Managing Severe Weather Events During Other Crises
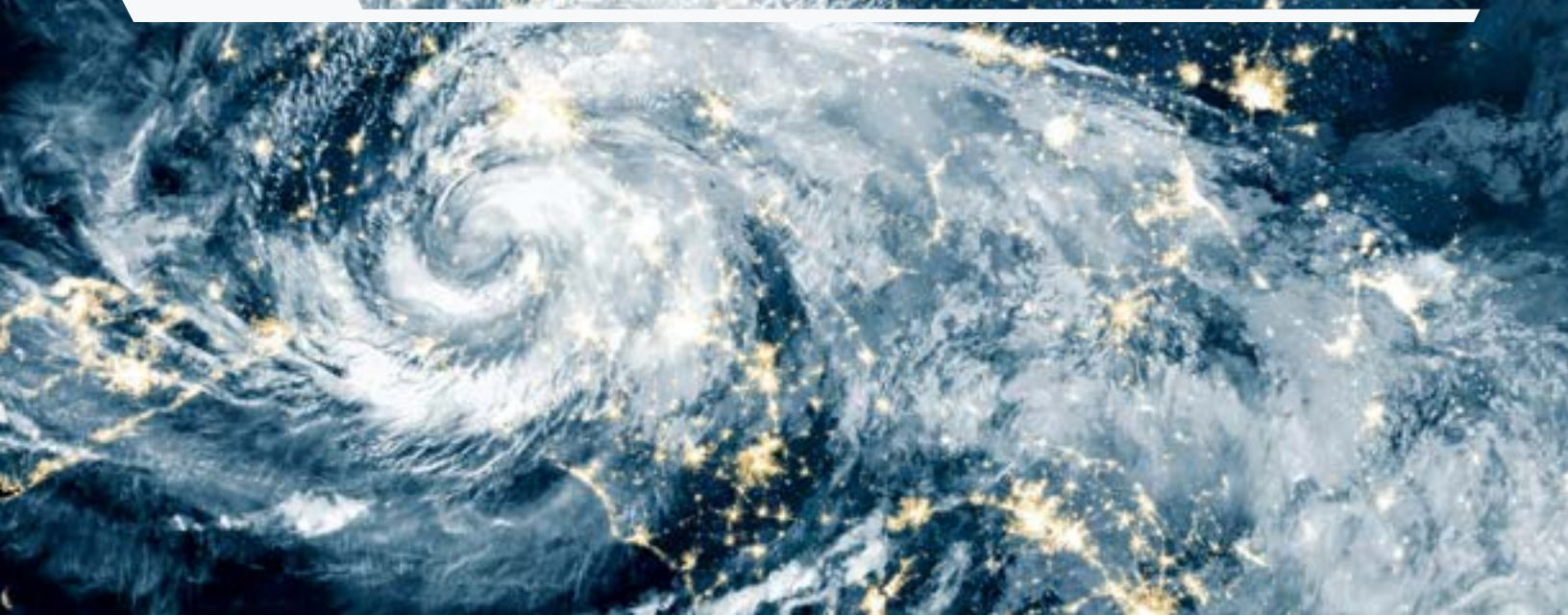
While progress is made day by day, recovery from the Covid-19 pandemic continues to vary by country and state. When combined with worrisome forecasts for the upcoming hurricane and wildfire seasons, that variability means organizations remain under duress. Some have brought workers back on site; some have made telework mandatory for all. Other companies have devised a hybrid of the two, while some — victims of the pandemic — have closed for good.

First responders, cybersecurity experts, and others in the field of crisis management are trained and prepared to manage such uncertainty during critical events, but the extent and duration of the Covid-19 pandemic on top of other crises has tested the resilience of command centers the world over. Many with facilities and offices in multiple countries are grappling with differing rates of vaccine availability, revised expectations of how and where work occurs, and other shifts in business and cultural norms accelerated by the pandemic.

Those unable to respond quickly and completely to critical events risk losing thousands, if not millions, in revenue and associated costs. Such outcomes are partially due to organizations' tendency to rely on multiple, separate systems for critical event management (CEM). The siloed nature of these solutions makes processes needlessly complex and creates challenges for security experts. Without a unifying CEM platform, teams and centers struggle with a coordinated response, thereby damaging budgets, stakeholder confidence, and employee and customer trust.

