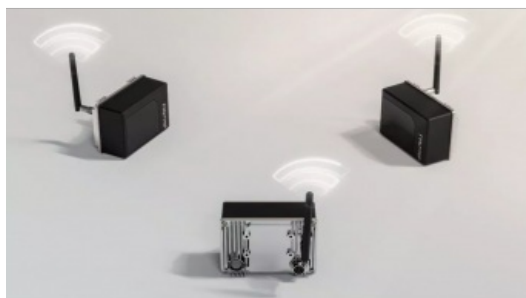# Blickfeld Lidar sensors take centre stage at Rock am Ring music festival

As part of the LidarPredict project, six Blickfeld Lidar sensors were installed above the main Utopia stage of the popular Rock am Ring music festival, held from 2-4 June, to capture test recordings. As the audience enjoyed performances from popular acts like the Foo Fighters, Kings of Leon and Die Toten Hosen, the movements and visitor flows in front of the stage were captured and anonymously analysed using Blickfeld Lidar sensors and EvoCount software. The project, which supported by mFUND, is aimed at developing a Lidar-based solution to enhance the safety of festival attendees.

To validate the findings obtained thus far and compare them with real-world data, Lidar sensors were mounted on the stage. The test marked the first time the EvoCount software had been used in a live setting. The LidarPredict research initiative has been in progress since the end of last year. The plan is to implement this solution across the entire festival grounds at Rock am Ring 2024. By the conclusion of the project, an analysis method based on Lidar sensors will be available to predict visitor flows and improve the safety infrastructure, enabling organizers to provide a safer experience for attendees at large events.

The LidarPredict Project

The LidarPredict project aims to develop methods for analysing and predicting visitor flows based on 3D data collected by Blickfeld Lidar sensors. This data is being analysed using the specialized software provided by crowd analytics specialist EvoCount. Therefore, six Lidar sensors were strategically installed on the Utopia Stage at Rock am Ring to analyse the movement patterns of fans in front of the stage, determine the optimal sensor placement, and evaluate the underlying software. An important aspect to highlight is that the privacy rights of visitors are always respected, as Lidar sensors do not capture any information that can identify individuals. The analysis is not focused on the individual movement patterns but rather on detecting situations where the number of people per square metre in an area exceeds a certain threshold. This triggers an alarm, enabling organizers to implement necessary measures to ensure the safety of the attendees. Additionally, effective visitor management helps to proactively prevent overcrowding situations.

Hendrick Siebrecht, project manager at EvoCount, said: "This project is extremely exciting for us as it allows us to make the festival experience safer and more enjoyable for fans. To effectively prevent overcrowding in certain areas, it is crucial to have accurate information about the current location and quantity of people and an understanding of how visitor flows are moving. Identifying hotspots where overcrowding occurs allows us to take countermeasures. Collecting and analysing such information on a massive site with tens of thousands of attendees is a complex task. The combination of Blickfeld Lidar sensors and EvoCount analysis tools provides an efficient way to obtain this necessary data and draw the right conclusions from it."

Florian Petit, co-founder and CXO of Blickfeld stated: "Blickfeld's Lidar sensors provide the exact performance needed for a festival with tens of thousands of guests. With complete anonymity, the sensors detect the number of people in various areas and provide digital information that can be further processed using EvoCount's state-of-the-art algorithms. We are delighted to be part of LidarPredict because it enables us to help organizers understand crowd behavior and dynamics, predict dangerous situations, and implement intelligent visitor control measures in a timely manner."

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