



Event industries and other event organizers in Finland: from the COVID-19 pandemic towards sustainable development and virtual realities

Prof. Jussi S. Jauhiainen and the working group

jusaja@utu.fi

BIIDEA project¹, Geography Section at the University of Turku

Contents

Abstract	1
1. Introduction	2
2. Discussion about the impact of the COVID-19 pandemic on the event organization	6
3. Implementation of events in Finland during the COVID-19 pandemic	10
4. Toward a post-pandemic period in the event organization in Finland	21
5. Virtual reality (VR) and augmented reality (AR) in event organization	26
6. Conclusions	31
References	33
Appendix	35

Keywords: event industries, event organizer, COVID-19 pandemic, VR, Finland

May 2021

¹ BIIDEA (Blended Interactive Innovation Distance Ecosystem Architectures) inspects innovation processes in spaces of extended reality. The focus is on how innovations emerge and develop in virtual (VR), augmented (AR) and mixed realities (MR) and in their combinations in blended hybrid spaces of extended reality (XR) in which physical environment, people and mixed reality meet and blend into something novel and useful for the innovation processes. BIIDEA is funded by the Business Finland and Geography Section at the University of Turku. The viewpoints of this report do not necessarily correspond with those of these funding agencies. The report was composed by prof. Jussi S. Jauhiainen with the help of the working group consisted of Katriina Eskola, Johanna Junnila, Evelina Kuurne, Tessa Leivo and Ada Virnes. See: <https://sites.utu.fi/biidea/en/>

Abstract: Event industries and other event organizers in Finland: from the COVID-19 pandemic towards sustainable development and virtual realities

This report examines the development of the event industry and other event organizers in Finland during the COVID-19 pandemic. In addition, the event organizers' views on the implementation of events after the pandemic are also looked into. The report draws attention to sustainable development and responsibility of event organizers and to the potential of virtual reality (VR) and augmented reality (AR) in the implementation of events. In virtual reality (VR), a simulated world is experienced with VR glasses and other digital technology devices. In augmented reality (AR), the actual physical environment is complemented by digital 3D characters and elements at events.

The effects of the pandemic and the future opportunities for the event industry and other event organizers were studied through surveys, phone interviews and media discussions. In April 2021, 75 Finnish commercial and non-commercial event organizers from different fields (culture, sport, seminars and fairs, others) and of different sizes (34 having less than 10, 26 having 10–49 and 15 having at least 50 employees) responded to the survey on the Internet. In addition, 24 event organizers were interviewed by phone. Finnish and foreign media and scientific articles on the implementation of events during the pandemic were also examined. The datasets were analyzed quantitatively and qualitatively by means of a content analysis.

Just before the COVID-19 pandemic, the annual turnover of the event industry was estimated to be EUR 2.35 billion, employing directly 20,000 people and indirectly 100,000–150,000 people in Finland. In addition, other non-profit organizations produced thousands of events annually. As of March 2020, restrictions on the gathering and movement of people and the implementation of events and related services were imposed in Finland. Almost all (85%) of the studied event organizers either postponed or cancelled their events. However, new key insights were discovered. These insights included, for example, hybrid events, in which some participants were physically present at the event whereas some participated remotely. Some events were attended only remotely, for example, by following a live stream. Three out of four (76%) organizations turned an existing physical event into a remote or a hybrid event. Despite this change, very few individual options for participating were carried out in the events. Hybrid events were expected to take place also after the pandemic. Nearly half (43%) carried out a virtual event during the pandemic.

In 2020, the economic significance of the event industry decreased by over EUR 1 billion, and thousands of employees were laid off or left temporarily without work both directly and indirectly. Nearly one-third (29%) of the responded event organizations reduced their staff. During the pandemic, 40% of the organizations substantially reduced their number of events, especially large events for thousands of participants.

Few (13%) event organizers had their own experience in the use of VR or AR headsets during the pandemic. Every fourth (24%) applied VR or AR to their events. Almost a third (31%) argued that implementing VR/AR was currently suitable for the events, and two-thirds (65%) were interested in applying these technologies. However, despite the vast interest, the possibilities of VR/AR are not yet sufficiently known. In addition, organizing remote and virtual events requires significant resources and the logic of economic returns must be carried out differently from traditional physical events.

In their opinion, all respondents had taken sustainable development into account in their events. Two out of three (63%) estimated that the carbon footprint decreased as a result of remotely accessed events. Few event producers had calculated the carbon footprint of an individual event (17%) or had conducted the organization's environmental or sustainability report (16%). Furthermore, only a few respondents enabled their event participants to compensate for the environmental costs incurred (17%). According to almost every event organizer, they should encourage participants and the public to sustainability.

1. Introduction

The event industry is a significant economic field in Finland. It is covered by approximately 3,200 companies from many sectors. In 2019, the turnover of the industry was estimated to be EUR 2.35 billion. It employed 20,000 people directly and the total employment in the sector was between 120,000 and 175,000 people (Wirén et al. 2020b; Tapahtumateollisuus 2021). Events are also carried out on a voluntary basis without seeking financial profit by thousands of associations and organizations in Finland. Both companies and non-profit associations and organizations are event developers, but the actual event industry is considered to include only those who operate in the industry through business.

The assessment of the quantitative development and the impact of the event industry is made challenging by the fact that the event industry is not a separately recorded industry in the statistics, but it includes actors from different industries. These actors include event organizing, performer and programme services, digital event services, event technology and construction services, sales and rental, rental of event venues, planning and consulting related to events, ticketing services, event ancillary services, and other special services related to the event sector (Wirén et al. 2020b). The task of event industry operators is to generate events-related business and to professionally increase the material and intangible value associated with the event. On the other hand, associations and organizations may also have an essential motive for generating events, but it may not be to increase the material value of the event or the related business.

An event is a planned occasion based on people's encounters and gatherings. People can be either physically close to or away from each other, brought together by digital means of communication. An event shares content that will influence and bring about change in audiences, customers and other participants. Furthermore, an event is always limited in temporal and geographical terms, i.e. it only exists in a specific location temporarily. It can be either one-off or multiply repeated and serially based (Tapahtumateollisuus 2020). The level of digitalization varies: many event organizers have been quite slow to move on to digitally immersive events in which the entire event administration has been digitally implemented and in which digitalization is widely used in the marketing and implementation of the event (Ryan et al. 2020). This regards also the use of virtual and augmented realities in event promotion, production and delivery.

An event is linked to significant flows of materials and intangible experiences, and it often involves other business activities, such as transport, restoration and accommodation services. These activities are usually organized by other than proper event organizers. This subcontracting network is closely linked to a single event, however, the actors in the network usually work also for other events. Events involve other business, purchase and sale, as well as consumption in the form of ancillary products and ancillary services (Tapahtumateollisuus 2020). An event can be either paid for or be free of charge, and it can be either carried out by professionals or by volunteers. Before all, events have financial implications outside the actual event. As a result, many cities and other localities are interested in getting different events in their area.

The COVID-19 pandemic caused a vast change in the implementation of events. The effects of the pandemic have concerned organizing events themselves (events have been cancelled, postponed, converted into a remote event or into digital format et cetera), rituals of events (opening, gatherings, closing ceremony et cetera) and places where they may have been held (from closed to open spaces, safe distances et cetera) (Seraphin 2020). In March 2020, the Government of Finland declared a state of emergency in the country. As a result, people's gathering, mobility and activities in public and private spaces were severely restricted and the organization of events was prohibited. Thus, the conditions for the execution of events were substantially limited. A large number of events were either cancelled or the number of participants and ancillary activities were reduced substantially. According to the studies commissioned by the event industry, nearly 10,000 employees were laid off in the sector during 2020 and nearly 140,000 temporary employees were not

recruited. It is estimated that the turnover of the companies in the sector decreased by 60% (Wiren et al. 2020b), 74% or even 95% (Tapahtumateollisuus 2020). These dramatic assessments were made in the early stages of the pandemic in the summer of 2020. At that time, the event industry's capability to adapt to the situation and renew their offerings in a new context was not yet taken into account. The sector contracted sharply as a result of the restrictions of the COVID-19 pandemic, but this creative destruction also led to new, successful actions. Some operators in the industry were able to be agile and innovative, and they turned challenges into opportunities with the development of new events and activities. For some operators in the event industry, both personnel and turnover increased during the pandemic.

One challenge for the event organizers was that no one was able to reliably assess how the pandemic would develop globally or in Finland in the spring of 2020. More than one year after the outbreak of the pandemic, in the spring of 2021, the future was still uncertain. The implementation of events is always planned with respect to the future. Therefore, the industry was forced to act in a constant uncertainty during the pandemic. Another noteworthy aspect was that the morbidity and the risks of illness varied widely in Finland at different times and regions (Figure 1; Figure 2). The restrictions also changed several times between spring 2020 and spring 2021 in temporal and regional terms. Sometimes the restrictions were loosened or even lifted only to be tightened again. Some restrictions were regional, while others were applied all over Finland, despite the relative or absolute number of people affected by the virus. The areas that were the most important to event organizers, i.e. the Helsinki Metropolitan Area and the Turku region, had very strong restrictions well into spring 2021. Thus, during the spring of 2021, many major events were cancelled or postponed for the rest of the year. In addition, international travel restrictions had a negative impact on the tourist season both in the summer and in the winter. The before mentioned development affected certain, tourism-dependent regions, such as Lapland, very gravely.

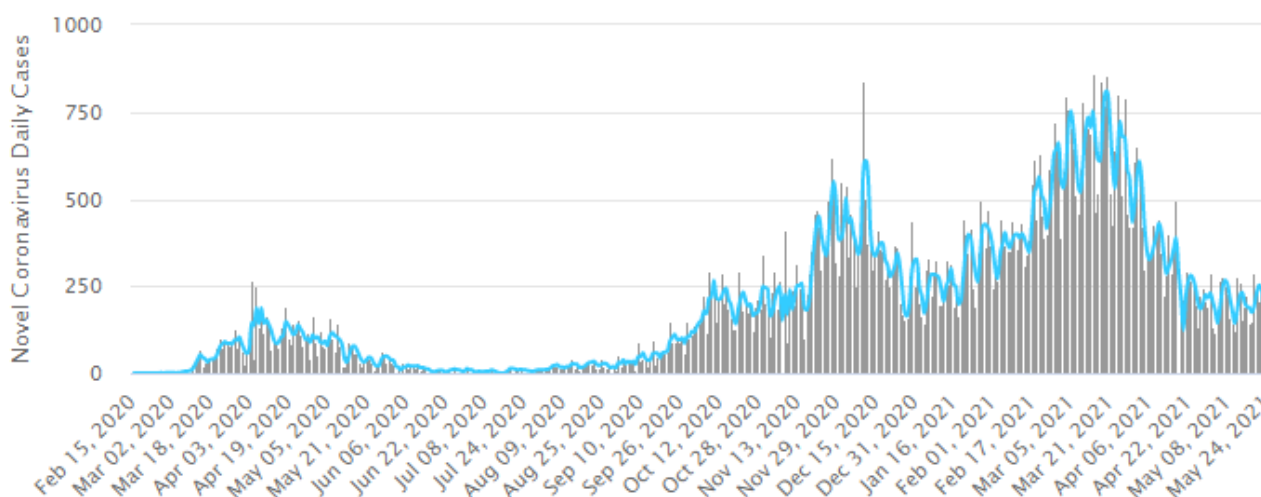


Figure 1. Daily number of coronavirus (SARS-CoV-2) infected cases and moving weekly average in Finland from February 2020 to May 2021. Source: Worldometers (2021).