An integrated CEM platform produces a consolidated response. Teams and command centers are alerted of threats in advance, allowing them to assess risk, as well as to identify and locate appropriate responders and assets that are at risk. CEM software can then automate action plans, SOPs, and communications, providing teams with timely information and actionable data so they can quickly mitigate the risk. Afterwards, analytics identify where bottlenecks or delays arose and where improvements can be made.

As hurricane season ramps up and we look ahead to potential wildfires and even winter storms, now is the time to assess your systems and processes and ensure their health and efficacy. Below, we review severe weather forecasts for 2021 and, more importantly, recommend four key steps to preparing responses that mitigate harm.

Whether those storms and hurricanes make landfall is the greater concern, but predicting that risk more than fifteen days out is more difficult than forecasting seasonal activity.

Hurricanes and Storms

In the United States, severe thunderstorms tend to occur in the spring and peak in mid-June, according to Jeff Noel, an executive of insurance solutions for IBM's The Weather Company.[1]

The calendar then segues into tropical storm and hurricane season, which officially begins on June 1 and ends on November 30 annually, according to the National Oceanic and Atmospheric Administration (NOAA).[2] The greatest activity typically concentrates in August, September, and October of any given year, with storms following three main paths. The first two begin with storms that spin off the coast of Africa towards the middle latitudes of the East Coast or move in a more southerly direction, encompassing southern Florida and the Gulf. The third path features storms that begin in the Caribbean before moving north towards Louisiana and nearby states. Those three areas are at greatest risk for landfall.

Besides those pathways, all forecasts of seasonal activity take into account the temperature of the Atlantic Ocean. "If the waters are warmer in the Atlantic, then you're going to spin up more storms. It's that simple," says Dr. Todd Crawford, chief meteorologist, data scientist, and senior product manager at The Weather Company.

Another important factor is La Niña, a meteorological event occurring approximately every three to five years and involving colder than normal temperatures in the eastern equatorial Pacific Ocean. The probability of storms and hurricanes increases during La Niña "all because you don't have as much wind shear over the Atlantic," explains Dr. Crawford. In fact, twice as many hurricanes occur during La Niña than in other years, he says. When we have an El Niño climate pattern, which increases vertical wind shear, hurricane activity is more sluggish.[3]

Unfortunately, a significant El Niño event doesn't appear likely in 2021. As a result, Colorado State University — among the top ten schools for meteorology[4] — is forecasting 17 named storms, 8 hurricanes, and 4 major hurricanes of Category 3 or higher this season. Each figure exceeds the typical season average of 12 named storms, 6 hurricanes, and 3 major hurricanes.[5]

Whether those storms and hurricanes make landfall is the greater concern, but predicting that risk more than fifteen days out is more difficult than forecasting seasonal activity. The Weather Company offers fifteen-day forecasts that update twice daily, while the National Hurricane Center (NHC) offers five-day forecasts for storms that have already developed. But, as NHC director Ken Graham notes, "It doesn't matter if there's 30 storms or one . . . if it impacts you, it's a busy season."

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1 Firms with offices or branches overseas should keep in mind the periods in which severe weather is typically expected in those locations and plan accordingly.

2 "Busy Atlantic hurricane season predicted for 2020," NOAA, 21 May 2020, https://www.noaa.gov/media-release/busy-atlantic-hurricane-season-predicted-for-2020. Accessed 21 July 2020.

3 Allison Chinchar and Haley Brink, "Forecasters expect another overactive hurricane season with 17 named storms, CNN, 8 Apr. 2021, https://www.cnn.com/2021/04/08/weather/hurricane-season-forecast-active/index.html. Accessed 19 Apr. 2021.

4 Anne Manning, "Global ranking nets CSU a trio of top-10 spots," Colorado State, 1 Apr. 2017, https://source.colostate.edu/global-ranking-nets-csu-trio-top-10-spots/. Accessed 19 Apr. 2021.

5 Op. cit.

So, while it's important to know where landfall will occur, being prepared is the higher imperative. But, if we break the areas generally affected by hurricanes into four regions — the Gulf, Florida, the southeast, and the northeast — the Gulf is likely to see landfall about 50 percent of the time in normal years. Crisis managers can plan accordingly and take heart in the NHC's improved storm-surge modeling.

