March 25, 2019
Sompo Japan Nipponkoa Insurance, Inc.

Development and Supply of Japan's First Disaster Preparedness And Mitigation System Using AI

- Strive to enhance local disaster preparedness capabilities through precise predictions of flood and earthquake-related damage -

Sompo Japan Nipponkoa Insurance, Inc. (hereinafter, "Sompo Japan Nipponkoa"; President: Keiji Nishizawa) has concluded a business alliance on the joint development of a disaster preparedness and mitigation system with One Concern, Inc. (hereinafter, "One Concern"; CEO & Co-Founder: Ahmad Wani), a Silicon Valley (U.S.A.)-based startup specializing in disaster preparedness systems, and Weathernews Inc. (hereinafter, "Weathernews"; President and Representative Director: Chihito Kusabiraki).

In March 2019, Sompo Japan Nipponkoa, One Concern, and Weathernews will commence verification tests for the development of a disaster preparedness and mitigation system in the city of Kumamoto (Mayor: Kazufumi Onishi), with the aim of developing Japan's first disaster preparedness and mitigation system using artificial intelligence (AI) technology. On August 20, 2018, Sompo Japan Nipponkoa and Kumamoto concluded an agreement on mutual cooperation to enhance local disaster preparedness capabilities. These verification tests will be carried out in accordance with this disaster preparedness agreement.

1. Background and Overview

With the large number of major natural disasters in the past few years, there is a heightened need to develop new measures to address natural disasters, particularly given that disaster-related rules of experience and prediction methods amassed over the years have started to prove ineffective. In light of these conditions, in order to enhance local disaster preparedness capabilities, Sompo Japan Nipponkoa has formed a business alliance with One Concern, a Silicon Valley (U.S.A.)-based startup specializing in disaster preparedness systems. The two companies have begun jointly deploying a disaster preparedness and mitigation system using advanced AI technology.

One Concern's mission is to save lives–and livelihoods—before, during and after a natural disaster. Guided by this mission, One Concern provides disaster prediction and disaster preparedness and mitigation systems using cutting-edge technologies such as AI. In the U.S.A., such systems have already been adopted by local governments such as Los Angeles, San Francisco and Seattle.

Sompo Japan Nipponkoa, One Concern, and Weathernews have commenced verification tests for the development of an original, localized disaster preparedness and mitigation system for Japan in the city of Kumamoto, as their first project to enhance disaster preparedness capabilities in the country. The system, as the first of its kind in Japan, will perform advanced, precise simulations of damage caused by disasters by making effective use of information supplied by Weathernews—specifically, historical weather and weather prediction data unique to Japan. As a result, the system will facilitate the development of a city resilient to disasters and will support the lives of local residents by contributing to their security, health, and wellbeing.

2. Outline of Service

The new system will enable accurate damage prediction services before, during and after natural disasters such as floods and earthquakes, and real-time monitoring of the status of damage, at the level of blocks (lots). To do so, the system will harness AI and various types of data related to local disaster preparedness, such as information on weather and buildings.

(1) Before disasters

Using advanced AI technology, the new system will make it possible to assess disaster hazards and local vulnerabilities and perform accurate damage prediction simulations that employ dynamic simulations. Based on these simulations, the users of the disaster preparedness and mitigation system will be able to strengthen their disaster preparedness and mitigation measures before disasters occur. For example, the users of the system will be able to formulate and revise effective business continuity plans (BCPs) and disaster preparedness plans, conduct realistic disaster preparedness drills attended by private in-house fire brigades and local residents, and review and revise evacuation sites and methods.

(2) During disasters

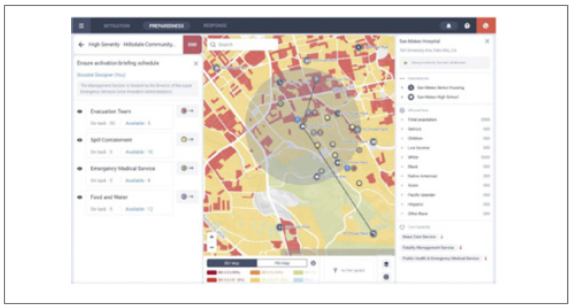
Damage prediction services for affected areas will be provided immediately after a natural disaster. These services will enable the users of the disaster preparedness and mitigation system to grasp the status of damage in real time, thereby revealing the impact of losses sustained by the entire area. Based on this information, the users of the system will be able to accurately identify the affected areas and the extent of damage caused by the natural disaster. This knowledge will enable the users to minimize damage by implementing efficient, effective and rapid initial responses. For example, the users will be able to give priority to the rescue of the elderly and children.

(3) After disasters

The system will enable the users of the disaster preparedness and mitigation system to continue to gather detailed information on the status of damage even after a disaster. By incorporating this information into damage prediction services as actual damage data, the system will allow users to obtain a real-time and accurate understanding of the status of damage in accordance with actual conditions in the area. Based on this information, the users of the system will be able to consider even more appropriate and effective reconstruction measures aimed at an early recovery from disasters. This will pave the way for improving local resilience (capacity to recover) immediately after disasters.

Screenshot of flood damage prediction

Screenshot of earthquake damage prediction



3. Moving Forward

The city of Kumamoto plans to start using the original, localized disaster preparedness and mitigation system for Japan in September 2019, following the verification tests from March 2019. Sompo Japan Nipponkoa, One Concern, and Weathernews will strengthen their activities by working closely with Kumamoto to help realize “town development focused on disaster preparedness and mitigation” using the system. Looking ahead, Sompo Japan Nipponkoa will evolve and enhance services that link the system and insurance products, as well as BCP consulting services that harness the expertise of Sompo Risk Management, Inc. (President: Yasushi Fuse), which conducts the Sompo Holdings Group’s risk consulting business. By doing so, Sompo Japan Nipponkoa will provide the support needed to ensure that people have security, health and wellbeing in their daily lives.