At the time of the writing of this report, in May 2021, the third wave of the pandemic was fading in Finland. Infections within the last two weeks had fallen to fewer than 100 cases per 100 000 inhabitants in almost all regions. Only a few areas in Finland were still in the spreading phase (Figure 2). As a result, the state of emergency had ended and the gradual opening up of public and private sector activities had begun. At the beginning of May, gatherings in the Helsinki Metropolitan Area and the Turku region were still restricted and restaurants, for example, were allowed to remain open until 7 p.m. Serving of alcohol had to end at 5 p.m.

Due to the restrictions, many events were transformed into hybrid events, in which some participants and audiences were present and some followed the events remotely by using digital connections. On the other hand, several events scheduled for the summer of 2021 were cancelled or postponed until autumn or one year ahead. The pandemic and its limitations had not yet been eliminated in Finland in May 2021, but the event organizers had turned their attention hopefully to the post-pandemic period. There is no going back to the past, so events will most likely be organized differently than before the pandemic, at least to some extent.

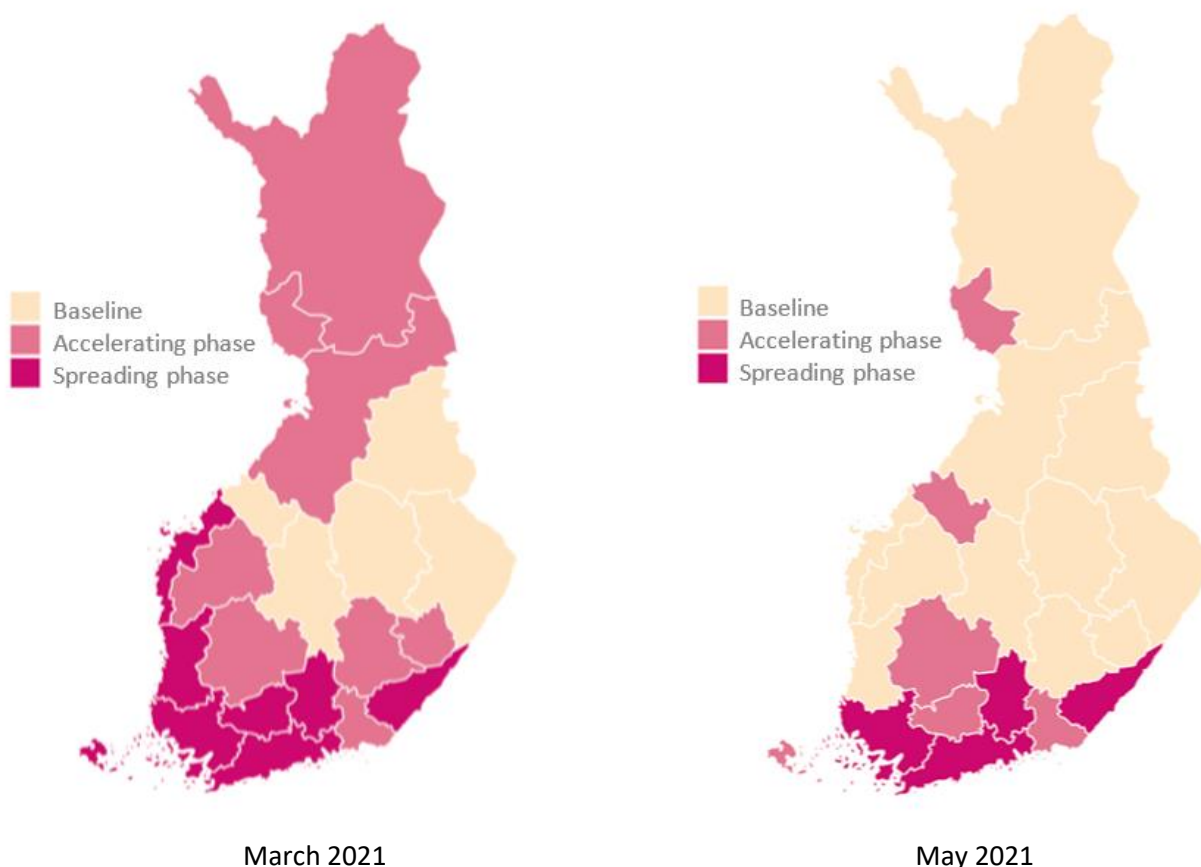


Figure 2. Regional situation of the coronavirus (SARS-CoV-2) epidemic in Finland in March 2021 and May 2021. Source: Terveystieteiden tutkimuskeskus (2021), Sosiaali- ja terveysministeriö (2021).

This report examines the development of the event industry during the pandemic, as well as event organizers' views on the post-pandemic period. The report targeted Finnish event promoters of different sizes and from a wide range of fields. These fields extended from sports to galas, from music festivals to events in visual and intangible culture, and from entertainment to religious events. In some organizations, event production formed their main activity, whereas for some they were otherwise essential. The material is introduced more in detail in Chapter 3. The report examines, for example, the development of the number of employees and events of financially profit-making companies and non-profit associations and organizations, as well as changes in the implementation formats of events. The views of event promoters on their field in relation to sustainable development and responsibility are also expressed. Based on the data, the actors will also reconsider the extent to which they have experience in and insights into the possibilities of virtual reality (VR) and augmented reality (AR) as part of a renewed event production in the post-pandemic period.

The report answers the following questions:

- How did the activities of the event organizers change during the COVID-19 pandemic?
- What views did the event organizers have on their activities toward the post-pandemic period?
- How did the event organizers view sustainable development and responsibility in their operations?
- How did the event organizers view virtual reality and augmented reality in the event production before, during and after the pandemic?

Basic information on companies, associations and organizations in the field (such as personnel, operations and location) was obtained from the Internet databases and through surveys and interviews. The main material was a survey carried out on the Internet in April 2021. The survey was sent to event producers of different sizes and sectors as planned. There were 20 questions in the questionnaire, 18 of which were multiple choice selections. Seventy-five industry operators from all relevant sectors of event implementation from all over Finland replied to the questionnaire. The organizations carried out events in different formats and in different amounts annually. In addition, in April 2021, 24 representatives of the event industry from different fields were interviewed. The interviews specified the views of the industry actors on the effects of the pandemic and the restrictions related to it, and the use of virtual and augmented reality in the industry was addressed as well. Articles on Finnish (70) and foreign (86) media and scientific publication series and other reports were collected (61) as a background in the implementation of events during the pandemic. In total, 217 articles and other reports were analyzed. In addition to the author of the report, professor Jussi S. Jauhiainen from the University of Turku, research assistants and interns Katriina Eskola, Johanna Junnila, Evelina Kuurne, Tessa Leivo and Ada Virnes worked on the BIIDEA project. They helped collect the data and assisted in the analysis of it.

2. Discussion about the COVID-19 pandemic impact on the event organization

The COVID-19 pandemic and the restrictions related to it had concrete effects on the implementation of events in Finland and around the world. The introduction already presented figures from the reports submitted to the national event industries association, Tapahtumateollisuus ry as a commissioned survey concerning business and employment in the sector. Based on these, the effects of the restrictions in Finland were very significant – the consequences were the loss of tens of thousands of labour-years and a reduction in the turnover of the sector by hundreds of millions or even well over EUR 1 billion during 2020 (Widén et al. 2020a; Widén et al. 2020b; Tapahtumateollisuus 2021). Associations and organizations were also forced to change and generally reduce their activities related to events. A precise assessment of all economic impacts will still take time, especially as the pandemic restrictions were still in effect in spring 2021.

The impact of the pandemic on the implementation of events was discussed in international and Finnish media and scientific publications (for example, Seraphin 2021). There are differences in the content of media debate and academic discussion. The media can and often immediately react to phenomena and describe them in the current context. The media debate quickly raises certain issues, and some do not get as much column space there as others. Similarly, different sectors and regions (such as states) have different weight in media debates. Instead, the process of publishing academic peer-reviewed studies is slow and often takes up to more than a year before the submitted manuscript is approved. At the same time, the science-based debate must be based on careful analyses of the situation.

2.1. Discussion in the Finnish media

The search of Finnish news articles that discussed the implementation of events during the pandemic was conducted mainly with the search functions of The Finnish Broadcasting Company (YLE) and the largest national daily newspaper Helsingin Sanomat. The used timespan covered everything from March 2020 to April 2021. In addition, other news of the topic were found elsewhere on the Internet, and reports on the topic were also included in the research material. A total of 70 news items, articles and reports were found. Half of these were news about remotely organized events (53%) and around one in four dealt with the economy and financial support (27%). One in seven addressed the general challenges facing the event industry (14%). The rest covered the studies in the field and the perspectives of the thematic working group (6%).

The discussion on the implementation of the events focused almost entirely solely on Finland and Europe, and it concerned mainly the ongoing pandemic period. All (100%) manuscripts mentioned Finland in one way or another. In addition, almost all (94%) focused on Europe (including Finland). There were very few articles focusing on other continents (North America 3%, Asia 1%), and some continents were not mentioned at all (South America, Africa, Australia and Oceania). Almost all articles (94%) dealt with the time during the pandemic, and a few also dealt with the period before the pandemic (7%). One in five examined the future (19%).

When considering the effects of the pandemic, employment and the changes in it were one of the most prominent topics. They were mentioned in 34% of the Finnish articles. In contrast, changes in participation (9%) or sustainable development (3%) were rarely mentioned. Financial support was the most commonly mentioned topic regarding responding to the pandemic (36%). Lobbying related to the event industry was also mentioned fairly often (29%). In addition, individual news items mentioned, for example, demonstrations related to insufficient financial support (3%). At the beginning of the pandemic, many sectors reported losses of thousands or even millions of euros. Many cultural activities were excluded from the

subsidies and the restrictions were strongly imposed on, for example, restaurants. The news revealed the small amount of subsidies and the challenges it presented: many of the employees in the event industry were freelancers who were hardly covered by the subsidies.

In the majority of the examined news and reports, there was no mention of the fee of the events. About one in four dealt with events without a fee (27%) and one in six (16%) addressed events with a fee. Live streams (40%) were most frequently mentioned. Examples of these kinds of events included a wedding fair online, remote celebration of Finnish upper secondary school students, virtual festivals and film festivals. In connection with these, the disadvantages of fake events and phishing people's personal data and bank IDs were also covered. There were also some mentions about virtual and/or augmented reality events (14%). VR headsets had been used in sport, education and school education events, and virtual trips. By contrast, there was only a single mention of hybrid events (1%).

One broader media discussion concerned the event guarantee presented by the Finnish Minister of Economic Affairs Mika Lintilä in February 2021. The guarantee would target annual public events to be held in summer 2021 for more than 200 people. This was seen as a positive opening, but at the same time many actors in the event sector (e.g. summer theatres, sports series, music clubs and the activities of exhibition and convention centres) would be excluded. However, the Ministry of Education and Culture prepared special support for theatres and summer theatres.

2.2. Discussion in the international media

In the international media, discussion on the implementation of events during the pandemic was mainly sought from sources that were written in English. Again, the search was conducted online, using the timespan from March 2020 to April 2021. A total of 86 news articles were found.

The debate on the implementation of events was mainly focused on North America (especially the United States) (36%) and Europe (34%). Finland was mentioned rarely, i.e. in four news reports (5%). There were very few articles focusing on other continents (Asia 8%, Africa and the Middle East 8%, Australia and Oceania 5%), and there were no mentions of South America. Approximately 13% of the articles were about global topics. A significant proportion of articles (85%) discussed the pandemic period. The time before the pandemic (12%) was less often discussed, but on the other hand, more than a third dealt with the future (36%). The news coverage had a wide range of virtual events. These included a VR film festival, a virtual Pride festival, a fundraising gala and different congresses. Some of the congresses were participated in with VR headsets, or, more simply, by following live webcasts.

