



VIDEO TECHNOLOGY FOR FIREFIGHTING AND EMS AGENCIES

VIDEO SOLUTIONS DESIGNED TO ENHANCE TRAINING, SAFETY AND RISK



FINDINGS FROM THE 2020 MOTOROLA SOLUTIONS FIRE SURVEY

Today's firefighters don't just save lives in fires, but act on the frontlines of public safety, playing a large role in emergency response of all types. Every day, from the initial 911 call, to dispatch and alerting, to on-the-ground response, every second counts. Increasingly, every second must also be accounted for.

In response, agencies are beginning to explore and adopt next generation video technologies, including in-car dash cams, body-worn cameras (BWCs), and even drones to enhance training initiatives, document on-scene and in-car incidents, and enhance the overall safety and preparedness of firefighters, paramedics, and drivers.

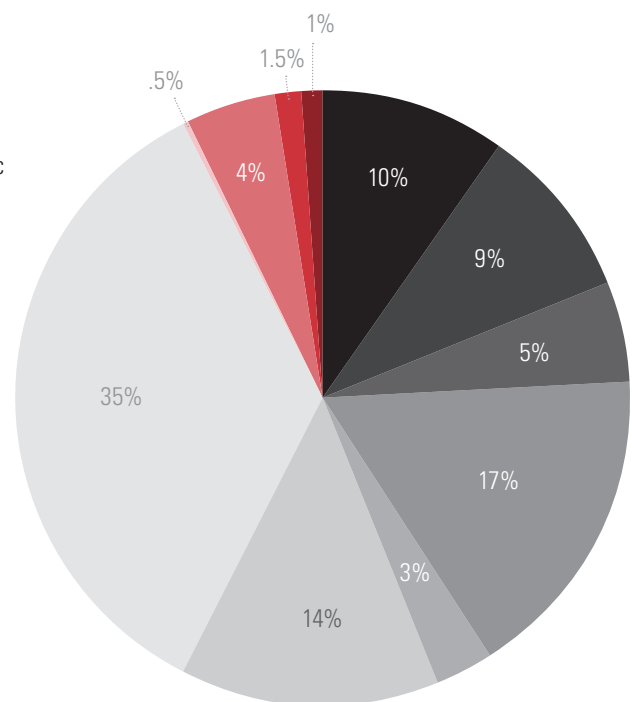
To learn more about the evolving attitudes on integrated video technologies and purchasing behaviors of agencies, we queried 1,064 firefighting agency personnel from across the United States, including chiefs, lieutenants, captains, firefighters, paramedics, and IT, communications, and purchasing executives.

The result is the 2020 Motorola Solutions Fire Survey.

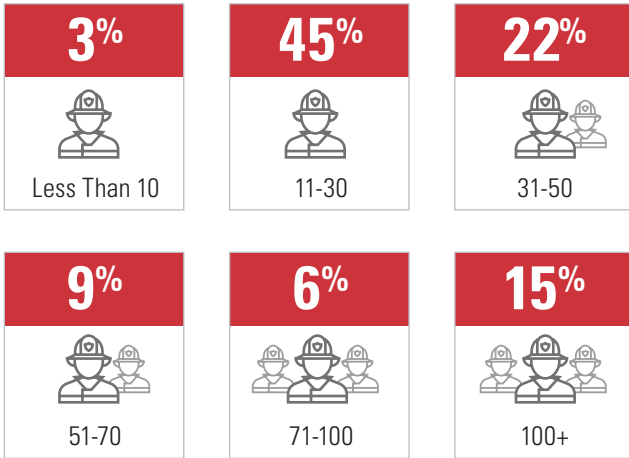
Survey respondents represent fire departments ranging in size from under 10 to more than 100 active members, serving from less than 20,000 to over 2 million citizens. Their make-up includes career-only, and volunteer-only professionals, as well as a mix of the two. These agencies responded to anywhere from less than 100 to more than 50,000 calls in 2019.

