



## Help Protect Firefighters with the Kyndryl Firefighter Safety Solution

Data, Analytics, AI, the Internet of Things (IoT), and Amazon Web Services (AWS) provide personalized protection strategies for firefighters

### Highlights

- Enhanced firefighter health management
- Improved wildfire incident management
- Simplified integration and operation of firefighter safety solutions
- Optimized administrative processes for firefighting operations

With climate change increasing the intensity of wildfires around the world, firefighting resources are strained, adding to firefighter mental and physical fatigue. The longer firefighters stay on a wildfire scene, the more harmful smoke they inhale—increasing their risk of respiratory problems and cancer. Protecting firefighters is a top priority for administrators, but they are hindered by the following:

- The lack of real-time data about firefighter deployments, general health risks, and resource allocation impedes effective mitigation strategies.
- The absence of personalized data prevents tailored protection approaches for firefighters based on their unique exposure and personal health record.

## An integrated hardware and software framework helps protect firefighters

The Kyndryl Firefighter Safety Solution integrates hardware, the Internet of Things (IoT), software, analytics, and AI—all connected by cloud services from AWS—to deliver personalized protection strategies for firefighters. Each firefighter wears a compact device with multiple sensors paired with a mobile phone and smartwatch to monitor vital signs, location data, and environmental conditions. This real-time cognitive platform uses analytics and machine learning algorithms to provide scaled alerts, based on acuteness of toxicity and other key biological and environmental markers. The system promptly alerts firefighters and command officers of imminent dangers, facilitating timely assistance and extraction from the field.

## Improved incident management

Accurate, real-time data about firefighters' exposure to hazards allows incident commanders to make informed decisions and facilitate timely assistance to firefighters in distress. The solution enables prompt deployment or withdrawal of personnel based on risk levels, including calling for emergency medical assistance when necessary. Additionally, command centers can monitor firefighters remotely via PCs, smartphones, or tablets.

## Enhanced firefighter health management

The Kyndryl Firefighter Safety Solution uses cutting-edge hardware, software, networking, and AWS cloud services to monitor environmental data such as humidity and temperature as well as firefighter exposure to toxic substances like carbon monoxide and nitrogen dioxide. Toxic substance alerts vary from low-intensity (green), medium-intensity (yellow), and high-intensity (red).

The solution measures and stores historical exposure data from wearables and IoT devices to develop personalized health management strategies for firefighters.

## Streamlined administrative processes

Incident commanders often face multiple incidents and hundreds of firefighters to manage. Kyndryl's Firefighter Safety Solution reduces commanders' manual workload by automating documentation and long-term data storage. In this way, commanders can focus on imminent threats. The solution also facilitates sharing data with health service providers to support treatment and intervention.

## Simplified integration and operation

Kyndryl and AWS work together to deliver a unified, end-to-end framework that brings the best offerings from Kyndryl's hardware and software partners to provide a holistic solution that can help protect firefighters as they strive to protect the public. Assembling such a solution on their own would be difficult for firefighting departments. The partnership between Kyndryl and AWS minimizes client burden by ensuring seamless integration of solution components and addressing integration challenges



## Conclusion

The Kyndryl Firefighter Safety Solution harnesses the power of analytics and machine learning to provide firefighters and their commanders with real-time monitoring, predictive analytics, and insights designed to mitigate risks and enhance operational safety. By analyzing vast amounts of data from sensors and past incidents, the solution can help predict potential hazards and enable commanders to make informed decisions in real-time to protect firefighters' health.

Kyndryl's strong partnership with AWS enables the co-development of solutions tailored to the firefighting industry's needs, leveraging Kyndryl's center of excellence for data and AI. Together, they offer comprehensive, integrated services across the entire spectrum of data and AI solutions. This framework of services can easily be scaled beyond firefighters, to help protect other types of personnel who are exposed to hazardous conditions that pose potential health impacts.

## Why Kyndryl?

Kyndryl has deep expertise in designing, running, and managing the most modern, efficient, and reliable technology services that the world depends on every day. We are deeply committed to advancing the critical services that powers human progress. We're building on our foundation of excellence by creating systems in new ways: bringing in the right partners, investing in our business, and working side by side with our customers to unlock potential.

## For more information

To learn more about the Kyndryl Firefighter Safety Solution, please visit the [Kyndryl and AWS alliance page](#).



© Copyright Kyndryl, Inc. 2024

Kyndryl is a trademark or registered trademark of Kyndryl, Inc. in the United States and/or other countries. Other product and service names may be trademarks of Kyndryl, Inc. or other companies.

This document is current as of the initial date of publication and may be changed by Kyndryl at any time without notice. Not all offerings are available in every country in which Kyndryl operates. Kyndryl products and services are warranted according to the terms and conditions of the agreements under which they are provided.