When considering the effects of the pandemic and the restrictions imposed, unemployment (10%), participation (10%) or sustainable development (9%) were mentioned moderately rarely in the news. As to the reactions to the pandemic, financial support (10%) or lobbying related to the event industry (2%) were rarely mentioned in the news. Based on the examined texts, many of the event organizers felt that their field had been left without sufficient supportive resources. The event organizers had not received enough support to protect their activities, and many had lost jobs, even though the aid had been granted.

However, positive experiences were discussed in the news as well. Artists had organized home-made live stream concerts independently and through service providers. These live stream events had functioned as either a paid or free route for fans to interact with their idols. The VR concert in Paris was watched by up to 75 million people around the world. Although many events were free of charge, large audiences brought artists revenue through advertisements, merchandised products and VIP packages, among other things. The events increased the number of followers of artists and the streaming of their music.

VR technology was also considered to bring opportunities for sport. The new generation of spectators is used to watching sports on screen and longed for a more interactive experience. In the United States, major sports leagues had developed their VR/AR material, as virtuality allowed athletes to connect more directly with fans and to provide additional material. On the other hand, VR was seen as a vision for the future, as the technology was not yet considered sufficiently advanced. Similarly to music and culture, virtuality allows athletes to connect with fans with supportive material.

There were very few individual news items about religious virtual events. The Christian Church seemed to welcome the opportunities offered by the technology. The VR Church events were attended especially by those who would not otherwise go to church and who found it easier to discuss certain issues virtually. According to the developers, there was less engagement in the opportunities offered by virtuality in the Muslim community, even though, for example, a virtual pilgrimage had been developed. As to culture, according to the news reports, VR supported the physical performance experience of the opera and theatre world. In Finland, for example, the Finnish National Opera collaborated with the Finnish VR company Varjo, and the aim was to combine VR into opera. In the United States, a VR opera had already been arranged remotely: those wishing to participate were provided with VR glasses at home.

Event organizers had utilized virtual events extensively. In addition to organizers, the majority of marketers in the industry felt that virtual sponsored events were effective in terms of marketing and sales speed. On the other hand, business-to-business (B2B) marketing was not always as effective as physical marketing. In the news items, it was estimated that up to half of the B2B events would be virtual and one-fifth would be hybrids in the future.

There were other challenges in the aforementioned digital leap. Virtual events were not fully perceived as the saviour of the traditional event industry, as they did not locally employ the employees of the production chains of the events like physical events did. It also became a challenge that network connections were not sufficient everywhere. However, it was found that the event industry had changed permanently. Hybrid events enabled greater inclusion and additional features and facilitated the organization and sustainability of events. Virtual events, on the other hand, offered a new kind of interaction and broader inclusion. In the future, more events will probably be held utilizing hybrid and virtual formats.

2.3. Discussion in the international academic research

Discussion in the international scientific research on the implementation of events during the pandemic was mainly searched on the Internet from March 2020 to April 2021. A total of 61 articles and writings were found. Of these, three out of four (74%) were articles. In addition to these, there were, for example, books, chapters, theses and reports. Nearly two out of three (62%) of the writings had a global perspective, but half of the writings dealt with Europe (49%) and a quarter with North America (26%) (e.g. Dilletta & Ponting 2020; Drewes et al. 2020; Parnell et al. 2020). Other regions were substantially less dealt with: Asia 15%, Australia and Oceania 13%, South America 10% and Africa 8%. Some of the studies specifically concerned the Global South (e.g. de Jesus 2020; Ebrahim & Memish 2020; Runde et al. 2020). Some of them had collected data from all over the world (e.g. Museums... 2020a; 2020b). On the other hand, Africa was represented only in studies describing other regions, not as an independent entity.

Two out of three articles (66%) dealt with the pandemic period and quite a few (44%) discussed the future. A lot of research on the subject had already been published, although the pandemic only started in 2020. At the beginning of the pandemic, the spread of COVID-19 infections at mass events was discussed (Ebrahim & Memish 2020; Lee Ludvigsen & Hayton 2020). Early sources put together examples of changes and analyzed

the future based on previous research. The consequences of the early stages of the pandemic, such as the cancellation of events and changes (e.g. the commission's decision to combat the pandemic: Moon 2020), replacement activities (e.g. Clerkin & Taylor 2021) and the impacts on the economy and community (e.g. Florida & Seman 2020) were examined later. The future focused on better preparedness and the need for new theories, such as innovation (Dillette & Ponting 2020).

The pandemic was found to wretch conditions for vulnerable people (de Jesus 2020) and creative industries (Florida & Seman 2020; Runde et al. 2020). Various actors have rapidly developed new modes of operation and resilience, as physical spaces were not accessible to customers anymore. For example, libraries and museums found new operating formats (Tammaro 2020; Clerk & Taylor 2021). On the cultural side, coping with a crisis was supported, for example, by the support from the state and by an already established position: globally, old and large stakeholders in the global north were in the best position, whereas, for example, in the global south, several small and more recent actors were threatened with closure (Museums, museum professionals... 2020).

The pandemic affected almost all aspects of society. Some studies focused on direct effects, others considered indirect effects. For example, in football refereeing, the lack of audience mitigated the home team's advantage (Bryson et al. 2020). Similar detailed analyses of the impacts appeared frequently in the articles.

The use of augmented and virtual reality was studied even before the pandemic (Kersting et al. 2021; Wreford et al. 2019), although webinars and live streams were the most frequently studied fields (Estien et al. 2021; Devindriati Kusuma 2020). The studies highlighted the ease of participation, lower costs and the accessibility of events, for example, regardless of travel distances and busyness (Healthcare professionals' experiences... 2020).

Through VR, events could be more widely experienced, but VR content was not yet considered a substitute for a live event. It could be used to engage the public and strengthen a positive image of the event organizers. The application of AR to watching sports was also studied (Bielli & Harris 2015; Zollman et al. 2019; Moro et al. 2019). The AR research focused especially on mobile devices.

3. Implementation of events in Finland during the COVID-19 pandemic

This chapter examines the implementation of events in Finland before and during the COVID-19 pandemic. It presents the development of the number of employees of commercial and non-commercial organizations that carried out the events as well as the changes in the number of events carried out. Furthermore, the development of the forms of events during the pandemic, as well as the impact of economic subsidies on the event organizers, were studied.

The assessment of the impact of the pandemic on event organizers was based on responses from 75 industry organizations. The mentioned survey was conducted on the Internet in April 2021, and the telephone interviews with 24 industry organizations were also held in April 2021. The surveyed and interviewed organizations were carefully selected to represent a wide range of industries, ages, profit aspects and sizes from all over Finland.

In this report, organizations were classified under the following sub-groups: sports, culture, seminar, other and multidisciplinary, according to the events they carried out. Three out of four of the 75 studied organizations (73%) were focusing on one industry. These included sport (13%), culture (31%), seminars, congresses and education (11%) and other events (12%). The category 'others' included, inter alia, political or religious events, galas and the organizations that organized Christmas markets. In addition to the above, there were organizations whose events covered several industries (27%). These multidisciplinary actors often carried out seminars and other events, but less often sports or culture and other events. The respondents were classified according to the activities during the pandemic.

Sports organizations were either small (50%) or medium-sized (50%). Before the pandemic, there was one organization that had over 50 employees. All but one had been established before the 2010s. During the pandemic, everyone was still hosting sporting events, but one operator also took other events alongside them.

One-half (52%) of the **cultural organizations** were small, but the category also had medium-sized (26%) and large (22%) operators. Almost all (91%) organizations were established before the 2010s. Two organizations (9%) did not organize any events during the pandemic and two (9%) were multidisciplinary organizations before the pandemic, but focused only on cultural events during the pandemic.

The **seminar organizations** were of different sizes: small (13%), medium (37%) and large (50%). All but one had been established before the 2010s. There were changes during the pandemic: one organization did not carry out any events at all and another moved on to carry out other events. In addition, one organized previously a wide range of events but moved on to organize only seminars during the pandemic. In addition, there was one who had not organized any events in the year before the pandemic.

Organizations of other events were predominantly small (67%), but there were also medium-sized (11%) and large (22%) organizations in the category. With the exception of two, all had been established before the 2010s. During the pandemic, a few multidisciplinary organizations and one seminar organization joined the group.

Multidisciplinary organizations that carried out events in different fields were often small (40%) or medium-sized (45%). Only few were large (15%). This category included more young organizations compared to the other ones, i.e. three out of four (74%) were established before the 2010s, and a quarter (24%) were founded after 2010. One organization (2%) was established during the pandemic. During the pandemic, there were more changes in the multidisciplinary group compared to the aforementioned organizations. Part (25%) moved away from this group and focused only on one industry. One organization moved to this group from the implementation of sporting events and one had not organized events in the year before the pandemic.

As stated above, almost all (90%) of the organizations that responded to the survey continued to operate in the same industry as before the pandemic. Almost all of those who changed industries moved on to focusing on only one industry. One organization moved from one industry to a multidisciplinary category, and the other moved from organizing seminars to other events. On this basis, the effects of the pandemic led to a change in the event fields only in a few organizations.

