenjiro, CEO of Spectee Inc.—the Japanese startup that developed the service—conceived the idea for the service while volunteering in the field in disaster-affected areas after the Great East Japan Earthquake. He said, "At that time, I found social media more reliable than mainstream media in gathering the latest information about damage and vital supplies. The experience made me want to create a system using technology to harness social media for disaster response."

His company has developed proprietary AI technology to filter

The global version of Spectee Pro displays damage by area according to users' needs, using multiple layers of critical, real-time disaster data, including verified social media posts (left), maps (right), and raincloud radar (marked in yellow), overlaid on a single screen. SPECTEE INC.

only reliable social media posts from the vast numbers shared online. The system first analyzes text and images within posts and confirms the credibility of the original poster, cross-referencing patterns of misinformation with previously learned data. A dedicated human verification team then conducts around-the-clock monitoring, checking elements that AI alone cannot detect. The entire process—from time of posting to distributing verified information—takes just one minute. After the 2024 Noto Peninsula Earthquake struck the Hokuriku region on January 1, the system successfully delivered high-quality, verified information in spite of the proliferation of fake rescue requests online, contributing significantly to disaster response efforts.

Another key feature of Spectee Pro is its flexible user interface, allowing precise information filtering and customizable notifications and display. According to Murakami, "Disaster response is a race against time. It is crucial to identify and provide the most critical information as quickly as possible so emergency responders can focus on efficient action." The service categorizes social media posts into over 100 incident types, such as fires and accidents, and lets users overlay these on a map, along with such data as weather and traffic. Users can also register specific locations to receive notifications if a disaster occurs nearby.

Looking to the future, Spectee Inc. aims to expand its services globally. In the Philippines, one of Asia's most natural disaster-prone countries, it has already established a partnership with the central government and, since December 2024, has officially introduced around 80 service licenses across central and local agencies. Despite ongoing disaster preparedness efforts by the Philippine government, a hefty budget would be needed to develop a systematic disaster mitigation system. Spectee Pro, however, requires only an internet connection, making it a low-cost solution. What's more, with its high smartphone penetration and social media usage, the Philippines is an ideal environment for such AI-driven disaster analysis. Murakami explained, "The AI implemented here has already been made 'smarter' through experiences in Japan, and its core functions remain the same."

Elsewhere in Asia, the company is also planning expansion into Vietnam and Thailand. Murakami commented, "We not only aim to strengthen disaster response across Asia, but also want to make *bosai* successful as a business throughout the world. By doing so, we hope to inspire new startups to enter the field, fostering innovation technologies and knowledge that ultimately save lives. That's the kind of ecosystem we are working to create." ●

Right: Spectee Pro has been adopted by central agencies and high-risk municipalities in the Philippines. Pictured: Davao City's Disaster Risk Reduction and Management Office in southeastern Mindanao Island. SPECTEE INC.
Below: The Philippines frequently experiences natural disasters, including volcanic eruptions, earthquakes, typhoons, and floods. At the end of October 2024, the country was hit by six typhoons within one month, including Typhoon Yinxing (pictured). AFP/JIJI