Those improvements are important because storm surges are historically the most dangerous element of tropical systems, and forecasts for them are typically the impetus for evacuation plans in coastal areas. "In some cases where we're real confident, we're going to go from 48 hours getting that information out, which we do now," Graham told CNN, "we're going to expand that out to 60 hours. That is a big deal for decision-makers in helping them make those really tough decisions whether to evacuate or not."

In more good news, the NHC is planning to release its outlook for the hurricane season more than two weeks ahead of its regular publication. The change will better serve communities typically affected by early season tropical systems.

But while thunderstorms, tropical storms, and hurricanes have rough seasonal occurrences and are limited to certain parts of the United States, hailstorms take place more widely across the country and shouldn't be discounted, Noel reminds us. In fact, according to Aon, a global professional services firm focused on risk, retirement, and health solutions, hail-related insured losses cost $8 billion to $14 billion per year between 2009 and 2019.[6] Tracking the probability of hailstorms in your area on an ongoing basis would be wise.

Of course, there are some weather events that are neither seasonal nor continuous but are simple anomalies, such as the winter storms that struck much of the United States in early 2021. In the Pacific Northwest, snow, freezing rain, and ice caused widespread chaos, with tens of thousands left without power or transportation for days and days,[7] while in California, much needed rain led to mudslides and flooding.[8]

But Texas bore the greatest brunt, with Winter Storm Uri costing the state between $195 billion and $295 billion, according to estimates from economic research firm The Perryman Group. Not known for cold weather and ill-prepared for the ice and snow, the Lone Star State saw millions struggle without heat or electricity. Pipes burst, homes flooded, and production across industries such as food processing, manufacturing, oil, and gas came to a standstill.[9] Perhaps most critically, the storm affected the distribution of the all-important Covid-19 vaccines, effectively halting or slowing much needed vaccinations.[10]

So, while preparing for recurring weather events such as hurricanes and wildfires is a top priority for critical event managers, that preparation is equally vital when faced with historic anomalies like Winter Storm Uri.

6 "Weather, Climate & Catastrophe Insight: 2019 Annual Report," Aon, http://thoughtleadership.aon.com/Documents/20200122-if-natcat2020.pdf?utm_source=ceros&utm_medium=storypage&utm_campaign=natcat20, p. 25. Accessed 29 Apr. 2021.

7 AP and OPB staff, "Northwest storm leaves hundreds of thousands without power," OPB, 14 Feb. 2021, https://www.opb.org/article/2021/02/14/northwest-storm-leaves-hundreds-of-thousands-without-power/. Accessed 28 Apr. 2021.

8 Nicholas Lee, "California hit by flooding after storm brings heavy rain," The Guardian, 4 Feb. 2021, https://www.theguardian.com/us-news/2021/feb/04/california-hit-by-flooding-after-storm-brings-heavy-rain. Accessed 28 Apr. 2021.

9 Irina Ivanova, "Texas winter storm costs could top $200 billion — more than hurricanes Harvey and Ike," CBS News, 2/25/21, https://www.cbsnews.com/news/texas-winter-storm-uri-costs/.

10 Berkeley Lovelace Jr., "Dr. Fauci says winter storm in Texas is a 'significant' problem for Covid vaccine distribution," CNBC, 18 Feb. 2021, https://www.cnbc.com/2021/02/18/texas-weather-fauci-says-winter-storm-is-a-significant-problem-for-covid-vaccine-distribution.html. Accessed 28 Apr. 2021. Accessed 19 Apr. 2021.

Everbridge in Practice

Hall County in north-central Georgia spans 430 square miles that encompass Lake Lanier, which attracts the most visitors among lakes managed by the U.S. Corp of Engineers — 10 million visit it annually. The county is further known as the "Poultry Capital of the World" and houses the top-rated cardiac hospital in the state.

But Hall County also counts more tornados, injuries, and deaths than any other county in Georgia. (In fact, tornado activity in Hall County is 109 percent higher than in the average county in America.) And while it acquired a mass communication system in 2012, Hall County had no automated communication system until recently.

Since it began using Everbridge and the Nixle Community Engagement solution, however, Hall County can now reliably distribute communications to residents, visitors, and staff on their preferred contact paths and devices. Uses are far ranging, with both systems able to deliver tornado and flash flood warnings; text messages about community events, like park closures; staffing alerts; and more.