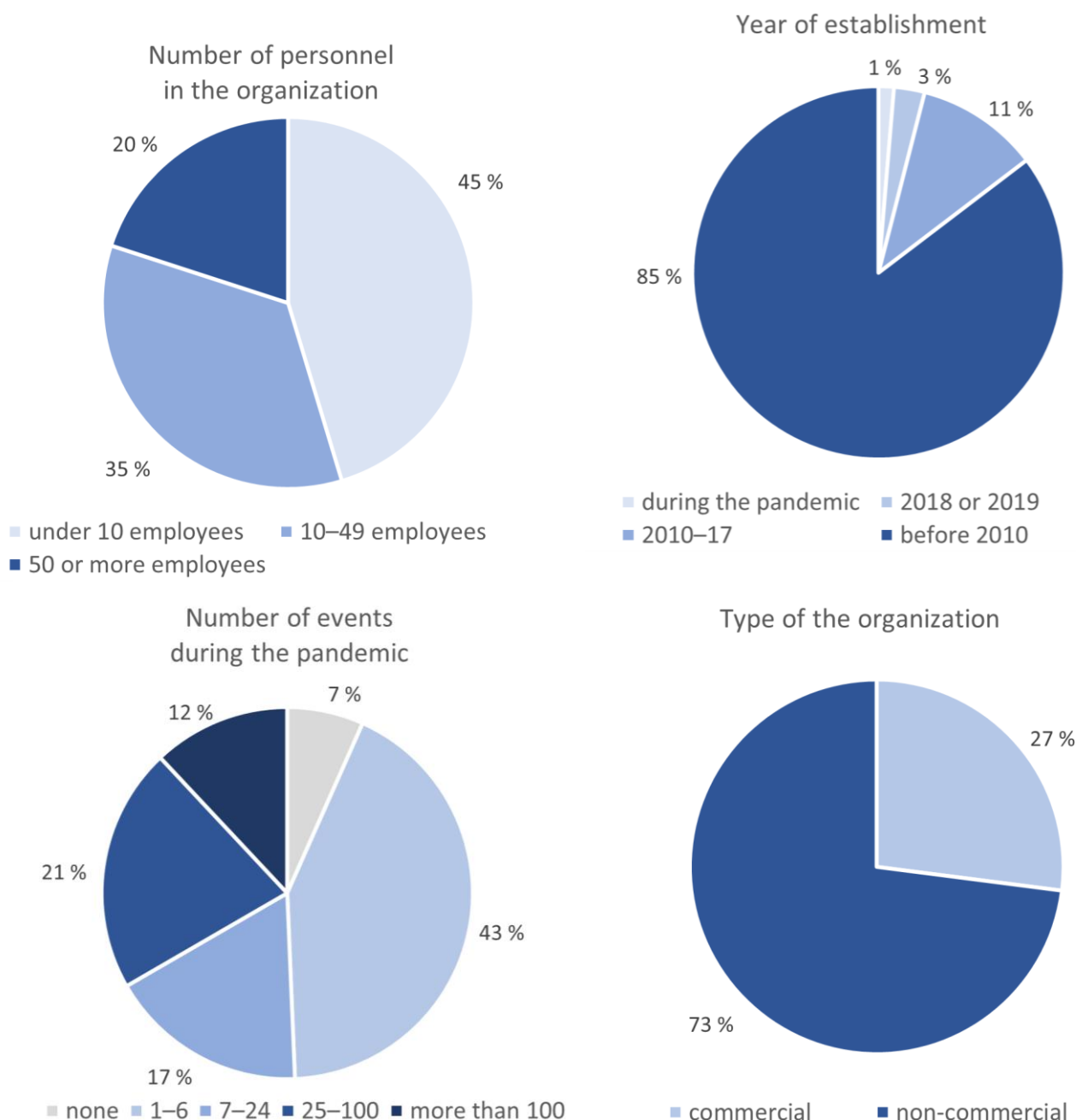


Figure 3.1. Event implementing organizations surveyed in 2021 (N=75). (1) the size of the organization in terms of personnel, (2) the year of establishment, (3) the number of events organized during the pandemic, (4) the form of the organization in accordance with the financial objective.

Of the respondents, 45% had a small staff (organizations with fewer than 10 employees), whereas 35% had a medium-sized staff (organizations with 10–49 employees) and 20% had a large staff (organizations with 50 or more people) (figure 3.1). Clearly the majority of the surveyed organizations (85%) were established early,

before 2010, i.e. they had been carrying out events for more than 10 years. Only 14% were established in the 2010s and 1% were established during the pandemic. There were some differences in the size of the organizations that had been in business for more than 10 years: 22% of the older organizations were large in size. In contrast, only 9% of the newer operations were large. Not surprisingly, 67% of the newest organizations (established after 2018), were, at least for now, small in terms of personnel.

Of the surveyed event organizers, 28% were looking for financial profit with their events. The remaining 72% were organizations and associations whose main motive was not the pursuit of financial profit. However, the events they organized could result in an economic gain or had only other intangible benefits for the implementer.

The number of events carried out by organizations ranged from one or a few events annually to more than 100 events. During the pandemic year (spring 2020 – spring 2021), 7% of the respondents did not organize events, 43% carried out a few events (1–6 events per year), 17% organized events just under or more than monthly (7–24 events annually), 21% organized events approximately weekly (25–100 times a year) and 12% carried out events very often (more than 100 events per year).

3.1. Quantitative development of personnel

Three out of five (59%) of the organizations estimated that the number of employees did not change substantially within one year of the start of the COVID-19 pandemic (figure 3.2). Approximately one-third (29%) of organizations reported that their personnel had decreased in size. These organizations were typically medium-sized or small. In relative terms, there was a large number of multidisciplinary event promoters and organizations that carried out cultural events. In newer organizations, the number of employees during the pandemic decreased less frequently than in organizations that were over 10 years old. Normally, organizations that had reduced their staff had either decreased the number of events or these remained the same. Some organizations that reduced their staff number did not organize any events during the pandemic. As a detail, 56% of organizations that received the so-called coronavirus financial support from Business Finland or from somewhere else reduced their staff during the pandemic.

The pandemic and the related restrictions did not always lead to a reduction in operations or employees. One eighth (12%) of the event organizers reported that the number of employees increased during the first year of the pandemic. Thus, there were few organizations that increased the number of their personnel, and they were from every size category (44% of these were small, 33% medium and 22% large). In relative terms, large organizations (13%) increased their personnel equally when compared with medium-sized (12%) or small organizations (12%). In relative terms, organizations operating in many event fields were most often growing their staff. They found growth via some activities, although others contracted. Organizations that increased their staff during the pandemic were relatively more often under 10 years of age (27% of all) compared with older organizations (9% of all). In general, the increase in the number of the staff meant that the number of organized events either at least remained the same or rose. The change in the formats of events required new specialized staff. Of the organizations that had increased their personnel, only two reported a decreased number of events during the pandemic.

The development of net sales and operating profit among the event organizers was difficult to assess accurately. Some respondents organized events without a goal of financial gain. In addition, some of the final economic results for 2020 had not yet been announced in the spring of 2021. According to the Association of Events Industries, almost all (94%) of the event organizations that responded to their survey in October 2020 reported decreased net sales during the pandemic when compared with 2019. According to a survey conducted in March 2021, turnover had decreased in the field even more: 99% of the respondents reported so (Sahlstedt 2021). In the summer of 2020, it was estimated that the total decrease in the turnover in the

event industry was 63%, or approximately EUR 1.5 billion compared to the pre-pandemic period (Wirén et al. 2020b). On the other hand, this assessment was made before there was awareness of the dynamics of the industry. In 2021, net sales were expected to rise again if the pandemic restrictions would be loosened substantially from summer 2021 onwards. The assessment of the economic impact of the pandemic and restrictions requires a detailed analysis of both the event industry and other organizations carrying out events for the period 2019–2021.



Figure 3.2. The development of the number of personnel in event implementation organizations during the pandemic. (1) small organizations (fewer than 10 employees) (N=34); (2) medium-sized organizations (10–49 employees) (N=26); (3) large organizations (at least 50 employees) (N=15); (4) all organizations examined (N=75).

3.2. Quantitative development of events

The number of events carried out changed as a result of the restrictions of the COVID-19 pandemic (Figure 3.3). In general, the number of events decreased. With regard to the material acquired, it was not meaningful to consider the change in the exact number of individual events. For example, there would have been a

significant difference if one event with more than 1,000 participants had been cancelled compared to, say, two cancelled events, for which there would have been a few dozen participants. For some organizations, the number of organized events did not change during the pandemic. Typical of these organizations was their small size and the fact that they organized events in many fields, sports or culture.

A substantial decrease in the number of organized events was considered to have happened when the organization moved lower in the category of organized events (more than 100 events -> 25–100 -> 7–24 -> 1–6 -> 0 event). During the pandemic, the activities of organizations that had previously organized a large number of events annually decreased particularly much. Looking at the category of organized events, 40% of the organizations moved down in it. However, the number of events decreased much more because the biggest change was seen in specifically those actors who had organized a very large number of events each year. In 2019, 29% organized more than 100 events, while during the COVID-19 pandemic (within one year) the share was 12%. The number of organizations implementing no events at all was very small, and there were no major changes during 2019 and the first year of the pandemic (5% vs. 7%). The number of organizations who organized up to six events a year increased substantially (31% vs. 43%). Before the pandemic, large organizations organized relatively more events than small ones: 60% of large organizations (at least 50 employees) held more than 25 events in 2019, whereas only 24% of the small organizations (less than 10 employees) did so.

Based on the data, organizations carrying out cultural events reduced their activities during the pandemic more than those in other industries. In relative terms, multidisciplinary organizers often decreased the number of events. The number of implemented events decreased despite that 89% of the studied organizations had organized hybrid, remote and/or virtual events during the pandemic.

Only a few organizations had increased their number of events during the pandemic (5%). The increase was interpreted as a move to a higher level in the mentioned categories (0 events -> 1–6 -> 7–24 -> 25–100 -> more than 100 events). A particular feature of these actors was that they had not organized hybrid, remote or virtual events in the year before the pandemic, but during the pandemic they organized events using these formats. The transition from physical events to hybrid, remote and/or virtual events also enabled these organizations to grow their activities and reach new audiences. Typical for the organizations that increased the number of events was that they were less than 10 years old and either small or medium in size. These organizations focused mainly on seminars or operated in many fields.

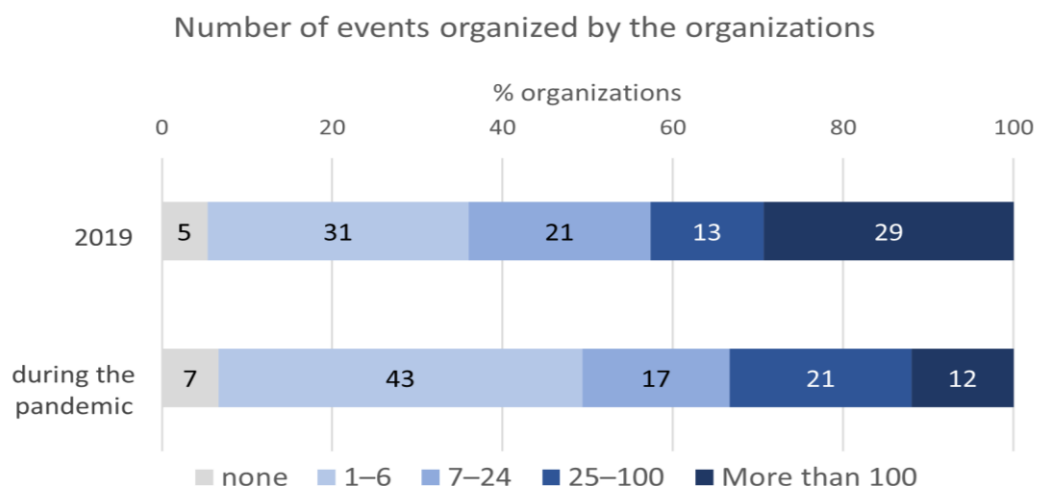


Figure 3.3. Number of events carried out annually before and during the COVID-19 pandemic. (N=75)

The number of organizations that carried out events with thousands of participants decreased substantially during the pandemic (Figure 3.4).

