



**Homeland
Security**

Science and Technology

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System Assessment and Validation for Emergency Responders

The U.S. Department of Homeland Security (DHS) established the System Assessment and Validation for Emergency Responders (SAVER) Program to assist emergency responders making procurement decisions. Located within the Science and Technology Directorate (S&T) of DHS, the SAVER Program conducts objective assessments and validations on commercially available equipment and systems, and develops knowledge products that provide relevant equipment information to the emergency responder community.

SAVER Program knowledge products provide information on equipment that falls under the categories listed in the DHS Authorized Equipment List (AEL), focusing primarily on two main questions for the emergency responder community: "What equipment is available?" and "How does it perform?" These knowledge products are shared nationally with the responder community, providing a life- and cost-saving asset to DHS, as well as to Federal, state, and local responders.

The SAVER Program is managed by the National Urban Security Technology Laboratory (NUSTL), which also prepared this TechNote.

For more information on this and other technologies, contact the SAVER Program by e-mail or visit the [SAVER website](#).

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TechNote

Emergency Manager and First Responder Use of Social Media Updates

Social media platforms connect, entertain and inform millions of users every day. Individuals can instantly create, upload and share messages, images, videos and other types of content through social networks on a variety of web-based and mobile platforms. Recently introduced social media features and updates present unique opportunities for first responders not only to disseminate agency content and information, but also to facilitate operations by harnessing the publicly available data on these platforms. Comprehensive, up-to-date utilization of social media can engage and educate communities, ensure effective emergency communications and enhance incident tracking, mitigation and response.

Emergency Responders' Social Media Considerations

In 2013 and 2014, SAVER published a [report](#) and an [application note](#) detailing the basics of the social media platforms then available and their uses for emergency response. Understanding these platforms—and the features, releases and updates that have emerged since—can help emergency managers monitor and respond to incidents and other activities. Agencies might also increase their social media effectiveness by training their staff to handle the potentially overwhelming social media activity triggered by an incident, and by establishing a social media presence prior to incidents. Cultivating a social media audience and gaining a reputation as a go-to source for timely, reliable information can help emergency responders build trusting relationships in communities, which could lead to vital cooperation during an emergency.

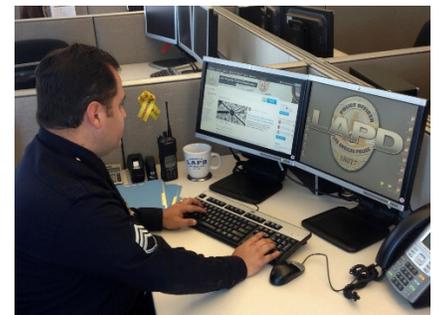


Figure 1. Police officer using social media

Figure courtesy of Reuters

In addition to developing social media proficiencies and presences, emergency response agencies should also remain mindful of each platform's guidelines for law enforcement. Some platforms, such as Facebook and Twitter, have policies against the use of their data for surveillance and profiling, though these platforms also have a system in place for assisting agencies with data retrieval on a case-by-case basis. Being aware of these protocols and abiding by them can allow emergency responders to accomplish their goals and take full advantage of each platform's capabilities while hedging against criticism for infringing upon the privacy or civil liberties of social media users.

Social Media Features and Updates

Live Video Streaming

In 2016 Facebook, Instagram, Twitter and YouTube each launched live-streaming services, enabling individuals to broadcast live from their mobile devices. Several recent events have seen bystanders and perpetrators alike use these services to live stream potential criminal or terrorist activities; however, social media users who witness these unfolding events often fail to notify law enforcement, which has revealed a need to educate the public on the timely alerting of authorities to increase the chances of preventing or interrupting these events. In addition to aiding crime detection, live streaming can, among other applications:

- Provide firsthand accounts of an incident and additional context for responders,
- Inform response coordination and resource allocation after an incident, and
- Facilitate information release by responders.

Refined Data Compiling

In 2015 Instagram introduced “Search & Explore,” a feature that lets users browse images and videos by location and hashtag, a pound sign (#) followed by a phrase (e.g., #SAVER) that multiple platforms now utilize to tag, or group, user content.

Twitter refined its search features in 2015 and 2016 with “Moments,” which allows editors to curate collections of a trending hashtag’s highlights and allows users to curate their own highlights. Twitter also now incorporates reverse image searching into its “TweetDeck” dashboard interface to authenticate images (and, by extension, reported incidents).

Snapchat, a photo- and video-sharing mobile application, launched its “Our Story” feature in 2014, enabling users to submit their content to an official, publicly viewable “Story” determined by event or location. In 2017 Snapchat unveiled “Custom Stories,” allowing users to create their own shared Stories. Emergency responders can use these updated features to, among other applications:

- Track incidents in real time by creating and encouraging the use of specific hashtags,
- Collect data on events or locations of interest, and
- Boost the visibility and relevance of their agencies’ content by using trending hashtags and targeting affected locations.

Geolocation Tagging

Like hashtags, multiple platforms now allow users to tag content with the location where the content was generated, and to search content by location. While Facebook, Twitter, Instagram and others can include a user’s general location, such as a city or venue name, images posted to Instagram and Flickr can also include the specific longitude and latitude of the content. Additionally, Facebook’s “Check In” feature can turn a user’s location into a post of its own. In 2017 Snapchat introduced its “Snap Maps” update, which enables users to see the locations of other connected users on a map and to tap an area on the map to see public Stories posted in or near the area. With this geographical information, emergency responders can, among other applications:

- Monitor the progression of an incident or the movements of civilians after an incident,
- Locate areas in critical need of assistance after an incident and strategically deploy resources, and
- Enhance situational awareness by mapping the geolocation data from incident-related posts.

Real-World Applications

Live-streamed criminal incidents include the 2016 Dallas, Texas, shootings of law enforcement officials, the 2016 slayings of French police officers by an ISIS terrorist and several other cases of homicide and assault. Geolocation data from social media images have been used to accurately predict weather patterns and storm damage.

Technologies are available for purchase to help emergency responders monitor and aggregate social media activity and data streams.

While many agencies already use social media to communicate with the public and investigate incidents, maintaining awareness of and familiarization with new social media features can give responders an additional set of tools to benefit operational effectiveness and better protect the public.



Figure 2. Police issuing an incident update on Facebook (June 15, 2017)

Figure courtesy of the Huntsville Police Department (Alabama)