



## At a glance

### Overview

- Utilising data for assessing event success, public perception and cultural impact
- AI for analysing social media usage throughout programme of events

### Benefits

- Supports future event planning and economic forecasting
- Strengthens international relationships
- Informs strategies for handling large-scale public events, improving satisfaction and logistical efficiency.

## Melodies and Metrics: Unveiling Eurovision's Cultural Pulse Through Data



**Digital Media  
and Society Institute**

### Background

The Eurovision Song Contest is a major cultural event that connects audiences across Europe and beyond, celebrating music and performance since 1956. The 2023 contest in Liverpool, hosted on behalf of Ukraine, highlighted the city's musical legacy and revealed social and cultural dynamics.

Based on an assessment led by the Liverpool City Council, the Eurovision significantly benefited Liverpool's economy, generating an additional Gross Value Added (GVA) of £23.5 million for the city and £54.8 million net for the Liverpool City Region. It attracted 473,000 attendees and 306,000 additional visitors, boosting local businesses. Community well-being improved, with high resident support (74%) and satisfaction (93%) regarding event management. Furthermore, Eurovision enhanced cultural diplomacy, strengthened international ties, particularly with Ukraine, reached 162 million viewers globally, and increased Liverpool's cultural visibility.

### Challenge

While there have been notable successes, the majority of current research on cultural events has primarily depended on traditional economic indicators and survey-based social metrics. Over the last ten years, social media platforms have significantly influenced how audiences engage with events such as Eurovision, facilitating real-time content creation, immediate sharing, and global critique.

The wealth of user-generated data presents exciting opportunities to comprehend audience reactions, community involvement, and wider cultural impacts. However, the sheer volume and complexity of this data make it methodologically challenging to analyse and evaluate effectively.

## Solution

To address a research gap, the University of Liverpool's Digital Media and Society Institute (DMSI) partnered with the VEC and BBC to develop a data-driven, multimodal analysis framework for interpreting social media content. This framework utilises generative AI, language models, and computer vision for automated data analysis.

The 2023 Eurovision Song Contest serves as a case study focusing on:

- Artist Representation and Music Diversity: Showcasing cultural diversity in music.
- Local Community Engagement: Examining Liverpool's community perceptions and the event's cultural impact.
- Cultural Impact Investigation: Analyzing public sentiment and thematic discussions.
- Audience Reactions: Comparing responses across platforms for specific insights.

The VEC collected over 1,859 posts and 471,568 comments from TikTok and YouTube, organising data against the Eurovision timeline for analysis. Key features include video content extraction, natural language processing for text insights, and sentiment detection.

An interactive web-based dashboard was created to visualise key insights, allowing users to explore metrics and evolving topics over time, enhancing decision-making and understanding audience perspectives.

## Impact

Social media activity peaked during the Eurovision semi-finals and finals, with the final generating the most engagement. Official accounts posted 129 times during the final, garnering over 205 million views, compared to 82 posts and 162 million views during the first semi-final. The day before the final, only 31 posts resulted in 16.5 million views, highlighting the correlation between discussions and broadcast schedules.

TikTok had the highest views, likes, and comments, thriving on viral trends, but engagement is short-lived around major events. YouTube drives reactions and long-term engagement with impressive view counts and comment threads, ideal for performance content. Reddit maintains consistent engagement through in-depth discussions and fan commentary.

### Sentiment Trends

Overall, sentiment remains positive during Eurovision, with YouTube comments displaying a generally higher degree of positivity.

The comments analysed revealed 67.4% of comments were positive in sentiment, 16.8% neutral, and only 15.8% negative. Where comments appeared negative, keyword and topic analysis revealed a common sentiment of dissatisfaction around the outcome of the competition, owing to a large discrepancy between the public's favourite contestants and those voted as top by the Eurovision jury.

Key findings include event-driven spikes, notably during Eurovision's semi-finals and finals, indicating heightened interest. Each platform exhibits a distinct focus: TikTok highlights viral, shareable moments; YouTube is dominated by rehearsals, live performances, and recaps; while Reddit hosts predictions, fan reactions, and in-depth discussions. Cultural themes such as music, tragedy, and global issues resonate across all platforms, showcasing Eurovision's widespread cultural impact.

### Footfall Tracking

An Urban Pulse Map displays footfall data from Liverpool's main shopping area during Eurovision 2023, compared to 2022 and 2024. The visualisation shows significant footfall spikes, particularly during the Eurovision final (32,690 people), surpassing numbers from the previous and following years.

Other spikes in footfall within the same region have been identified during the FA Cup Final on 14<sup>th</sup> May 2022 (29,341 persons compared with 18,607 and 17,257 at the same time in 2023 and 2024), UEFA Champions League final (Liverpool F.C. vs. Real Madrid) on 28<sup>th</sup> May 2022 (peak of 31,477 versus 23,230 and 21,100 in 2023 and 2024) and lastly the Liverpool Comic Con on 4<sup>th</sup> – 5<sup>th</sup> May 2024.

Collating footfall data with help city planners and event organisers assess the impact of large events and improve resource allocation and crowd management for future planning.