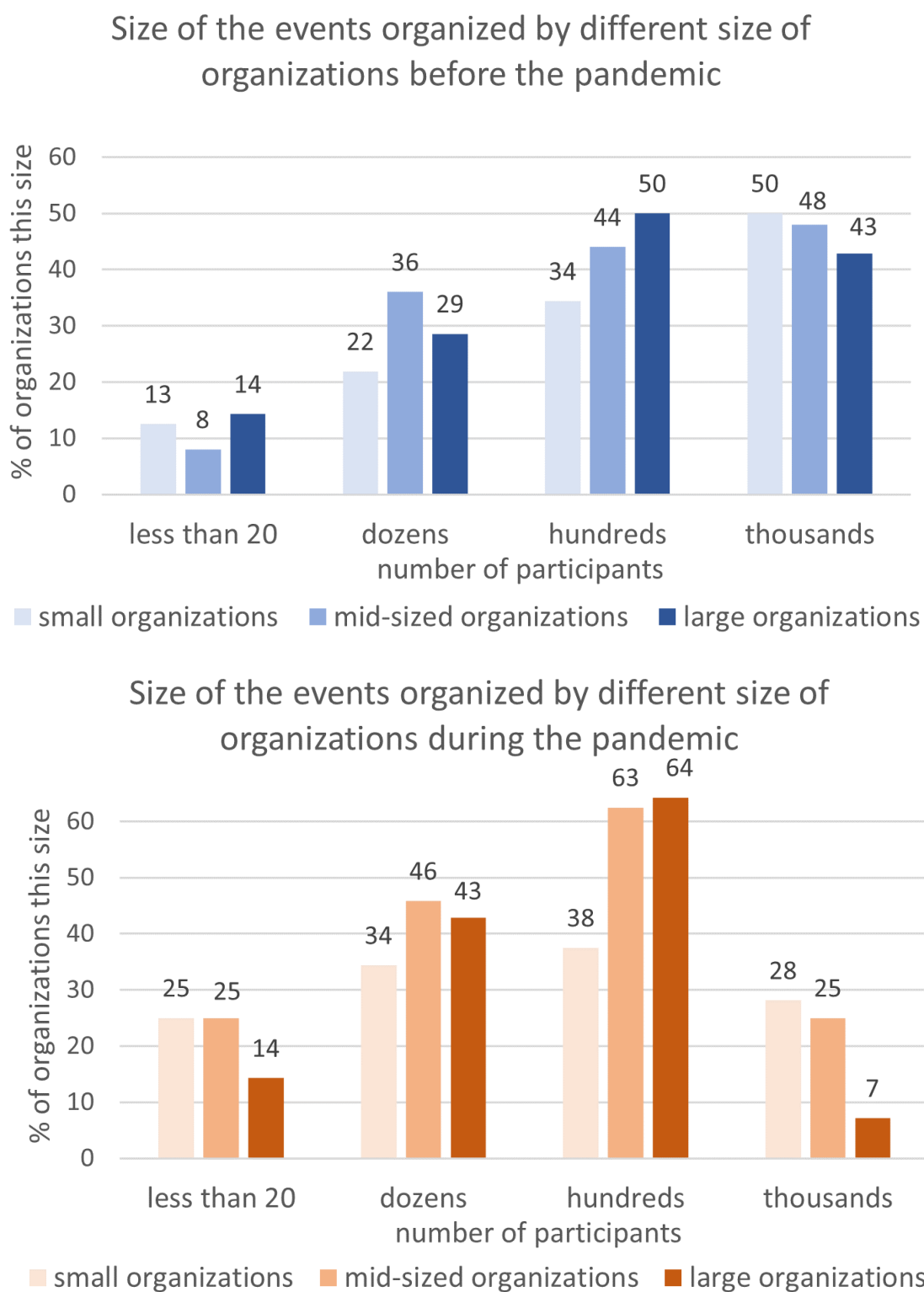


Figure 3.4. The size of the usual events held by organizations before and during the COVID-19 pandemic. (N=70–71)

At the same time, more organizations implemented smaller events. Nearly half (48%) had organized large events before the pandemic but during the pandemic only one in four (23%) did so. Very large events both before and during the pandemic were carried out especially by small and medium-sized organizations that were established before 2010 and that were most often cultural actors. Some organizations that were either multidisciplinary or active in sports were also involved. On the other hand, among those who abandoned these major events, there were older organizers that operated in culture. However, two organizations started to carry out events for thousands of participants during the pandemic, although they had not previously organized them. Both of these were active in multiple fields and carried out virtual events. These organizations also planned to organize virtual events after the end of the pandemic. Both organizations received financial support for their operations. This suggests that they had successfully reformed their activities during the pandemic, aided by societal financial support.

The number of organizations implementing events for hundreds of participants rose (41% vs. 51%) as well as those organizing events for dozens of participants (28% vs. 40%). The number of organizations that organized the smallest (20 participants or fewer) events doubled in percentage points (11% vs. 23%) during the pandemic.

Organizations of different sizes held events of slightly different sizes. Before the pandemic, large vs. small organizations held events attended by: thousands of participants 43% vs. 50%, hundreds of participants 50% vs. 34%, dozens of participants 29% vs. 22%, and by 20 participants or less 14% vs. 13%. During the pandemic, large vs. small organizations organized events attended by: thousands of participants 7% vs. 28%, hundreds of participants 64% vs. 38%, dozens of participants 43% vs. 34%, and by 20 participants or less 14% vs. 25%.

3.3. Development of event formats

It was very typical that events were cancelled or postponed during the COVID-19 pandemic (Figure 3.5). Six out of seven organizations (85%) did so. In relative terms, the most of these were those carrying out events in many fields or culture, and many were medium-sized organizations. Events were also cancelled and postponed in some organizations, in which the staff number increased during the pandemic or which organized more events during the pandemic than earlier. Some organizations did not cancel or postpone events during the pandemic: they were mostly small and 30% had received financial coronavirus support.

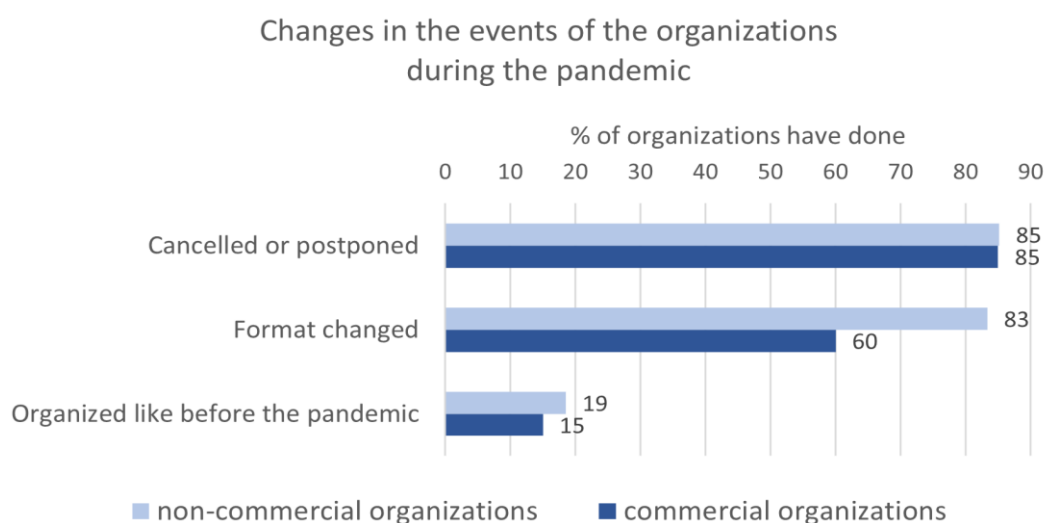


Figure 3.5. Changes in the activities of event implementers during the COVID-19 pandemic. (N=74)

One in six organizations carried out events as before the pandemic (17%). Nearly two out of three of them (62%) organized more than 100 events a year. In relative terms, most often they organized cultural or sport events. The differences between organizations were small. The events that were organized similarly before and during the pandemic were, as a rule, small. In addition, almost all of those organizations that had held at least some events similarly before and during the pandemic, had also held events in hybrid, remote or virtual format.

The pandemic brought significant changes to the event formats (Figure 3.6). Physical events decreased and the number of remote, hybrid and virtual events increased. Almost all organizations (91%) had carried out an event in which the attendees were physically present in the year preceding the pandemic. One in four (24%) had carried out a hybrid event involving both physically on-site and remote presence. The organizations that organized hybrid events before the pandemic were large and either cultural or multidisciplinary organizations. In relative terms, the majority of hybrid events were organized in organizations that operated in many fields (29%). The hybrid model was also used by those who organized cultural and other events. Nearly half were large organizations, and in relative terms, these organized the highest number of hybrid events. Before the pandemic, few had carried out an event involving attendees only remotely (10%) or in a virtual platform (9%).

During the pandemic, the share of organizations that organized a **physical event** decreased by almost half, i.e. by less than half (46%) carried out such a physical event. It was possible to organize such events in the late summer and autumn of 2020, although many had already changed the format of the event as a precaution. In relative terms, the organizers of physical events (both before and during the pandemic) were small and had been in the industry for a long time. In relative terms, many of these operated in either sports or culture. The sports operators in this group were medium-sized ones.

During the pandemic, the number of organizations that carried out **hybrid events** doubled. Every second (50%) organization that organized at least some events during the pandemic implemented a hybrid event. The first-time hybrid event organizers typically included small or medium-sized organizations, and in particular those operating in a multidisciplinary way. Four out of five organizers (80%) had been established before 2010, and well under half had received financial coronavirus support for their operations.

The number of remote **event** organizers multiplied, i.e. three out of four (77%) implemented one during the pandemic. Based on the data, organizations that did not organize a remote event were typically small and implemented either sporting or cultural events. Of these non-organizers of remote events, 56% received financial coronavirus support, and the staff decreased in around one in three organizations. Event organizers that had reduced the number of their employees organized relatively the lowest number of remote events. For-profit organizations implemented relatively fewer remote events compared with non-profit organizations.

The number of organizations that organized an event on a **virtual platform** multiplied (43% during the pandemic, 9% before the pandemic). The organizations that had carried out virtual events before the pandemic continued to do so during the pandemic. The first-time virtual event organizers during the pandemic were especially organizations over 10 years old, but relatively the largest growth took place among newer organizations. Most virtual platform organizers were small and medium-sized organizations. More than two-fifths (41%) received coronavirus financial support. In relative terms, the share of new virtual event organizers was highest among the event promoters operating in many fields.

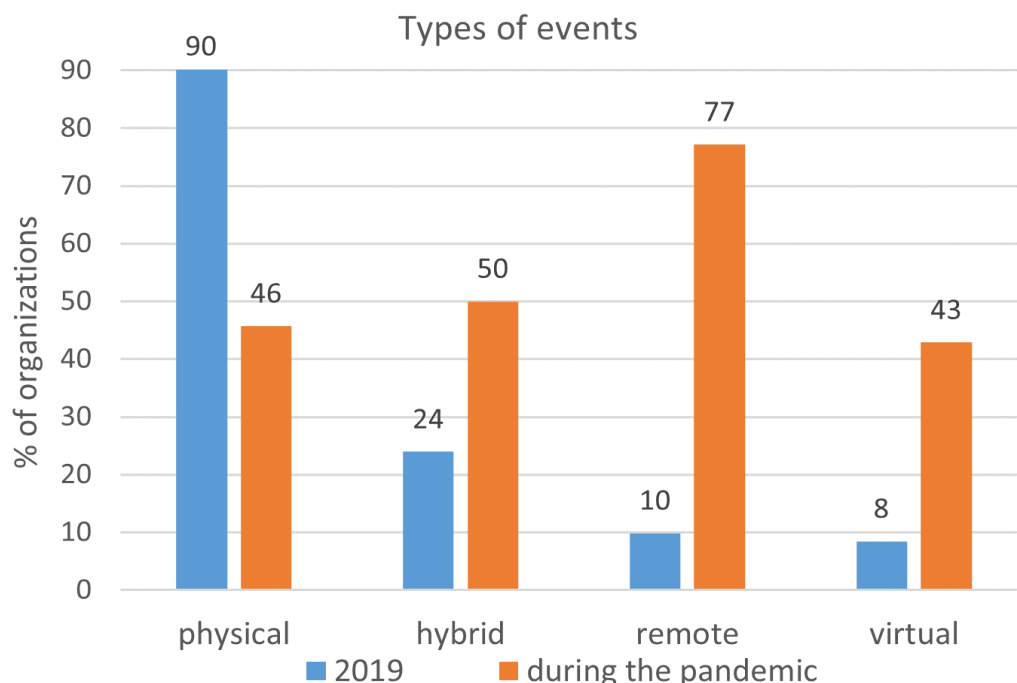


Figure 3.6. Types of events carried out before and during the coronavirus pandemic. (N=70–71)

Three out of four (76%) organizations had changed events to another format, such as from a physical event to a remote or hybrid event during the pandemic. Such organizations operated in many fields or in culture, and they were small or medium-sized. 30% of these had received financial coronavirus support. Multidisciplinary organizers introduced different forms of events, but in general the events themselves were normal without the specific customization opportunities offered to the participants.