"The community engagement and emergency uses of Everbridge are endless. Just use your imagination. Our entire county — across the public and private sector, residents and visitors — is better connected because of our use of Everbridge and Nixle," says David Kimbrell, then the emergency management director for Hall County, Georgia.

Wildfires

Last year's global wildfire season was extreme, with fires in Australia, Brazil, the Arctic, and the western United States making 2020 the most expensive year for wildfire losses on record.[11] Thankfully, this year the Australian bushfire season, which runs annually from November to February, was the quietest it's been in a decade,[12] and no major fires have occurred in Brazil to date.

However, peat fires in Siberia continue to burn, a holdover from last year's Arctic blazes. Known as "zombie fires," the phenomenon involves fires started during the summer and that smoulder through the winter before eventually sparking new fires.[13] They may become more common in years ahead as Russia, the fourth-largest emitter of greenhouse gases, warms at twice the rate of other countries due to its vast Arctic holdings.[14]

In North America, drought conditions are expected to continue throughout much of the Mexican Republic, with above average fire potential expected through May.[15] In the western United States, where wildfire "season" is quickly becoming known as wildfire "years,"[16] the outlook is more grim. The drought-ridden West received low winter rainfall, and fewer new shrubs and plants, which can slow fires (particularly those with high fuel moisture content or FMC), have been detected.[17] Those facts, when combined with expected dry summer conditions, have alarmed climatologists and wildfire researchers, particularly after last year's catastrophic fires that damaged more than 10.3 million acres.[18]

11 Jeff Masters, "Reviewing the horrid global 2020 wildfire season," Yale Climate Connections, 4 Jan. 2021, https://yaleclimateconnections.org/2021/01/reviewing-the-horrid-global-2020-wildfire-season/. Accessed 19 Apr. 2021.

12 Reuters, "Australia marks quietest fire season in a decade," CNN, 31 Mar. 2021, https://www.cnn.com/2021/03/31/australia/australia-fire-season-2021-intl-hnk/index.html. Accessed 19 Apr. 2021.

13 "Peat Fires Smolder in Siberia Despite Bone-Chilling Temperatures," The Moscow Times, 27 Jan. 2021, https://www.themoscowtimes.com/2021/01/27/peat-fires-smolder-in-siberia-despite-bone-chilling-temperatures-a72747. Accessed 19 Apr. 2021.

14 University of Colorado at Boulder, "The Arctic is burning in a whole new way," ScienceDaily, 28 Sept. 2020, https://www.sciencedaily.com/releases/2020/09/200928155746.htm. Accessed 19 Apr. 2021.

15 "North American Seasonal Fire Assessment and Outlook," National Interagency Fire Center, Natural Resources Canda, and Servicio Meteorológico Nacional, 13 Apr. 2021, https://www.predictiveservices.nifc.gov/outlooks/NA_Outlook.pdf. Accessed 19 Apr. 2021.

16 Deb Schweizer, "Wildfires in All Seasons?," USDA, 27 Jun. 2019, https://www.usda.gov/media/blog/2019/06/27/wildfires-all-seasons. Accessed 19 Apr. 2021.

17 Nicole Karlis, "Wildfire researchers have a 'grim' forecast for 2021's fire season, say it could be worse than 2020," Salon, 14 Apr. 2021, https://www.salon.com/2021/04/14/wildfire-researchers-have-a-grim-forecast-for-2021s-fire-season-say-it-could-be-worse-than-2020/. Accessed 19 Apr. 2021.

18 "Facts + Statistics: Wildfires," Insurance Information Institute, n.d., https://www.iii.org/fact-statistic/facts-statistics-wildfires. Accessed 19 Apr. 2021.

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Four Strategic Vectors for Critical Event Management

With a hurricane and wildfire season forecast to be more active in the United States than in years past, critical event managers must be prepared. Indeed, according to a study conducted by Forrester, when asked about the most common type of critical events, 214 industry executives in the United States put natural disasters and severe weather at the top of their list.

Disaster response planning takes on heightened urgency, however, during the ongoing Covid-19 pandemic when changes, such as business closures, staffing numbers, and telework requirements, continue to affect SOPs and systems. Fortunately, Everbridge has identified four strategic vectors of greatest importance for governments, organizations, and businesses seeking to mitigate the impact of severe weather events during the global health crisis.

