

DRONES AS AN ALTERNATIVE TO FIREWORKS



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Introduction

For many of us, fireworks are part of the soundtrack of summer and are at other parts of the year.

In recent years, some communities have explored drones as an option to fireworks. Fireworks provide a multi sensory experience felt through all senses, whereas drones do not and are not a replacement for long historical community and cultural fireworks celebrations.

Fireworks users and communities want to see those bright colours and they want want to hear and feel that concussion, and if we're close enough and lucky, we're going to get the smell, the smoke – this is all part of the multi sensory experience fireworks provide that drones do not.



This research paper will highlight why this alternative approach does not provide communities with the same experience, and one that is fraught with much controversy that has proven to impact post traumatic stress disorder (PTSD) while also not being feasible in mountainous areas or in locations close to airports or air bases.

In addition, the paper will discuss safety and cost parameters with respect to drones as a hindrance to community celebration and a drain on taxpayers.

Visual and Emotional Impact

Spectacle and Tradition: Fireworks have a long history and are deeply ingrained in cultural traditions worldwide. The loud booms, vibrant colours, and explosive nature of fireworks create a unique spectacle that drones cannot fully replicate.

Intensity of Display: Fireworks produce bright, intense bursts of light and sound that can be seen and heard from far distances. Drones, while capable of creating intricate light shows, do not have the same level of brightness or auditory impact, which can be less thrilling for some audiences.

Technical and Logistical Challenges



Complexity and Cost

Setting up a drone light show requires significant technical expertise and can be more complex and expensive than traditional fireworks. This includes costs for purchasing drones, programming them, and ensuring safe operation.

Weather Sensitivity

Drones are highly sensitive to weather conditions such as wind and rain. Adverse weather can disrupt drone performances or make them unsafe for the community, whereas fireworks can often be launched in a wider range of conditions.

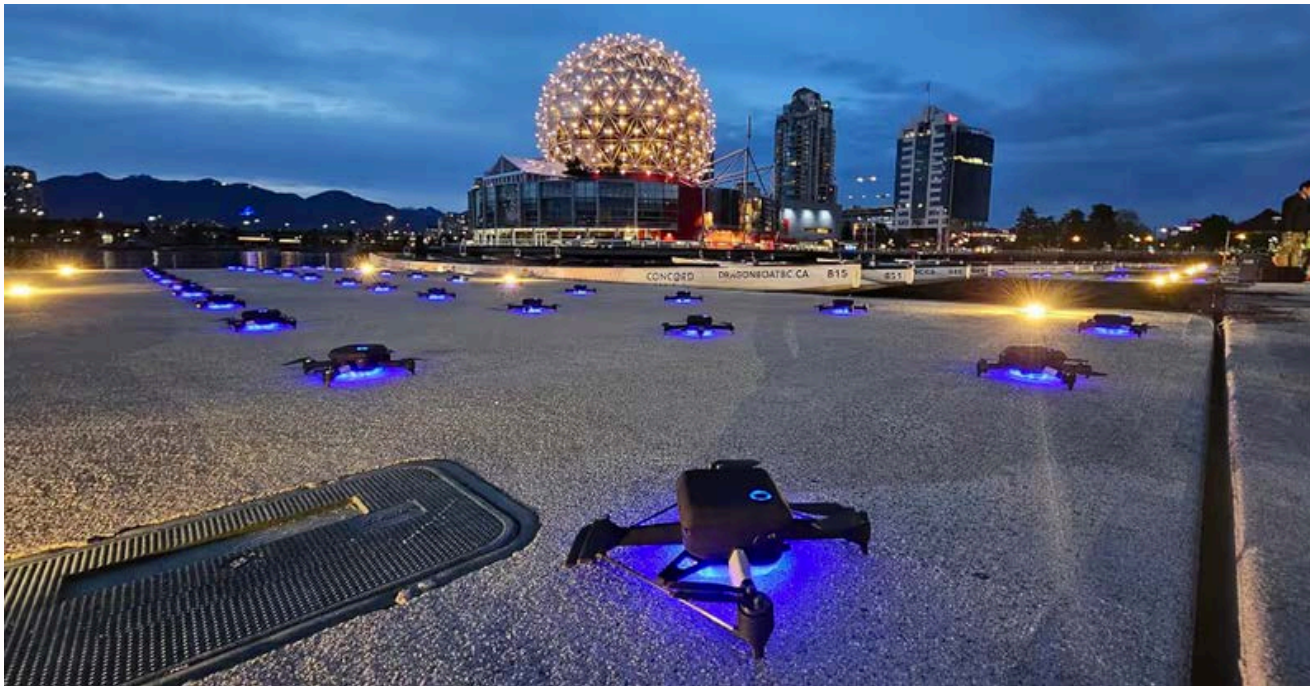
For every drone show produced, there is an average of two drones lost during a performance.



Experiential Footprint

A fireworks show will almost always be a three-dimensional perspective with a true visibility from any perspective, which translates to “no bad view from any angle”. The fireworks display has an experience that impacts you where you not only have a visual stimulation by the different effects, but an audio experience of the bang or boom, and a physical experience that you feel when the concussion impacts you. This is the wow feeling that is produced that fireworks produce, which drones do not.