During the pandemic, various options could have been available for event participants. However, the events were not significantly varied. Normally only one option was provided for the attendees, i.e. the similar content for everyone (89%). Every other event organizer (50%) provided material that was available for the participants to view outside the actual event (Figure 3.7).

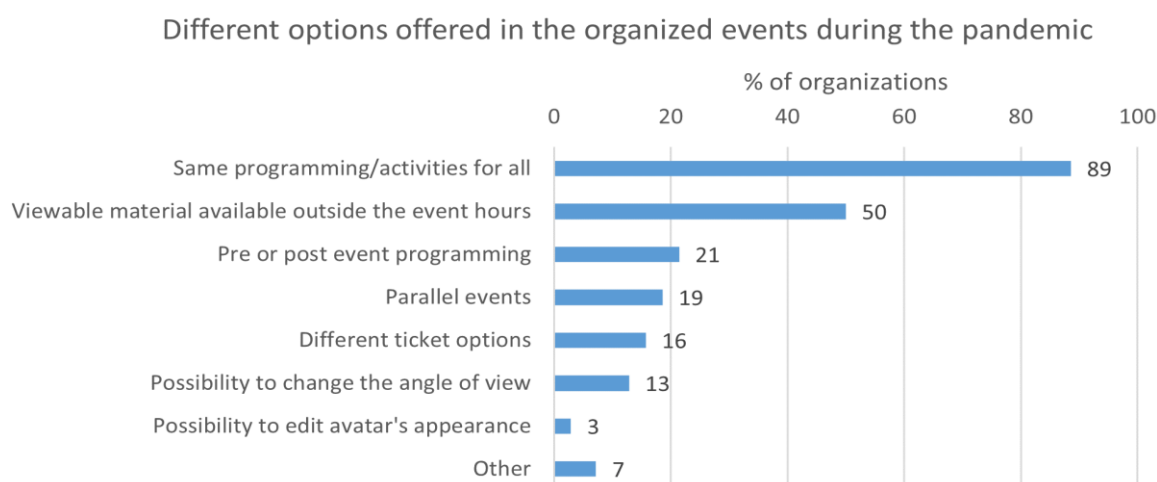


Figure 3.7. Options offered to event attendees during the pandemic (N=70).

The pandemic made it difficult to get international participants to events (Figure 3.8). The technical instruments could have enabled a wider range of people to participate globally. More than half (57%) of the organizations that organized events before the pandemic carried out events that had also been targeted internationally. During the pandemic, fewer organizations implemented internationally targeted events (38%). The organizers of internationally targeted events were usually larger (both before and during the pandemic) than those organizations without this international targeting.

Both before and during the pandemic, the organizations that carried out internationally targeted events were characterised in particular by their activity in many fields and by being medium-sized. Half of the organizers of international events had received coronavirus financial support from either Business Finland or someone else. The pandemic limitations and transition to hybrid, remote and virtual events did not increase internationality in the organizations involved in this study: only one respondent had started international action as a result of the pandemic. Many organizers of international events did not organize them during the pandemic. These organizations were most commonly small and medium-sized, and operated in sport, culture or in multiple fields. Around one in five of them had received coronavirus financial support.

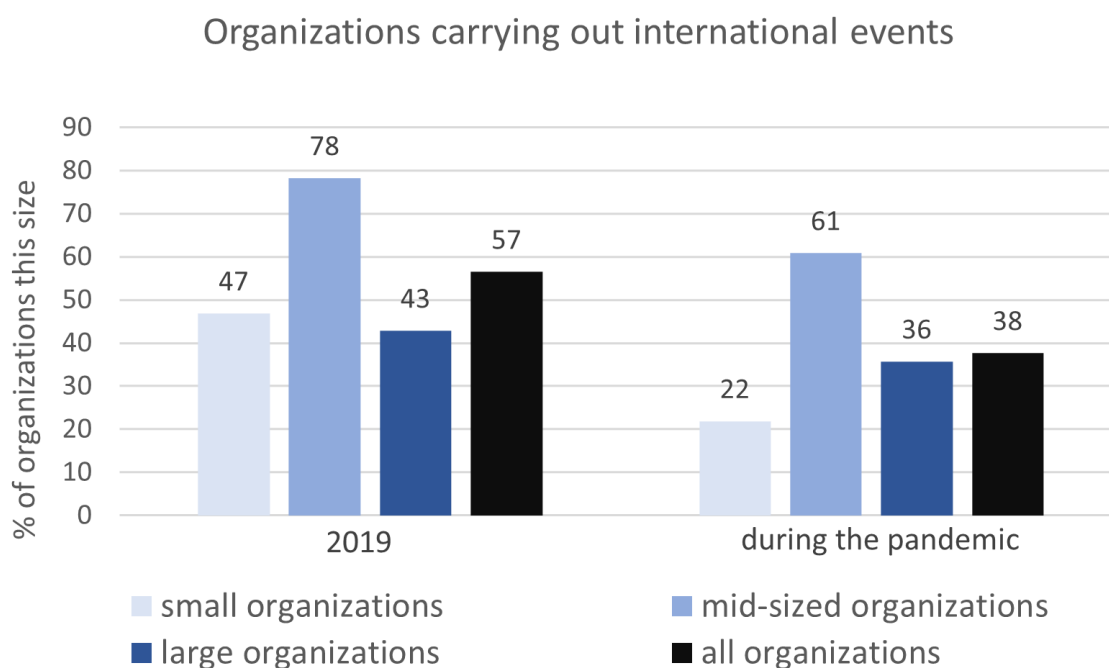


Figure 3.8. Shares of large, medium and small organizations that carried out international events before and during the coronavirus pandemic (N=69).

3.4. Society's financial support for the event industry in relation to the pandemic

During the pandemic, as a result of political decisions and public administration actions, the activities of the event industry were restricted. As these restrictions were surprising and of great importance, various support schemes were soon targeted at the event industry organizations. There were many kinds of subsidies. For example, the private sector stakeholders could reduce the premise rents used by the organization or to extend the rental payments. The number of bankruptcies during the pandemic was also limited by the

authorities' legal decision. A particularly significant new opportunity was the direct financial support provided by Business Finland to develop one's organization operations. This direct aid could amount to EUR 100 000 per organization. According to Business Finland, these so-called coronavirus subsidies totalled approximately EUR 1 billion between March 2020 and April 2021. A total of 20,164 organizations received support, of which 4,667 received the maximum amount of EUR 100,000 in aid. The average aid amounted to approximately EUR 50 000. Approximately two out of three applicants received support, although not everyone received the sum that they had asked for (Business Finland 2021). Further details on the aid granted were not available in May 2021.

A good one-third (36%) of the organizations received so-called coronavirus financial support from Business Finland or another organization, i.e. the majority (59%) did not receive such support. The survey did not inspect how many organizations had applied the support and not received it. In relative terms, the supported organizations were of medium size (46% of them received support) or small (38% of them received support). By contrast, fewer (13%) of large organizations received support. In relative terms, there were more cultural event organizers (44%) than others among the recipients. As many as 38% of those organizations that started before 2010 their activities had received support. On the other hand, the only organization that started during the pandemic received support, which brings the relative share of the category to 100%.

The organizations that were supported financially were also characterised by the small number of events they organized: more than half (52%) organized 0–6 events during the pandemic. Of the organizations that organized no events during the pandemic, 60% received coronavirus support, and 44% of those who organized between 25 and 100 events received the support as well. Around one in five of those who received financial support (22%) carried out an event based on VR/AR technology. One-quarter (25%) of the organizations without support was large in terms of their staff, and 14% responded to an increase in the number of the staff during the pandemic. More than half of those who were not supported (52%) were in the cultural sector or multidisciplinary. In relative terms, the event organizers carrying out other events were most often left without support (only 22% of them received coronavirus financial support).

Based on the data, it was quite challenging to assess the extent to which the granted financial support had an impact on the activities of the event organizers. Of course, getting money from the authorities is, in principle, a positive thing for an event organizer, but it does not necessarily lead to a major change in the organization. There were no major differences in the development of the staff number between those who received the aid and those without it. Many had to cut staff despite the support. Nor were there any major differences in the international trends of events between those who received the subsidies and those who did not. On the other hand, around 10% of those who received support reported an increase in the number of events carried out during the pandemic, compared with only 2% for organizations without support. Of the organizations that substantially increased their number of events during the pandemic, 75% received financial coronavirus support from Business Finland or elsewhere. This was almost double compared with the organizations in which the event numbers decreased substantially (40%).

4. Towards the post-pandemic period in the event organization in Finland

In this chapter the views of the event organizations on their activities towards the post-pandemic period are inspected. In addition, the views of 75 organizations that replied to the questionnaire on the Internet as well as the views of the 24 interviewed event organizations are presented. The chapter presents the most relevant insights and lessons they learned from operating during the pandemic and how they prepared for the post-pandemic period.

In addition to these common topics, special themes included the perspectives and actions of event organizations regarding sustainable development and responsible business, the importance of which has grown in the 2020s. As stated earlier, the organizations questioned and interviewed were carefully selected to represent a wide range of event industries and organizations of different ages and sizes from all over Finland. In this way, the responses provided a broader and more comprehensive picture of the development of event-takers towards the post-pandemic period.

4.1. Learning from the COVID-19 pandemic

Of the event organizations surveyed, 42 answered an open question about the main lesson they learned from the COVID-19 pandemic. The overall feature was the relatively positive attitude of the respondents. The pandemic and the related restrictions posed many challenges, but many organizations said that they could overcome them by changing their practices and adapting to the new situations. Best novel practices would remain in the post-pandemic period.

One in three respondents in this open question mentioned some new actions or innovations that helped to adapt to challenging conditions and increased the organization's ability to function. The general feature, however, was that the perspectives and insights varied widely both within and between different event industries. Therefore, there is no coherent perspective or lesson to be shared to the stakeholders in the field regarding the actions during the pandemic. The world, Finland and the practices can change quickly and substantially, and these external changes must be adapted to by developing the implementation of events. Very few organizations are able to function without change when the surrounding society and the world change substantially. The basic objective of the activities might be the same, but the implementation format, the related technology and partly the participants, but above all, the way the organization operates change.

Many responding event organizers stressed the importance of physical presence in the implementation of events, especially from the perspective of event participants (including the audience). A significant part of these responses justified why the event sector was expecting to return to the pre-pandemic ways of carrying out events or how to participate in the events. On the other hand, there were also hopes that the world, Finland and the event industry would, in some ways, be the same as before the pandemic. Time will tell, but many stressed that there is no return to the previous ways. Nevertheless, some respondents had a sense of rigidity regarding the renewing of their activities.

The perspectives varied especially with regard to the importance of new technologies in future operations. These were seen as a positive opportunity, especially by the event organizers operating in many fields. Positive aspects to this were also found in the organizers of sport, culture and seminar events, but less so. At the same time, there were implementers who had woken up to how the physical presence in events is very relevant. This could not be replaced by technology or various solutions based on remote presence. These points of view were expressed by many organizations implementing sporting or cultural events.

