

Panasonic Toughpad Case Study

Firefighting

| Client | Fire Department of the City of Sapporo

| Business | Public services

| Product | Toughpad FZ-B2

The Fire Department has introduced the Panasonic Toughpad FZ-B2 as a portable tablet device that helps its ambulance crews to be vigorously engaged in the forefront of life-saving with its toughness. They have improved the capability of communicating with sick or injured visitors to Japan with the help of FZ-B2, to carry out rescue operations more accurately and quickly.

Sapporo has an estimated population of 2 million and is the fifth-largest city in Japan. It is also one of Japan's most popular tourist destinations, drawing nearly 14 million visitors from around the world each year. In the big city, more than 90,000 emergency calls are made to the Fire Department of the City of Sapporo each year. Responding to the requests as rapidly as possible, the Department is always striving to help to ensure the safety and security of local communities. With the population of urban areas in Japan aging year after year, an increasing number of ambulances are dispatched to a scene where someone has become sick or injured enough to require emergency care. As the number of foreigners visiting Japan is on an upward trend, it becomes a new challenging issue for ambulance paramedics to communicate with foreign nationals who become sick or injured. Under such circumstances, the challenges that Fire Department's ambulance crews have to address in the field are more sophisticated and complicated. The Fire Department, which is required to utilize its limited resources to flexibly address such issues, has started to engage in improving the efficiency of its operation with the help of ICT. It has introduced the rugged 7-inch Toughpad FZ-B2 tablet as a portable device for its ambulance crews.



Toughpad FZ-B2, which is resistant to vibrations and both low and high temperatures, is always kept in the side of the passenger seat in the ambulance.



Emergency Division,
Fire Suppression Department
Takumi Muranishi

Why Toughpad FZ-B2 was chosen

Dust- and shock-resistant, and drip-proof design, which enables the tablet device to withstand harsh conditions at emergency scenes

Batteries that you can easily and quickly replace without stopping what you are doing

Device management capabilities to prevent data leakage

Background to introduction

There has been a sudden surge in the number of overseas visitors to the city. To respond to the new emergency medical needs of such foreign nationals, the Fire Department has introduced FZ-B2 as a portable tablet device that can be used to help its members communicate with foreign patients in the field.

The Fire Department of the City of Sapporo has launched a project to improve the efficiency of its operations through the use of ICT. In the project, one of the challenging themes on which the Department places priority is to further improve its capabilities to communicate with foreign nationals who become sick or injured. In Sapporo, where about 2 million overseas visitors stay at hotels and inns every year, the number of such visitors was expected to increase when the 8th ASIAN WINTER GAMES SAPPORO 2017 (2017 Sapporo Asian Winter Games) was held in February 2017. The Department's most urgent task was therefore to resolve the issue of achieving more efficient communication with those overseas guests in an emergency.

Mr. Muranishi a member of the Emergency Division, is engaged in promoting the application of ICT in the Fire Department's operations. Regarding the issue the Department previously faced, he said, "Our ambulance crews carried communication boards in which information was written in English, Chinese, and Korean when being dispatched to emergency sites, and asked patients to point their finger at items on the board that matched their symptoms. However, the information we received with the communication boards was very limited. As the nationalities of overseas visitors to the city were more diversified and there was a remarkable increase in the number of Asian visitors, it was becoming harder and harder to deal with them only in English, Chinese, and Korean." To cope with the challenge, the Fire Department of the City of Sapporo has been working with the National Research Institute of Fire and Disaster and other related partners to promote the development of a multi-language speech translation app for ambulance crews for a long time. It automatically translates speech into 30 languages, and provides phrase and message templates for questions that are frequently asked in emergency scenes and their answers, all of which are available in 15 languages. The app enables ambulance crews

to communicate with patients even in places where their voice is hard to catch owing to noises.

Which tablet device is most suitable to run the app? This matter was discussed in the Department. Mr. Muranishi said, "During rescue operations, our ambulance paramedics may get caught in the rain, may become exposed to dust, or may accidentally drop their portable device when falling down on a snowy road. In light of those possibilities, we felt unsure about introducing most commercially-available tablet devices to run the translation app. There may be cases where tablet devices suddenly turn off and become inoperable owing to a lack of battery power. However, our ambulance crews had to avoid such cases if using tablet devices to conduct emergency operations." When the Fire Department took into account those factors to make a comparative review of various manufacturers' tablet devices, it had its eye on Toughpad. This was because Toughpad is more reliable in terms of its ruggedness and other specifications and replacing the batteries is much easier and quicker. Toughpad FZ-B2 is also equipped with device management capabilities to disable the use of USB ports in order to prevent the extraction of data. Because these elements met its requirements, the Department eventually decided to introduce FZ-B2.