SURVEY RESPONDER ROLES

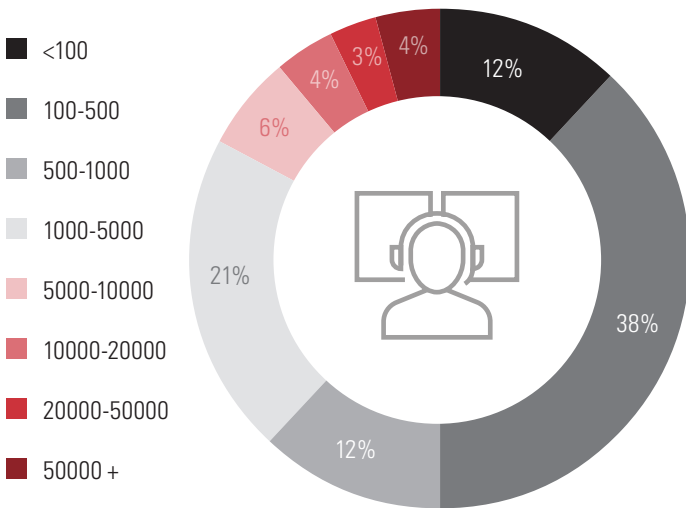
- Firefighter
- Firefighter & EMT Paramedic
- Driver/Engineer
- Lieutenant, Captain, or Other Supervisor
- Battalion Chief
- Asst. Chief, Deputy Chief, or Division Chief
- Chief
- IT Executive or Manager
- Communications Manager
- Purchasing/Procurement Executive or Manager
- Consultant



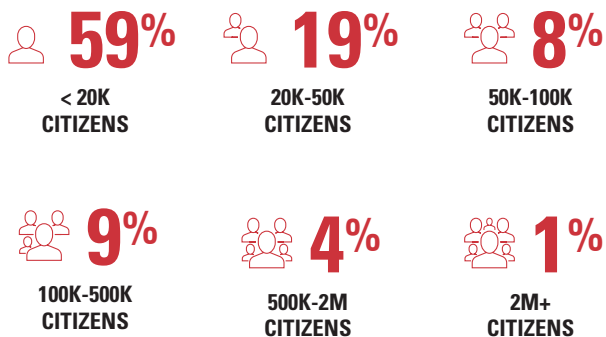
AGENCY SIZE – ACTIVE MEMBERS (FIREFIGHTERS, PARAMEDICS, EMT)



NUMBER OF CALLS AGENCY RESPONDED TO IN 2019



POPULATION SERVED BY AGENCY



The 2020 Fire Survey provides insights into the reasons early adopters are implementing in-field integrated video solutions and their key benefits. The survey finds that fire departments are behind law enforcement agencies and other industries like education and healthcare in the adoption of these technologies. At the same time, this demonstrates a clear opportunity with multiple benefits for agencies that choose to utilize them for documentation, accident liability, and training.

The survey indicates that agency size and budget, as well as federal, state, county, and individual agency mandates significantly impact the adoption of video technology. For this reason, agencies exploring video solutions should seek to partner only with vendors that offer flexible pricing, packaging, and implementation of solutions to fit a range of size, complexity, and budget needs.

The survey also highlighted that many agencies may be overlooking sources of funding for video solutions, such as grants. According to our survey, more than 80 percent of agencies are using little to no grant funding to subsidize video expenditure, yet price was listed as the top priority when selecting video solutions. With limited budgets, agencies should seek assistance from video vendors in the exploration of available grants. Our partners at EMS Grants Help and Fire Grants Help offer a database of available grants as well as tools and resources to guide you through the grant process.

Visit <https://www.emsgrantshelp.com/> or <https://www.firegrantshelp.com/> to learn more.