In the post-pandemic period, one key point, which concerned both commercial event industry organizations seeking economic profit and non-profit event developers, was to think more deeply about the importance of physical intimacy, presence and various technological virtual and augmented reality issues in the times of 'new normal'. Many organizations commented more generally on the longing for events of physical presence. At the same time, they estimated that various hybrid and remote implementations had become here to stay. Many commented that hybrid events in particular would be a part of their usual implementation even after the pandemic.

Some event organizations suggested that virtuality cannot replace genuine encounter and physical presence. In many cases it would be so, but it was not so much a question of confrontation, but of how physical intimacy, presence and virtuality could support each other in events. There was also a desire to pay more attention to interaction at the event. This became evident for many organizations when they had to think separately about each event they implemented during the pandemic. Remote events could be attended by as many or even more participants as for events requiring physical presence. Experiences could also be conveyed via the Internet.

Practical experiences gained in organizing virtual events were beneficial to many. Concrete experiments were carried out to discover what works in a virtual event. In the beginning, many tried very simply to transform a physical event to the Internet. Here, many found that live streams did not work so well and easily. Planning and implementing remote and virtual events required resources. Some claimed that they required more resources than organizing a physical event in which the attendees were close to each other in the same place. One needs to think particularly carefully about how and where to participate in an event, what makes that event interesting to follow, what causes the viewer and listener to return to these events and what kind of audiences can be achieved in a situation, where there is no need for everyone to gather in one place. It was also considered essential to organize remote events in order to stay in customers' minds during the pandemic.

Many commented on the good quality of technical know-how and equipment, although these applications had to be switched very quickly in the early phases of the pandemic. Organizations that had been using these technologies for a long time stated that these technologies are here to stay and that the digital leap caused by the pandemic only accelerated the progress already under way. This highlighted the need for new forms of cooperation and partnerships between stakeholders in the sector, as well as between technical know-how and the content production. At the same time, many event organizers were not able to develop the logic of economic returns in such a way that organizing remote and virtual events would be economically better than organizing physical events, or that remote and virtual events could become at least economically viable. This suggests that many did not have extensive experience in implementing remote and virtual events before the pandemic. It was quite possible to get good, attractive content for remote and virtual events, increase the accessibility of such events and also generate significant visibility and financial profits. However, it was not enough to execute a simple, straightforward conversion of a physical event into a remote or virtual event.

4.2. Implementation of events after the COVID-19 pandemic

In the spring of 2021, the optimistic event organizers expected the end of pandemic restrictions, while some pessimistic organizations feared the continuing of restrictions and them constantly changing, which dominated the first year of the pandemic. Despite the uncertainty, the event organizations planned to carry out events after the pandemic. Of the respondents, 93% organized events during the pandemic.

As set out in Chapter 3, a great many event organizations had been forced to change the shape of their activities as a result of the pandemic restrictions. For many, this meant utilizing various digital applications. These applications made it possible to participate in the event without gathering physically in the same place. Such event options included hybrid events, in which some were at the venue and some participated in the event elsewhere, usually through an Internet connection. One alternative was also events based on remote presence. The most common form of these were live streams of the event: it was possible to follow the event by using a TV, computer or mobile phone. The third option was to organize virtual reality-based events, some of which also utilized VR headsets. A small number of organizations had tried these before the pandemic, but during the pandemic almost all had to or were able to apply them. It was therefore essential for these and other event organizers to consider and decide which forms of action would be used after the ending of the pandemic restrictions.

As a result of pandemic restrictions, all organizations gained experience and knowledge of **remote events**, either directly as their implementers or indirectly through other actors and events in the field. Everyone also had knowledge and experience of events based on physical presence. The perspectives on the superiority of the physical event over the remote event varied significantly in the responses of the organizations. Half (49%) of the event organizers were of the opinion that a remote event is always a worse option than an event based on physical presence. On the other hand, almost as many (45%) did not think so. Only a few (5%) were unable to comment on this, i.e. the event organizers had formed a clear opinion on the relationship between physical presence-based and remote events.

The organization's small and medium size was the most typical of those who argued for the superiority of physical presence-based events. Almost one third had reduced their staff (29%), and the majority (55%) of them always considered the remote event to be worse. Of those which preferred physical events, 76% organized 0 or 1-6 events during the pandemic and just under half (47%) organized cultural events during the pandemic. On the other hand, in relative terms, the sport category had the highest number of organizations preferring physical events: as many as 70% reported so. In organizers of cultural events, the corresponding number was 65%. Of the organizations that had not carried out any events during the pandemic, all preferred physical events to remote events.

By contrast, the remote events were not considered as always inferior to physical events by event organizers in multiple fields and seminars, three out of four of whom (75%) argued so. The majority of medium-sized (58%) or large (60%) organizations were of the opinion that a remote event may not be inferior to a physical close-up event. Many of these were organizations established in the 2010s, and around one fifth (18%) reported an increase in the number of the staff during the pandemic. Two-thirds of those with an increase in the number of the staff considered remote events to be a good option.

Regardless of whether the event organizer had any experience in carrying out physical events or remote events during the pandemic, there was a high desire to carry out events based on physical presence. Almost all (96%) claimed to organize such a physical event to be attended on the spot. A few organizations that were not sure about this and did not intend to hold such an event were those operating in many fields or in holding seminars. All of those who were hesitant about organizing events that are based on physical attendance had previously hosted events for hundreds or thousands of participants. Some had organized events in remote, virtual or hybrid form even before the pandemic. One organization started its operations during the pandemic and focused on organizing remote and virtual events throughout its operations.

The transition to the well-established and extensive implementation of **hybrid events** (or at least the intention to do so) was one of the most significant changes in the event industry in relation to the effects of the pandemic. Two out of three (68%) organizations were confident to organize a hybrid event after the pandemic. This number was high, as less than a quarter of organizations had carried out hybrid events before

the pandemic. Of the organizations that had carried out almost entirely hybrid events before the pandemic, 82% planned to organize them also after the pandemic. The rest were unsure about holding one, but no one said that they were not going to organize a hybrid event after the pandemic. Of the organizations that had organized a hybrid event during the pandemic, very many (74%) intended to organize such an event after the pandemic. Again, none of the rest answered “no” to the question. One in four (25%) was unsure whether to carry out a hybrid event after the pandemic or not. The most insecure were those organizations that had not organized any events during the pandemic. In addition, the large size of the organization and its event activities in the cultural sector were typical. Nearly 60% of unsure hybrid event organizers had organized fewer than seven events during the pandemic. Very few (5%) organizations expressed that they do not intend to organize hybrid events in the future. Typical of these organizations was small size and operating in the industry for a long time. The number of the staff in these organizations had not increased during the pandemic, and the majority had not received coronavirus financial support. This included organizations from different industries, in relative terms most often from sport and other industries. On the other hand, in many sporting events hybrid forms had already been commonplace due to the televising of events. Here, the hybrid format meant mainly a passive event tracking for remote viewers, without the possibility of influencing it or choosing angles or which sport to follow.

Seven per cent of those without financial coronavirus support stated that they do not intend to organize a hybrid event. There were respondents from sports, culture and other event industries. In relative terms, those who did not intend to organize a hybrid event were often among those in sports and other sectors.

About half (51%) of the organizations was confident about organizing a **remote event** after the pandemic. One in three (33%) was unsure of this, and one in six (16%) did not intend to hold a remote event. Typically, the group that was certainly going to host a remote event after the pandemic organized many events annually, had started their operations after 2010, and were active in many fields. This group also included the few organizations in which the number of events had increased during the pandemic. Uncertainty regarding the implementation of remote events was associated with working in the sports or in the cultural sector and with previous experience in carrying out a remote, virtual and/or hybrid event during the pandemic. Uncertainty might have been linked to the challenging experiences during the pandemic. Organizations that did not intend to carry out a remote event after the pandemic were relatively often cultural event organizers, but there were also several organizations active in many fields. In addition, there were relatively many organizers of events with more than 1,000 attendees. Organizations that did not intend to organize remote events after the pandemic had held few events during the pandemic (none or no more than six events). Close to half (44%) of these had organized remote events at the time of the pandemic, but no one before the pandemic.

The interviews revealed that some organizations stated that the remote events required a wide range of new operating models. The audience attending the event was not prepared to pay much to follow the live stream, so even after all the technical arrangements, its profitability was not certain. Streaming also involved a wide range of new copyright issues that required clarification. Many cultural event organizers were more critical to the implementation of remote events, stating that they were more modest financially than physical events. On the other hand, many remote events had been quite passive, i.e. the audience's task was mainly to just watch and listen. Digital interactivity had rarely been exploited.

The event organizers' perspectives on the intention to carry out an event that would utilise **VR or AR events** after the pandemic showed uncertainty. Nearly two out of three (64%) organizations did not know whether they intend to take advantage of this possibility. By contrast, nearly one in five (18%) was sure about implementing such an event after the pandemic. Among these were both organizations that had grown in staff and those that reduced their staff. One in three (31%) of those, who had organized 25–100 events during

the pandemic, planned to organize a VR/AR event in the future. The same figure was 22% for the organizers of more than 100 events. Organizations that certainly intended to organize an event using VR or AR after the pandemic were characterised by a small size and active implementation of events during the pandemic: more than half (54%) carried out more than 25 events during the pandemic. In relative terms, most event organizers that planned to organize a VR/AR event after the pandemic had reduced their staff. Of those that had increased their staff number, 22% also plan to organize such an event in the future. Compared to other organizations, several of those actively targeting VR/AR were young organizations (15% had started their operations since 2010). More than half were event producers in many fields.

Likewise, nearly one in five (19%) was sure about not carrying out future events that utilize VR or AR. These organizations were generally small and organized few events during the pandemic: only about a fifth (21%) organized more than 25 events during said time. Fewer of these (7%) had increased their number of employees and almost all (93%) were established before 2010. These did not include seminar or event promoters in many fields. The opportunities offered by VR and AR in the event industry are discussed in more detail in Chapter 5.

4.3. Event organization and sustainable development

Since the end of the 1980s, sustainable development has been a part of the societal debate and, in the course of the 21st century, increasing attention has been paid to it, particularly as a result of the debate on harmful climate change and the overuse of natural resources. At the same time, attention has also been paid to the activities of the private sector and of every person. In this context, responsible business has been highlighted, i.e. how to give many people an equal access to the activities of the society, including entertainment and leisure, and the consequences of this participation for the individual, the event organizer, society and the wider world. Different ways of measuring sustainable development and responsibility have been developed, and many companies and organizations also report on their sustainability and sustainability activities.

By the 2020s, sustainable development has become, at the very least, a discourse that all actors should commit to. Of the event organizations surveyed, all (100%) felt that they wanted to take sustainable development into account in their activities. Either this was a genuine situation, or at least the implementers wanted to communicate their commitment to sustainable development. Sustainable development requires concrete actions. Almost all organizations (92%) had, according to their own declaration, reduced the amount of waste produced by the event, including the distributed material. Four out of five event implementers (79%) was of the opinion that the event organizer should encourage participants to develop sustainability. Very few (5%) disagreed with this. At the very least, the responsible event promoters had discursively internalised sustainable development in the implementation of the events.

However, when it comes to deeper reviews, taking sustainable development into account was not commonplace in so many organizations. One way was to favour local or vegetarian food if the activity involved catering. Two out of three (68%) event organizers, according to their notifications, had done so, while one tenth (9%) had not implemented this procedure. Nearly one in four (23%) was unsure in this regard. Open answers also mentioned the use of VR and AR applications when planning and implementing an event. With VR and AR applications, traveling, for example, decreased, and this decreased emissions related to travel. Close to one-third (30%) of the responded organizations was of the opinion that VR and AR supported sustainable development in event production. The share of those who were unsure about this was high (60%), and a small proportion (11%) disagreed with this statement.