1. PEOPLE

The Covid-19 pandemic has drastically affected economies worldwide, with most nations pushed into a recession last year.[19] As a result, financial pressures have shrunk team sizes and resources. "The effect has been a reduction in capacity with little free bandwidth and a high risk of burnout for not just the front lines," says George Siegle, senior director of CEM solutions at Everbridge, "but management teams as well."

Critical event managers and teams have been hard pressed to find relief and shouldn't be surprised to learn that external partners — vendors and contractors, for example — may still be feeling a similar crunch. Like other organizations, they may have laid off or furloughed key positions, and as we noted earlier, some businesses may have shuttered for good. As the pandemic rolls on, the stability of any firm, regardless of size or stature, isn't guaranteed.

19 "The Global Economic Outlook During the Covid-19 Pandemic: A Changed World," The World Bank, 8 June 2020, https://www.worldbank.org/en/news/feature/2020/06/08/the-global-economic-outlook-during-the-covid-19-pandemic-a-changed-world. Accessed 21 Jul. 2020.

RECOMMENDATIONS

Confirm that staff who play a role in your critical event response are, in fact, still with your organization. This step is especially important for large or multinational companies with distributed teams. Do the same for the partners, vendors, agencies, and others who support your response efforts. Are your points of contact still there? Do they still have the same responsibilities?

Simplify and automate critical event management processes around a common operating platform that makes these processes easier to understand and perform. A well-implemented solution acts as a force multiplier, minimizes complexity, and enables even reduced staff to get more done.

You may also consider outsourcing certain tasks to contractors or consultants. In addition, you could offload or shift some tasks to other teams or regions, a common strategy for those with multiple regional or global command centers.

2. PROCESSES

SOPs and response plans drafted before the pandemic may have become less relevant or may now be invalid. New considerations, such as spatial layouts and the size of gatherings, may render your past processes and plans moot, as would changes to current staff or key contacts.

RECOMMENDATIONS

Review your SOPs. Has the pandemic required different protocols? For instance, if your SOP calls for assembling teams in a hallway or other indoor site, is there enough room to socially distance?

Automate wherever you can. If you're still spending time learning about critical events from news channels and the Internet or spending time with phone trees when you need to inform people of an event, look to automation to help speed up these tasks. This is even more critical when operating with reduced staffing.

Make sure that your remote workers have everything they need to respond from their home offices. Supporting software tools should be easily accessible and perform well on a standard home Internet connection.

Review processes that intersect with customers, partners, and other external organizations. What are the process dependencies on these external partners? Do they still interact with you in the same way, or do you need to adjust their participation? How have the manufacturers and facilities you rely on adapted their processes during the pandemic? Will your supply chain be disrupted

or delayed due to the changed movement of goods and services? "Before coronavirus, supply chains were very finely tuned and optimized," says Siegle. "After coronavirus — much different." The emphasis is now more on the ability to obtain goods reliably even if the cost is slightly higher.

Consider, for example, the disruption to supply chains during Winter Storm Uri, which blanketed most of Texas. In that instance, those ferrying Covid-19 vaccines may have been diverted to new routes. "Drivers may be going into unfamiliar places with new risks or different government requirements, like the level of PPE required to protect against Covid-19," explains Greg Mummah, corporate solutions director at Everbridge. "Your team would have access to such information in Everbridge and can communicate the specifics to drivers via messaging or phone call."

Updating your SOPs to accommodate these new realities has a corollary: practice. "You need to validate your new SOPs and build confidence with testing and drills," says Siegle. "Tough to do right now with everything going on but it's essential to practice so that your team performs in a severe weather event."

3. SYSTEMS AND SOFTWARE

The global health crisis puts increased pressure on the systems you use to respond to critical events. Systems and software have to be capable of managing new risks while continuing to support long-running Covid-19 risk management. In some cases, systems put in place before the pandemic may now actually hinder your response to critical events. In other cases, you may have duplicate or overlapping systems that should be eliminated or consolidated for optimal efficiency.

Eliminate redundant systems and software. This helps simplify operations and reduces both expense and complexity.

RECOMMENDATIONS

Using existing data, create a map-based common operating picture. This involves consolidating your assets (people, buildings, partners, customers, etc.) and risk monitoring (Covid-19, tropical weather systems, man-made risk, etc.) into a single software platform. You can drive critical event management from this common operating picture and use it as a framework for all risk management, which will improve process efficiency and consistency across the board, as well as minimize manual work.