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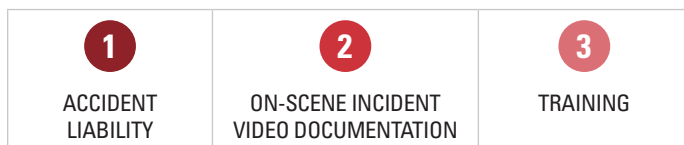
IN-CAR & BODY-WORN VIDEO SOLUTIONS: TRAIN, DOCUMENT, PREVENT

According to our survey, fire service agencies are just beginning to adopt in-car video solutions. At present, 15% of agencies surveyed had incorporated in-car dash cameras into their day-to-day operations, with early adopters indicating accident liability, on-scene incident documentation, and training as their top reasons for use. Asked what had motivated their agency to purchase in-car video, the majority of agencies cited the desire to grow training programs and many indicated that a previous incident had spurred the decision to invest in video technology.

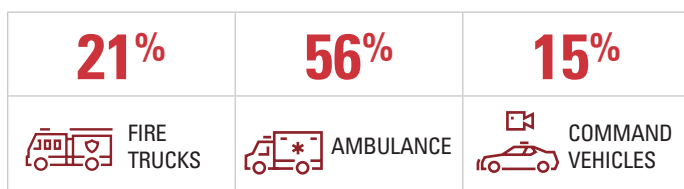
Documenting incidents and accidents is a significant need for EMS and Fire Departments, as approximately 30,000 motor accidents involving a fire apparatus happen every year.^[1] Rigs equipped with dashcams can help agencies capture footage both at the scene and leading to it, so that if there's a collision, the full event is captured in detail.

When it comes to training, in-car cameras can show driver performance while operating a vehicle in a far more effective and objective way than other feedback mechanisms. Agency leaders can use dash cam video and audio to debrief on incident response, reviewing positive procedures and where they can make improvements in their emergency response.

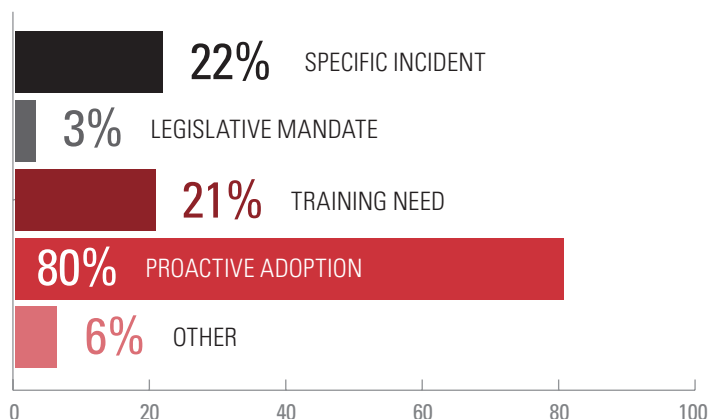
TOP USES FOR IN-CAR VIDEO SOLUTIONS



VEHICLES USING IN-CAR VIDEO



MOTIVATING FACTORS FOR PURCHASE OF IN-CAR VIDEO SOLUTIONS



Like in-car video solutions, body-worn camera (BWC) adoption is still nascent among fire departments, with more than 94% of agencies yet to implement them. Similar to in-car solutions, training, incident documentation, and liability protection are the top factors driving fire departments to use BWCs.

Almost all agencies utilizing BWCs indicated they are used to enhance training programs. Just as with in-car cameras, BWCs offer an objective, human recall-proof record of an incident that can later be viewed, broken down, and analyzed to identify both what went well and what could have gone better. For new recruits, BWC footage offers invaluable insight into the way emergency incidents unfold, allowing them to learn virtually before introducing live emergency scenes, which inevitably come with greater risk and liability.

Additionally, video systems provide EMS teams with valuable documentation and a feedback mechanism that can improve patient care. All care provided by EMS team is documented, although the “typical” process has meant electronic or paper documentation created at some point after care. Given the number of calls EMTs take per day and the fast-paced nature of those incidents, completely and accurately documenting care after the fact is challenging. BWCs allow for real-time capture and timely review of video feeds, allowing EMS teams to analyze care given at a very specific level, like verifying CPR start and stop times, administered medication, and exact intubation times and techniques. This allows teams to learn and grow by critiquing their own work in an objective fashion.

