

# The Use of AI in Developing Short-Form Safety Videos

## Author

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Hazards are ever-present in the steel plant environment, and a heightened awareness and emphasis on safety is a necessary priority for our industry. This monthly column, coordinated by members of the AIST Safety & Health Technology Committee, focuses on procedures and practices to promote a safe working environment for everyone.

Weekly safety toolbox topics are a staple in many safety programs. Supervisors read a hardcopy topic to their teams and hope they hear something useful. The short-form safety meetings are essential, but could they be better? Artificial intelligence (AI) is transforming how businesses approach workplace safety, and one innovative application is the development of short-form safety videos. These videos, typically lasting between 30 seconds and a few minutes, are designed to deliver critical safety information quickly and effectively. With AI, the process of creating these videos becomes more streamlined, engaging and tailored to specific audiences, leading to better training outcomes and a safer work environment.

## The Need for Short-Form Safety Videos

Traditional safety training methods, such as a hardcopy toolbox topic, often struggle to maintain employees' attention. In contrast, short-form videos with customized narrators are highly effective at delivering key safety messages in a format that is easy to digest. They cater to the modern workforce's preference for quick, engaging content and can be used in various settings, from onboarding new employees to ongoing safety training.

Short-form videos can focus on specific safety topics such as proper use of personal protective

equipment (PPE), handling hazardous materials, or following emergency procedures. The brevity of these videos makes them ideal for busy work environments. They are versatile; they can be played on any mobile device, computer or breakroom TV.

AI technology enhances this approach by automating content creation, personalizing learning experiences, and improving video production, making safety training more accessible and efficient.

## AI-Driven Video Content Creation

One of the most significant advantages of AI in developing safety videos is the automation of content creation. AI-powered platforms can generate video scripts, storyboards and even animations based on input from safety experts or existing training materials. This streamlines the production process, allowing companies to create high-quality videos without the need for expensive video production teams.

For example, an AI tool can analyze safety guidelines, policies, or incident reports and convert the information into a concise and engaging video script. These tools can also recommend visuals, animations or infographics to accompany the narration, enhancing the overall effectiveness of the video. By automating these processes, companies can produce multiple videos quickly and

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efficiently, ensuring that their safety training materials are always up to date.

AI can also assist in localizing content for global workforces. It can translate scripts into different languages, adjust cultural references and ensure that the safety messages are relevant to the audience's specific context. This flexibility is especially useful for multinational companies that need to deliver consistent safety training across various regions.

### Personalization and Adaptive Learning

One of the most significant benefits of using AI in safety training videos is the ability to personalize the content. You can create AI narrators that represent a “likeness” of people in your specific work environment. The scripts can address company-specific rules and guidelines that address specific safety risks that address the most relevant information for each worker. This ensures that employees receive training that is directly applicable to their job, increasing retention and engagement.

For example, an employee working in a warehouse may receive a short video focused on forklift safety, while an office worker may watch a video on ergonomic best practices. This personalized approach not only saves time by avoiding irrelevant content but also enhances the effectiveness of safety training. Employees are more likely to engage with material that feels relevant to their daily tasks, and tailored content improves long-term knowledge retention.

### Improving Video Engagement With AI

AI can also improve the overall engagement and quality of safety videos through advanced editing and production techniques. AI-powered video editing tools can analyze video footage and automatically enhance it by adjusting lighting, sound, and pacing to create a more polished, professional final product.

AI can also integrate interactive elements, such as quizzes or simulations, into the videos, turning passive viewing into an active learning experience. For example, at the end of a safety video on fire evacuation procedures, AI can prompt viewers to answer questions about what they learned or guide them through a virtual simulation of an emergency scenario. These interactive features

enhance engagement and help reinforce important safety lessons.

Additionally, AI can track how employees interact with the videos, gathering data on which sections hold their attention and which they tend to skip. This data can then be used to refine future videos, ensuring they are optimized for maximum engagement and knowledge retention.

### Cost-Effective and Scalable Training Solutions

AI-powered video production is highly cost-effective compared to traditional methods. By automating much of the scriptwriting, editing, and production processes, companies can significantly reduce the time and resources needed to create training videos. This is especially beneficial for small and medium-sized businesses that may not have the budget for professional video production teams.

Moreover, AI allows companies to scale their safety training efforts. Once a video is created, it can be distributed to employees across various locations, whether they are in the office, working remotely, or on-site in different regions. The scalability of AI-powered videos ensures that safety training remains consistent and accessible to all employees, regardless of location.

### Conclusion

The integration of AI in developing short-form safety videos is a game-changer for workplace safety training. AI's ability to automate content creation, personalize training, enhance engagement, and reduce production costs makes it an ideal solution for businesses looking to improve safety practices. These AI-powered videos ensure that safety information is delivered quickly, effectively, and tailored to the needs of the workforce, ultimately creating a safer work environment for everyone.

As AI continues to evolve, we can expect even more advanced and interactive video solutions, further transforming how safety training is conducted across industries. By embracing AI in safety training, companies can better protect their employees and foster a culture of safety in the workplace. ♦