

# MODERN TECH FOR FIREFIGHTERS



# Improve efficiency and mission success



Firefighters rely on accurate, real-time information—as well as their training, experience and senses—to keep them responsive and efficient, whether battling a fire or giving life-saving assistance at the scene of an accident.

As coordinators and orchestrators of every mission, incident commanders in particular need accurate information and fast, reliable ways to track and communicate with their team as situations evolve and change unexpectedly.

The task of protecting municipal and rural populations and lands is getting harder for fire departments across the country. Staffing and funding shortages are rampant while the number of emergency calls that require firefighter response continues to increase every year. As an example, the Wausau County Fire Department in Wisconsin tracked some key statistics between 1970 and 2020. In 2020, the department handled 6,318 calls, a significant increase from 2,138 calls in 1970. During that same period, the department staff count increased by just two.<sup>1</sup>

The federal wildland firefighter situation isn't much better. The U.S. Forest Service released data recently showing that "six out of nine regions have staffing levels below last year's (2021) hiring peak ... The biggest vacancies are in the Pacific Northwest, which is 24% below, and California, which is 15% below."<sup>2</sup>

Trying to respond to more calls with fewer people—and maintaining the well-being of responders and citizens alike—might sound like a no-win proposition, but there may be a way to achieve mission success despite the serious challenges.

## Technology is vital to fire departments in helping to improve efficiency and mission success in the field

Staffing and budget shortages increase risks for firefighters and first responders. But fortunately, technology can help reduce those risks. When firefighters are equipped with digital tools and applications that give them access to real-time information, they can work more efficiently and communicate more effectively in the field.

Applications that can categorize, prioritize and deliver relevant information in a usable way can be a game changer for firefighters. They empower teams with aggregated data from multiple sources so they can make better-informed decisions. This type of data-based decision-making is increasingly common in fire departments across the country—for both incident commanders and administrative staff, as well as field personnel responding to a situation.

- **Situational awareness**—Firefighting or EMS environments are typically chaotic, dynamic and unpredictable, and access to accurate, comprehensive information is critical in emergency moments. Information such as aerial or surveillance videos, computer-aided design (CAD) drawings, responder vehicle locations, geographic information system (GIS) data, maps, building schematics, weather data, fire behavior, thermal images, photos, satellite imagery and much more would all help in different situations.

- **Actionable data in one place**—Beyond data, first responders need relevant information in one place, on one device that can be used in hazardous, remote and emergency environments. Strong connectivity helps ensure GIS, streaming video, mapping and other information can be accessed when and where it's needed, supported by strong antennas, 5G devices and broadband communication.

1. Fire Departments Face Staffing Shortages. Firefighters and EMS Fund (April 7, 2022) ►

2. Federal firefighters are waiting for pay raises they hope will help fill their ranks. NPR (June 11, 2022) ►

# Speed up response

• **Recruitment and retention**—With lack of adequate staff to respond to the increased number of incidents, safeguarding the existing assets is of paramount importance. Access to newer technology can help departments attract and retain younger firefighters who are used to always-on access to information in their personal life—and would expect the same conveniences in their professional life as well. The right technology would help prevent burnout and make their jobs more efficient and provide job satisfaction, a solution to the already overworked and understaffed workforce.

## **Mobile technology speeds up response time and improves outcomes**

At the scene, mobile devices allow firefighters to maintain access to data and communications so they can stay alert, responsive and aware, while harnesses and holsters help keep them secure even in rough or extreme environments.

It's not only field personnel that need devices—the mobile command center (MCC) also needs devices for reliable access to real-time information and communication. Whether an MCC is a decked-out, purpose-built vehicle or a vehicle in a parking lot at the scene of an incident, it needs to be a hub for field communications and decision-making. With connected devices, incident commanders and their teams can make smarter, more confident decisions while staying alert and aware of volatile conditions in the field.



## **First responders demand better information and technology**

### **Highlights from a 2023 survey of fire rescue professionals:**

**55%** stated that up-to-date, real-time information is a top priority

**85%** said that rugged mobile devices are critical on the job, rather than consumer-grade devices (even with a protective casing)<sup>3</sup>

### **Firefighter technology in action—Panasonic Connect makes it simple**

Firefighters respond to a wide variety of emergency situations. In addition to responding to residential and commercial fires, they also respond to automobile accidents, medical emergencies, water rescues, hazardous material spills, active crime scenes and much more.