When it comes to first responder safety and incident documentation, BWCs have proven effective at helping agencies not only document, but prevent incidents in the field. According to the U.S. Centers for Disease Control and Prevention (CDC), 2000 EMS professional are hospitalized every year from a violence-related injury.^[2] One such pilot program in the U.K., launched in response to increasing violence and threats against first responders in high-crime areas, was so successful that a plan for long-term implementation has been created.^[3] The program led to a significant decrease in violent incidents, attributed by staff to the fact that the existence of BWCs can act as a deterrent. Incident reporting improved overall, aided by video documentation, and first responders rated their sense of well-being and security as higher.

BWCs are also providing value when used to conduct fire investigations. As fire investigators systematically work through scenes to determine the cause and origin of fires, BWCs record both video and audio. The resulting footage can serve as supplemental evidence for the investigator and can be used to train new fire investigators by showing real incident scenes and investigations to students.

HOW AGENCIES ARE USING BODY-WORN CAMERAS

21%	56%	15%	92%
LIABILITY PROTECTION	INCIDENT DOCUMENTATION ACCURACY	HARASSMENT DETERRENT / DOCUMENTATION	TRAINING

WATCHGUARD, A MOTOROLA SOLUTIONS PRODUCT

Throughout each stage of incident response, body-worn and in-car video solutions from WatchGuard give personnel new and powerful ways to enhance overall safety, training, and operational efficiency.

Primarily used by law enforcement agencies, **WatchGuard 4RE** and **V300 body-worn cameras** are a powerful tool for Fire Departments and EMS as well, offering:

1. Sleek yet rugged design.
2. Continuous operation, with a configurable buffer for times when incidents unfold rapidly, and patented Record-After-the-Fact technology to retrieve lost footage when there is no opportunity to hit Record.
3. Flexibility that allows for cameras to be pooled or securely assigned to EMS technicians for the duration of their shift.
4. Automatic uploading via FirstNet or another wireless broadband cellular network.
5. Security features that meet HIPAA confidentiality requirements and ensure data is encrypted even while in transit.

[LEARN MORE](#)

FLYING HIGH: DRONES GAIN GROUND AS ADOPTION RISES

Among the most exciting new advancements in video technology, drones are now being used by fire departments more frequently and for numerous purposes. Drones were the most adopted video solution in our survey, with 21% of agencies indicating they were leveraging drone technology in their fire response. Almost three quarters of agencies utilizing drones now have one or more team members who have been trained and are dedicated to drone operation.

Deploying a drone in a first responder situation allows firefighters to more fully understand an emergency, enabling them to make quick and accurate decisions even before arriving on scene. For example, when a fire department gets a call, instead of conducting scene assessments from the ground upon arrival, agencies can now send drones out ahead of crews for real-time visibility and to gather additional aerial intelligence. This “big picture view” can reduce liability and the potential for on-scene accidents, while allowing the incident commander to quickly determine if they need to escalate a call, request a response from a neighboring agency, or even cancel the response.

Among agencies that are not yet utilizing drones, interest is high. According to our survey, budget was listed as the number one barrier to adoption, although the respondents indicated that more training, knowledge and understanding of the benefits of drone usage in the field is required. Asked what they’d value most if they adopted drones, respondents said the most important capabilities are the ability to identify potential hazards, understand required resources, and get a better understanding of the fire scene.

The majority of firefighters indicated they would find it useful for responding units to access real-time video en-route to the incident scene and the majority also said it would be useful to send real-time, on-scene incident video directly to dispatchers. The top reasons for this were the additional perspective that could be provided to first responders from dispatch, the ability to re-route videos to responders not yet on scene, and the fact that based on video, dispatch could quickly deploy additional resources if needed.

TOP SOLUTIONS TO IMPLEMENT IN NEXT TWO YEARS



1

“SIZE UP” INCIDENT SCENES BEFORE ARRIVING



2

HIGHLIGHT POTENTIAL HAZARDS BEFORE ARRIVING ON SCENE



3

ADVANCED KNOWLEDGE OF RESOURCES NEEDED BEFORE ARRIVING ON SCENE



MOTOROLA SOLUTIONS AERIAL SUITE




Aerial Suite from Motorola Solutions is an end-to-end drone solution created specifically for public safety operations that includes command software, applications, and drone hardware. With secure, reliable architecture to protect data and systems operations, Aerial Suite allows agencies to increase situational awareness before arrival, shorten response times, deploy and operate drones remotely, and instantly share livestream video with operators, field commanders, and response teams.