Introduction benefits

FZ-B2 enables ambulance crews to efficiently communicate with foreign nationals who become sick or injured and to more accurately carry out rescue operations.

The device is also equipped with an electronic manual function to share up-to-date information among the crew members.

In the Fire Department of the City of Sapporo, an FZ-B2 device is distributed to every 32 emergency medical units. Their ambulance crews use FZ-B2 to run the speech translation app in order to ask foreign nationals who become sick or injured more detailed questions about their symptoms and conditions. This app provides several phrase and message templates, which enable paramedics to conduct most basic communication with overseas patients in order to efficiently get necessary information from them. Thanks to the introduction of this app, the Department's ambulance crews can now

devote themselves to transportation of patients to a hospital, first aid, report of symptoms and conditions to doctors, and other emergency operations without worrying about communicating with overseas patients. The Fire Department performed a simulation over and over again to come to a conclusion concerning the specifications of FZ-B2 and how to use it before introducing the device. This has made it possible for the Department to introduce and start to use FZ-B2 very smoothly. When the 8th ASIAN WINTER GAMES SAPPORO 2017 (2017 Sapporo Asian Winter Games) was held in February 2017, the ambulance crews used the speech translation app to carefully communicate with and care for 22 injured or sick foreigners.

Before starting to use FZ-B2, the Department needed to bring the device under the control of system administrators in order to set the device to display only necessary apps, to be locked remotely when it is lost, and to restrict access to websites via a Web browser. To this end, the Department adopted ARTERIA Networks Corporation's MDM (Mobile Device Management) system. Taking advantage of MDM's content distribution function, Mr. Muranishi also promoted the conversion of printed manuals to electronic formats. He said, "We need to collect information as much as possible in order to carry out our rescue operations. As the situations of emergency scenes to which our ambulances are dispatched are always changing, the ambulance crews must



Up-to-date information on reference materials and documents, which used to be printed out, sorted, and filed, can be checked on the FZ-B2 screen whenever you want.

Future outlook of using Toughpad FZ-B2

always grasp up-to-date information about the situations. This includes information on where to park their ambulance in a building complex in order to efficiently take patients to a hospital, as some roads may be closed owing to traffic restrictions during an event, and what the hospital's hours and requirements are for accepting patients. Although we used to distribute a hard copy of such information or e-mail it to our staff members, some members could not use the data immediately after receipt because they failed to categorize and keep track of the data." Currently, the Department's ambulance crews can always have access to the most recent information about hospitals, roads, and a wide variety of manuals, which are sorted by category, simply by tapping each icon on the FZ-B2 screen. The crew members can use the device to refer to such information to more efficiently carry out rescue operations even in areas they are unfamiliar with. Warning messages will be displayed on the screen when the tablet device receives new information. According to Mr. Muranishi, the above-mentioned electronic manuals are well received among the Department's ambulance crews who have used them in their operations because they are easy to understand. Many of them have shared their idea of what type of information they want to be included in the manuals.

Having an aim of conducting more precise rescue operations with the help of FZ-B2, the Fire Department will begin the development of a system to deepen its partnerships with hospitals as soon as it is ready.

Making full use of FZ-B2, the Fire Department of the City of Sapporo plans to develop a system to cooperate with hospitals more efficiently. The Department currently employs the following method to send information about sick or injured persons to hospitals: When a patient's heart is monitored on an electrocardiogram in an ambulance, its crews use the video-phone function of their cellular phones to send the image data to hospital doctors. However, there is a demand among such doctors to monitor a 12-lead electrocardiogram on a larger screen. To respond to such a demand, the Department will develop an image transmission system mainly based on FZ-B2 running Android™OS. This system is keenly expected to help the crew members to inform hospital doctors of the ECG wave patterns of patients and the conditions of the injured area more precisely.

It is possible to add such a new system function simply by installing a relevant app in FZ-B2. Mr. Muranishi recognizes that FZ-B2 is suitable for use in the limited interior space of ambulances because many systems can be managed and controlled by a single FZ-B2 tablet.

The Fire Department is furthering a new concept of rescue operations through the use of FZ-B2.



The Fire Department is currently planning to develop a system to help its ambulance crews to precisely provide the ECG data of patients who need emergency medical care to hospital doctors as swiftly as possible.



Product: Toughpad FZ-B2
Purpose: System to help ambulance paramedics to conduct rescue operations

Benefit 1

More efficient communication with foreign nationals who become sick or injured

Benefit 2

Enhanced efficiency of management operations through the centralized control of information

Benefit 3

Helping ambulance crews to more accurately carry out rescue operations based on up-to-date information

* Information in the article is current as of the date the interview was conducted (September 2017).

For inquiries, please contact:

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TOUGHBOOK