# Panasonic Connect for Firefighters



Panasonic Connect has decades of experience working with firefighters, offering a robust portfolio of software, devices and support services to help them achieve mission success.

- **Software**—As an industry leader in rugged mobile solutions, Panasonic Connect works with a robust ecosystem of partners to provide solutions, including industry-specific solutions that can help firefighters get the most out of their rugged devices. Partner solutions include aggregated data, qualified information for better decision-making, enhanced connectivity, asset management and more, along with customized software solutions based on customer needs.
- **Devices**—Our Panasonic TOUGHBOOK® product line offers reliable and versatile rugged laptops, 2-in-1s and tablets purpose-built for working in harsh environments, with customized features such as ANSI certification, rain sensing, sunlight readability, enhanced connectivity ports, antennas with stronger signal strengths, programmable keys and more.
- **Accessories**—Reliable and proven accessories from leading partners designed to work specifically with TOUGHBOOK mobile devices help make using your device easier and more convenient. Accessories include vehicle mounts, docks, adaptors, chargers, styluses, antennas, routers, mobile printers, harnesses, hand and shoulder straps, and more.
- **Services and support**—Our comprehensive service and support offerings include kitting, vehicle mounting/installation and battery monitoring to address issues before they occur, along with asset management services to help monitor repairs and warranties, and add-on services to help keep the frontline ready for emergencies at all times.

Panasonic has refined its TOUGHBOOK designs for firefighters' benefit so that the devices can help them be more effective. For instance, over the years, the buttons have been enlarged and spread out to make them more easily accessible to gloved users. Speakers have been moved from the bottom of the unit to the top for better audibility, and the "call for help" button has been colored red and framed by a raised bezel to make it easier to find. With our patented rain-sensing technology, devices can distinguish between raindrops and a finger (or glove) touch on the screen—making them reliable for use in rain or at a fire incident with water spray from the fire hoses.



Our complete line of TOUGHBOOK rugged laptops and tablets are certified with major and dedicated networks such as FirstNet® and Verizon Frontline that offer priority and preemption for first responders.



# TOUGHBOOK in action



Fire departments are already using Panasonic Connect mobile technology to help first responders arrive at an incident better prepared and work more effectively to save property and lives.

In addition, situational awareness solutions are key to helping first responders maintain scene safety as conditions change.

## **The City of Hialeah: Deploying devices that can withstand chaotic, often harsh environments—plus support for occasional damage**

The City of Hialeah Fire Department in Florida wanted mobile devices to take into the field but needed a solution that functions reliably despite hazardous and toxic environments, withstands drops and bumps, and stands up to the extreme heat, heavy rains and occasional hurricane conditions native to Florida. Panasonic TOUGHBOOK mobile devices fit the bill, with their rugged durability and wide range of capabilities. The agency also opted into Panasonic's ProServices Protection Plus coverage, which augments the standard warranty with no-fault accident coverage, a good decision for first responders facing the most extreme work environments. In the event of a hardware issue, this comprehensive warranty and service solution ensures that the device receives prompt repair or replacement, avoiding unexpected costs and getting firefighters back up and running swiftly.

## **Reducing emergency calls in non-life-threatening situations**

Fire and EMS in Houston, Texas, use Panasonic TOUGHBOOK tablets for their Emergency Telehealth and Navigation (ETHAN) Project to connect a 911 responder via teleconference with an emergency response physician to determine the best course of action for the patient. This could be a trip to the ER in an ambulance, a clinic appointment at a later date or care by the first responder at the scene. The ETHAN Project has helped the city (and patients) better manage lower-

acuity calls, saving time for first responders and saving on costly and avoidable ambulance trips for patients.

## **Hartford Fire Department: Finding optimal routes to emergency locations**

With Panasonic TOUGHBOOK laptops, the Hartford Fire Department in Connecticut is able to arrive at the scene of emergencies faster than ever. The laptops' built-in GPS and satellite overlays deliver critical information at the touch of a button and allow firefighters to find the most efficient route to every location. In addition, data from GIS, 3D mapping, pre-plans for houses, DOT camera feeds and more can be layered in.