[LEARN MORE](#)

BEYOND DOCUMENTATION: VIDEO MANAGEMENT SOLUTIONS SAVE TIME, PROTECT DATA

Whether utilizing in-car video, BWCs, drones or all three, our survey demonstrated that most agencies require a better solution for storing, linking, and managing the volume of video footage produced. At present, more than half of agencies using video are not storing it via a back-end video management solution. Across the three video solutions, an average of almost 14% are always using back-end management to store video, yet 56% do not use a back-end system at all.

ARE YOU USING A BACK-END VIDEO MANAGEMENT SOLUTION?

	 IN-CAR FOOTAGE	 BWC FOOTAGE	 DRONE FOOTAGE
YES, ALWAYS	12%	10%	19%
YES, SOME OF THE TIME	12%	21%	17%
ALL VIDEO CAPTURED; NO BACK-END SYSTEM	62%	67%	40%

Why are these systems so beneficial? More than 80% of court cases involve video evidence, which requires significant inter-agency sharing. As public agencies continue to adopt video solutions in ever greater numbers, the volume of video and audio footage, often originating from disparate sources, must somehow be managed, linked, and stored for future use and easy access. Automated solutions that link video and audio for synchronized playback, facilitate secure sharing and storage between agencies, and simplify uploading of new video footage allow agencies to save time, eliminate redundant and manual tasks, and keep data safe and secure.

EVIDENCE LIBRARY® FROM WATCHGUARD, A MOTOROLA SOLUTIONS PRODUCT: MANAGE EVIDENCE YOUR WAY

Multiple first responders on scene, all with in-car and body cameras recording is a good thing. The time spent manually linking all the uploaded video and audio is not. Evidence Library® from WatchGuard automatically links video and audio captured by the integrated WatchGuard in-car and body camera system on scene, and then synchronizes playback so recorded video and audio from multiple devices can be seen and heard simultaneously.

[LEARN MORE](#)





MEETING TODAY'S CHALLENGES EXPLORING TOMORROW'S OPPORTUNITIES

Today, fire departments are just beginning to benefit from all that integrated video solutions have to offer. From in-car cameras to BWCs to drones, video has provided these agencies greater capability – to document with accuracy and confidence, to mitigate and prevent incidents, to train using real-life scenarios, and to quickly gather real-time intelligence that provides more informed, accurate approaches on the ground and greater safety for first responders.

Exploring and identifying the right solution for your agency means partnering with a trusted provider who can offer flexible, scalable solutions at the scope and price point that best meets your needs and budget. The right partner will also work with you to explain and explore all available funding sources, including grants, to keep budget limitations from derailing your ability to invest in the right technology for today and tomorrow.

For almost a century, Motorola Solutions has partnered with a range of public service agencies including fire departments, bringing to market innovative, integrated video solutions that meet the needs of first responders, dispatch, agency leaders and a host of other users. When it comes to protecting your communities, keeping your team safe in the field, and identifying a solution that best meets your needs, we're here and we have your back.

To learn more and explore all of our solutions for fire and EMS, visit:

www.MotorolaSolutions.com/FireVideo

^[1] <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3503424/#:~:text=Firetruck%20crashes%2C%20occurring%20at%20a,traveling%20to%20provide%20emergency%20services>

^[2] <https://www.jems.com/2019/10/08/protecting-ems-personnel-from-assault/#:~:text=Every%20year%2C%20on%20average%2C%20more,is%20violently%20killed%20on%20duty.&text=According%20to%20the%20U.S.%20Centers,in%20a%20violence%2Drelated%20incident>

^[3] <https://www.nhsemployers.org/case-studies-and-resources/2019/12/body-cameras-pilot>



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