Spatial Footprint

For fireworks, the display has been discharged from the pier and the fallout is into the water or area away from the spectators at Parks. With drones, you will require two large areas. One area for drone take-off/return and another area for the display. The display will hover over the water or area away from the spectators. Communities will require police boats on both displays to protect against any boating incidents, in addition to the wider area required as compared with fireworks.

Manufacturing concerns

While some claim that drones do not emit chemicals as compared to fireworks it is important to keep in mind that the Government of Canada tests over 4,000 fireworks strenuously before being allowed to be sold or used. If these chemicals were harmful to human health or to the environment, they would not be allowed to be sold or used by the public.

To suggest drones do not have any environmental impact negates the fact that they are manufactured using expensive lithium ion batteries, the minerals of which are mined from our planet that cause environmental degradation.

Furthermore, the environmental impact of manufacturing, maintaining, and disposing of electronic components and batteries from drones can be significant.



Cost of drones

Drones are run by lithium batteries that actually make these drones function, and those have to be charged. Drones can only last for about 12 minutes, so they are also very expensive, almost three times more expensive per minute than a firework show, according to research by the American Pyrotechnic Council.

Public Perception

Many people expect and look forward to traditional fireworks as part of celebrations. Switching to drones might not meet the expectations of audiences who are used to the traditional experience of fireworks. Over centuries, we have seen fireworks deeply ingrained in celebrations including cultural ones such as Diwali and Lunar New Year as well as Canada Day and are often preferred by the public for their visual and auditory impact.



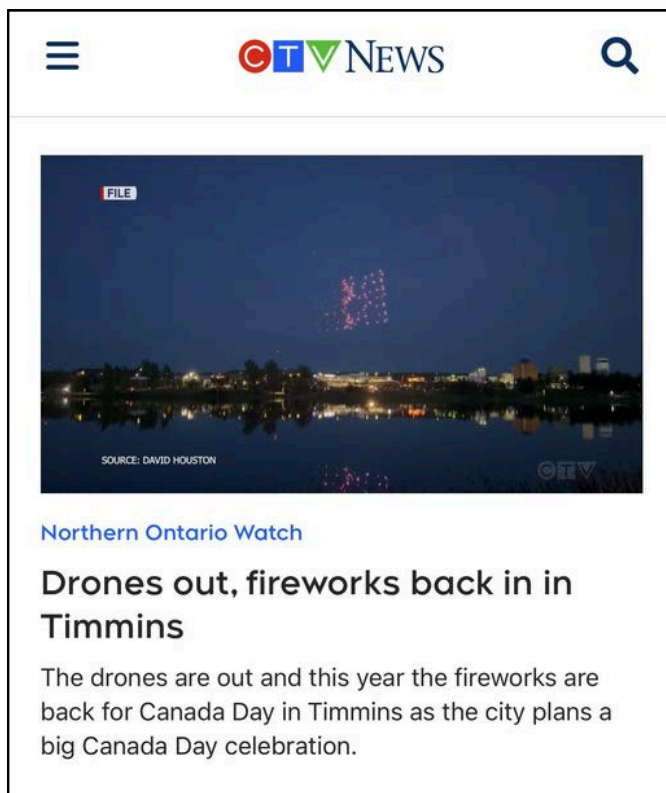
Limited Availability and Experience

Drone light shows are relatively new and not as widely available as fireworks. There are fewer companies with the expertise to design and execute drone shows, limiting their accessibility for many events.

Audience Expectations and Experience

PTSD Concerns

In recent years, with escalating conflict in the Middle East as well as Russia and Ukraine, drones have been used in combat to inflict carnage on humans. Recent newcomers to Canada have spoken loudly on this saying that the high piercing sound of drones reminds them of active warfare in their community with the drone noise creating the impression that warfare is about to take place. It is important to consider the views of these communities and ensure they are welcomed in our community, without the perception of war hanging over their heads



Walking back on drones

We have seen communities walk back on their decision to replace fireworks with drones in communities such as Montreal and Sudbury, citing cost and community acceptance as prime considerations. In Timmins, Ontario, the municipality has changed its stance on drones and reinstated fireworks. Residents and city officials believe the return of fireworks will bring the community together, as many have missed the festive atmosphere and excitement they create.

In its findings, Montreal cited the cost of a typical fireworks show to be one-fifth the cost of a drone show and in some cases even more. The higher costs were prohibitive in particular for larger scale events. In addition, the exemptions for drone operators in congested airspaces made it impossible for Montreal, adding logistical complexity and community disappointment.

Conclusion

While drones can offer benefits, they also have several limitations that prevent them from being a complete replacement for fireworks. The unique visual and auditory impact of fireworks, along with their cultural significance and established logistical frameworks, make them an enduring choice for many celebrations.

About the CNFA

The Canadian National Fireworks Association (CNFA) is a national association that represents fireworks manufacturers, distributors, and retailers. The CNFA's mission is to promote fair access and safety in the sale and use of all fireworks through public education, advocacy with regulators, and member compliance. The CNFA is committed to working with federal, provincial, and local municipalities to educate consumers, vendors and regulators about the safe sale and use of family fireworks, along with fair and reasonable regulation. www.nationalfireworks.ca

Mission Statement:

The CNFA's mission is to promote fair access and safety in the sale and use of fireworks through public education, advocacy with regulators, and member compliance. Working with all three levels of government, the CNFA advocates on behalf of the fireworks industry to guarantee that our voice is heard. We work for fair and easy access to fireworks and provide education and training opportunities for our members.

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