Stress-test systems and software with your new and modified processes. Have you run virtual tabletop exercises to validate that systems support the processes? Do teams that are now remote have easy access and know how to participate? Are there conflicts between your Covid-19 processes and those you use for other risks? Are there any issues with throughput and scale?

Take this opportunity to improve your audit capability. From not knowing who performed a specific task to being unable to identify when and how an employee received a message, many systems lack detailed auditing. Consolidating on a CEM platform like Everbridge enables an inventory of all communications, activities, and tasks from a single place.

Eliminate redundant systems and software. This helps simplify operations and reduces both expense and complexity.

4. DATA AND INTELLIGENCE

The events surrounding the pandemic — state and national lockdowns, border closures, record unemployment figures, and so on — took place seemingly overnight. These rapid changes occurred against the backdrop of other hazards faced by organizations. Covid-19 added work and increased complexity for data gathering, including data used to support processes already being performed before the pandemic.

This speed of change may have outpaced intelligence-collection capabilities or rendered existing asset, risk, and supporting data incomplete or obsolete. As we continue to weave coronavirus risk management into our processes and daily lives, it becomes more important than ever to keep information current and to have visibility into internal and external events as well as supporting data.

The four vectors identified here will help professionals, businesses, organizations, and governments best prepare themselves for the challenges raised by multiple, co-occurring critical events.

RECOMMENDATIONS

Keep asset data up to date in your common operating picture. Make sure all relevant facilities, routes, and people are added and that their data is correct. For mobile assets like lone or remote workers, ensure they have the ability to communicate trouble and share their location.

Reduce time-to-know by engaging partners for intelligence gathering. There are many sources of open source intelligence that may be useful. Your systems should support easy integration with new sources, and current risk intel should reside in the same common operating picture as your assets.

Make sure vetted risk and asset information can be quickly and clearly conveyed to stakeholders. Having current risk intelligence is valuable, but its value is greatly reduced if you can't get that intelligence to the people who need it. Add value by being able to take risk data from any internal or external source in your common operating picture and convey it, with maps and imagery, to your stakeholders.

Carefully manage access to risk information and organizational data. For example, an executive protection team might want to see executive locations in the common operating picture but not want to share that information with other system users. Leverage role-based access to ensure that users can only access what they're allowed to see and do.

Conclusion

The world hasn't experienced a global public health crisis like Covid-19 in at least a century, and the response to it continues to be uneven, with some states and nations vaccinating their populations at higher rates than others — some countries have yet to even receive vaccine supplies. Combine that with an estimated above-average hurricane and wildfire season and other risks on the horizon, and communities and organizations are facing what were once unimaginable challenges and the difficult decisions they invite.

The four vectors identified here will help professionals, businesses, organizations, and governments best prepare themselves for the challenges raised by multiple, co-occurring critical events. Supported by a robust CEM platform, teams can assess threats early, confidently locate their assets and people, and act swiftly and efficiently through automated processes. Fully integrated solutions will keep your CEM teams and command centers running smoothly.

Let's Talk

Want to learn more about Everbridge Critical Event Management? Get in touch or just call us at +1-818-230-9700 to learn more.

About Everbridge

Everbridge, Inc. (NASDAQ: EVBG) is a global software company that provides enterprise software applications that automate and accelerate organizations' operational response to critical events in order to Keep People Safe and Businesses Running™. During public safety threats such as active shooter situations, terrorist attacks or severe weather conditions, as well as critical business events including IT outages, cyber-attacks or other incidents such as product recalls or supply-chain interruptions, over 5,400 global customers rely on the Company's Critical Event Management Platform to quickly and reliably aggregate and assess threat data, locate people at risk and responders able to assist, automate the execution of pre-defined communications processes through the secure delivery to over 100 different communication devices, and track progress on executing response plans. Everbridge serves 8 of the 10 largest U.S. cities, 9 of the 10 largest U.S.-based investment banks, 47 of the 50 busiest North American airports, 9 of the 10 largest global consulting firms, 8 of the 10 largest global automakers, 9 of the 10 largest U.S.-based health care providers, and 7 of the 10 largest technology companies in the world. Everbridge is based in Boston with additional offices in 20 cities around the globe. For more information visit www.everbridge.com

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