## **Prepping strategies en route to a fire with detailed CAD information**

Panasonic TOUGHBOOK devices come equipped with powerful antennas that enable connectivity to text, calls, high-resolution images, streaming video and other applications, both on the way to an incident and in the field, to give firefighters and first responders up-to-the-minute information that can assist them in making the best decisions during an incident. CAD data visualization tools help teams evaluate records, determine record validity and qualify incidents so they can develop the best strategies for handling the incident.

## **Planning entry tactics with building schematics**

By downloading maps and building schematics to the 14" fully rugged Panasonic TOUGHBOOK 40 laptop, firefighters can arrive on the scene better prepared. The device offers expansion packs for optional optical drives, authentication readers, IO ports, barcode readers and more. The 4G modem provides up to 2 Gbps and the 5G modem adds support for 5G Sub-6, C-Band and mmWave, with speeds up to 5.5 Gbps and the ability to seamlessly connect to the best available network without any disruption or loss of connectivity.

# TOUGHBOOK in action



## Monitoring firefighter equipment

Panasonic's TOUGHBOOK G2 is a fully rugged 2-in-1 device offering a modular design with three expansion areas, including an expansion pack for thermal imaging, and a reliable battery that lasts up to 18.5 hours. With secure mobile capabilities and devices certified to work in hazardous locations near open flames, incident commanders can keep in touch with response teams and stay aware of critical assets on the ground.

---

## Improving connectivity in remote areas

First responders in St. Tammany Parish, Louisiana, serve a widespread, rural area and often had a hard time staying connected to their network. By deploying TOUGHBOOK devices with powerful built-in antennas and the Verizon 4G LTE network, St. Tammany firefighters and EMS gained network connectivity, which helped with uninterrupted and reliable access to critical information even from remote, rural areas. Panasonic embeds the wireless modem in its

TOUGHBOOK devices to maximize the signal strength from the moment the laptops are powered on. The devices are designed to minimize technical noise and interference with the wireless signal, which means they can provide connectivity where competitors fail. TOUGHBOOK devices can also achieve a better signal by running the antenna to the roof of the apparatus. All that attention to detail makes the difference and allows Panasonic TOUGHBOOK devices to offer superior connectivity and reach.

---

## Coordinating with other agencies

With the TOUGHBOOK 55, a 14" semi-rugged laptop, commanders can stay in close communication with other agencies responding to an incident. The laptop comes with up to 38 hours of battery life with its optional second battery for long-lasting performance, and optional Intel Iris® Xe Graphics that help first responders to see necessary images like CAD drawings or floor plans more clearly.



## Fighting wildfires more effectively with technology

It's been a bad few years for wildfires, and technology is increasingly important for helping firefighters' ability to monitor wildfires, predict their behavior and respond to rapidly evolving situations more effectively in real time.

### Wildfires present a range of challenges that differ from city-based fires:

- Work is often done in remote, rural areas without network connectivity.
- Crews can be separated from each other across vast distances.
- Firefighters often use aircraft or drones in a wildfire situation.
- Firefighters spend a lot of time creating fire lines to control wildfires, which can increase the need for devices that can stand up to dirt, heat and rough handling.

### With TOUGHBOOK rugged mobile solutions, wildfire response teams can use a variety of applications to overcome those challenges. They can:

- Monitor multiple remote cameras to spot fires.
- Control drones and process video feeds in real time.
- Use computer modeling software to assess, analyze and predict where fires could erupt or spread based on weather, wind, brush conditions or other factors.
- Deploy mapping software that can track active fires and show details in surrounding areas.
- Launch coordinated efforts with multiple agencies.
- Receive and relay information and communications in real time.
- Operate the devices in harsh environments with reliability.

**PANASONIC CONNECT MOBILE TECHNOLOGY HELPS  
KEEP FIREFIGHTERS AND FIRST RESPONDERS EFFICIENT,  
RESPONSIVE AND ALERT TO IMPROVE OUTCOMES.**

**VISIT OUR TOUGHBOOK MOBILE SOLUTIONS FOR FIREFIGHTING PAGE ►**

TOUGHBOOK.com | toughbook@us.panasonic.com | 1.888.245.6344

**Panasonic CONNECT**

© 2023 Panasonic Connect North American. All rights reserved.