A more detailed assessment of the impact of events on sustainable development was much less common than the talk of sustainable development. On the other hand, measuring and auditing impacts in the context of sustainable development is often difficult in detail. Less than a fifth of organizations had calculated the carbon footprint of an individual event (18%), published a sustainability or environmental report (16%) or provided an opportunity for participants to compensate for the environmental costs of the event (18%). Based on the answers, sustainable development was most clearly implemented by multidisciplinary event promoters and those who received financial coronavirus support. The publication of the environmental report was significantly more common among profit-making than non-profit organizations, and 50% of those who produced the report had received financial coronavirus support for their activities. In relative terms, several (25%) had published an environmental report. On the other hand, less attention had been paid, at least from the perspectives of concrete measures and various measurements, by cultural event organizers (of whom 9% had published an environmental report) and those without financial coronavirus support. Of those who had not published an environmental report, 35% received coronavirus financial support.

Nearly two out of three (63%) organizations were of the opinion that remote participation in the events had reduced the carbon footprint of the events. Good one-quarter (29%) of the organizations that responded were unsure about this. Few (8%) disagreed with this, and those were characterised by the small size of the organization and the small number of events carried out during the pandemic. A higher relative share of profit-making organizations than non-profit organizations felt that the carbon footprint did not decrease as a result of remote events. A more detailed raising of the issues of sustainable development was achieved at events aimed at children and young people. At the same time, it was stated that perhaps these points should be highlighted in events specifically aimed at the adult population.

Responsible business has become the subject of broader discussion in the 2010s. Many companies are producing separate reports on their actions in terms of promoting societal impact and equality. Support for equality is similar to sustainable development in many ways, i.e. many want to implement it, or at least claim to take equality into account in their operations. Four out of five (81%) event organizers suggested that they would strive for equality between participants in the event they had carried out and only a few (4%) disagreed with this. On the other hand, half (49%) of the organizations indicated that it was in some way possible for attendees to participate in the event planning they carried out. The organizations that made this possible were often active in many fields or sports, and they had carried out a small number of events. Relatively few large event organizations offered the opportunity to participate in the design of their events. The open answers highlighted the fact that the main organizer of the event can reflect and be very responsible in organizing the event itself, but subcontractors may not always comply with such strict requirements. On the other hand, Finnish event organizers may be tied to a precise international format. In this case, sustainability is dependent on the interests of the international stakeholder. The requirements for the sustainability and responsibility of events should also be extended to subcontractors, and the entire value chain should apply them from early brainstorming to the actual event and beyond it.

5. Virtual reality (VR) and augmented reality (AR) in event organization

With the development of technology, it is predicted that global revenue related to virtual reality will grow by tens of billions of euros between 2021 and 2025. At the same time, virtual reality will become a more integral part of the event industry globally. As technology advances, augmented reality will also be exploited at many events. In virtual reality (VR), a simulated world at events is experienced with VR glasses and other digital technology devices. In augmented reality (AR), the actual physical environment is complemented by digital 3D characters and elements. In this chapter the event organizations' experiences, views and plans regarding the use of VR and AR elements in events regarding the time before, during and after the pandemic are inspected.

For the first time in Finland, the COVID-19 pandemic brought a situation in which many event operators were forced to make a digital leap if they were going to carry out events during the pandemic. For some, the digital leap meant converting a former physical event to a digital form and offering it over the Internet as a live stream. However, it turned out to be a rather simplistic event format, which in many cases only offered a compromise on a situation where physical presence was not possible. The potential of virtual reality and augmented reality in event production had not been significantly realized in Finland before the pandemic, and the breakthrough of these technologies did not happen during the pandemic either, at least not by spring 2021. However, many event promoters began to take an interest in these technologies and some also tried them. The future will bring more immersive digital experiences at events. Different dimensions of virtual, augmented and extended reality will be essential for diversifying experiences that events offer. They also provide opportunities for both individual and collective experiences as part of events (Figure 5.1; Figure 5.2).

Quarter (24%) of the organizations had carried out an event using VR or AR. It was not asked in more detail whether the organizations had carried out such an event during the pandemic, but many of them had. However, two out of three organizations (68%) mentioned that they had not tried these events yet. Those who had used VR or AR were usually either multidisciplinary organizations or operated in culture. In relative terms, however, the largest number of VR/AR event organizers was found in multidisciplinary (35%) or sport (30%) organizers. The number of enterprises under 10 years of age was relatively higher. Half (50%) had carried out more than 25 events during the pandemic, and approximately one fifth of those who carried out the VR/AR event (22%), reported an increase in the number of their staff during the pandemic. Of the whole sample, 12% had increased their staff, so the before mentioned relative share was high.

On the other hand, very few (5%) had carried out an event that could be attended using VR or AR glasses. These organizations were characterized by their small size, and three out of four (75%) operated in many fields. All had received financial coronavirus support. The question about whether VR or AR is suitable for the organization's current event production divided opinion fairly evenly: approximately one in three thought it was suitable (31%), one in three was unsure about it (38%) and one in three did not consider them applicable, at least not yet (31%). Those who considered VR and AR to be suitable were usually organizers of events in many fields. Many of the positive respondents (25%) had started their operations after 2010, and 25% organized more than 100 events during the pandemic. In relative terms, the organizations that organized more than 100 events thought more often that VR/AR technology was suitable for them. Similarly, young companies had more VR/AR supporters in relative terms. Similarly, in just over one in four (26%) of VR/AR supporters, the number of the staff grew during the pandemic. Another feature was profitability, as a significantly higher proportion of profit-making organizations felt that VR/AR technology was suitable for them.

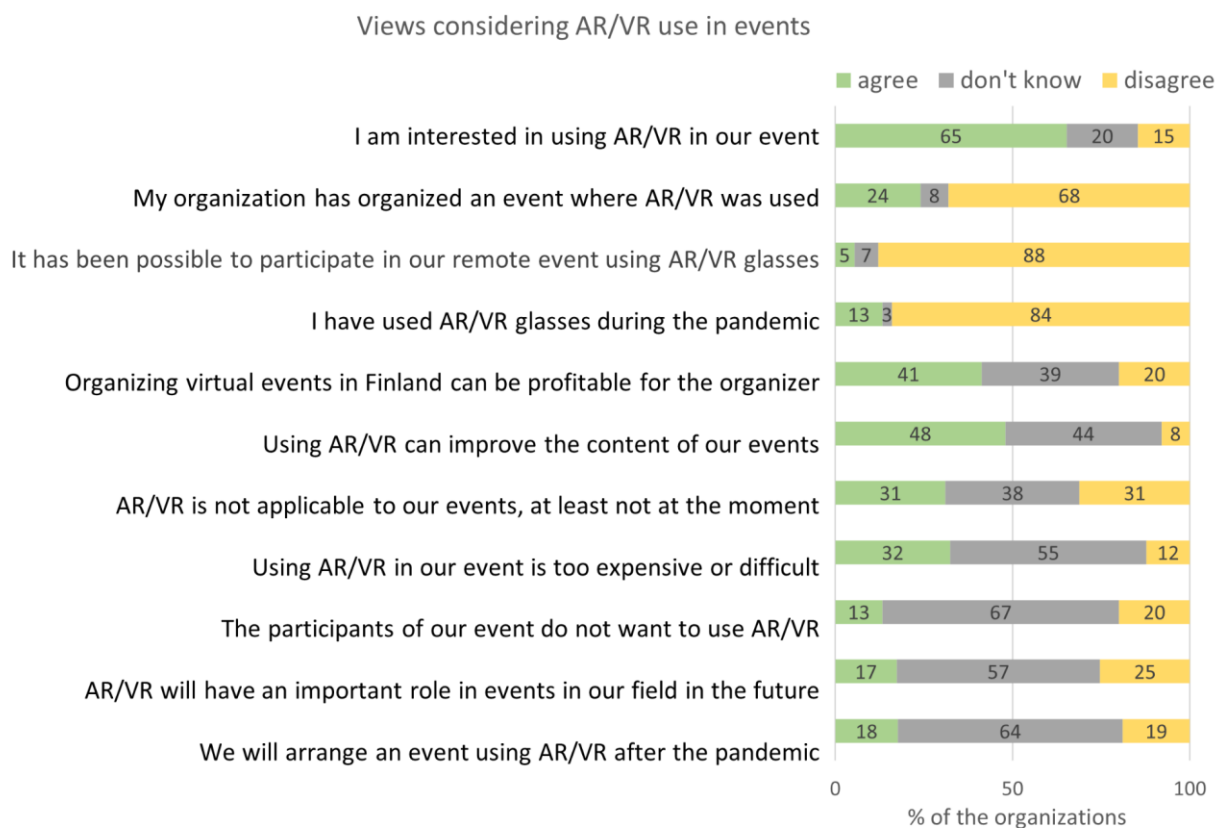


Figure 5.1. Perspectives of event organizers related to virtual reality (VR) and augmented reality (AR). (N=74–75)

Those event organizers who did not believe, at least at the moment, that VR or AR could be a part of the implementation of their events were usually small and old organizations that were active in the cultural sector. In relative terms, the number of uncertain respondents was highest in the seminar and fair organizers, but the uncertainty was very evenly distributed between categories. Around one in two (48%) organizations was of the opinion that VR or AR could improve the content of the events they carried out. In relative terms, the largest share of event organizations that argued so was active in many fields and in non-specific fields. In relative terms, there were more large event organizers, although both small and medium-sized organizations were involved as well. The event organizers that were unsure about the content improvement with VR/AR (44%) were almost of equal size. Few (8%) event organizers did not believe in VR and AR's opportunities for their events. These included relatively often organizations that were established before 2010 and that operated either in cultural or other fields. There were both organizers of many events and those who organized fewer than seven events during the pandemic.

Based on the answers, one key challenge was that two out of three could not say whether participants in their events wanted to use VR or AR. One in seven (13%) had a clear view that their event attendees did not want to use these technological applications. The organizations that expressed so included, for example, event producers in many fields and those who had organized several (more than 25) events during the pandemic. By contrast, one in five (20%) was of the opinion that their event attendees wanted VR or AR applications to be used in events.

Two out of five organizations (41%) was of the opinion that a virtual event could be economically viable for implementers in Finland. Approximately the same amount (39%) were unsure about this. One in five (20%) did not consider virtual events to be economically viable in Finland. All but one of these critical operators were organizations that started their operations before 2010. In relative terms, event organizers in culture

or in many fields and those carrying out events for thousands of participants were the most critical ones. Almost everyone had organized remote, virtual or hybrid events during the pandemic, but not many before it. On the other hand, the positive group included especially those carrying out sporting events or events in many fields, those that were established in the 2010s and those whose events had a maximum of a few dozen participants. Of the organizations that had carried out an event using VR or AR, one in three (32%) believed in the economic profitability of virtual events and half (52%) disagreed with this. One in three (32%) organizations were of the opinion that the use of VR or AR is too expensive or complicated. Of these organizations, one in six (17%) had carried out an event using these technological dimensions. Only one in eight (12%) did not agree with the cost or complexity of VR or AR. Significantly more of these organizations (44%) had carried out the event using these technological dimensions.

A key challenge in applying VR and AR to the events in Finland was that the event implementers themselves usually had only meagre experience in the use of these technologies, or that these experiences date back a year or two. Technologies and equipment are developing rapidly, and even during the COVID-19 pandemic, new and easier-to-use, better and cheaper VR headsets became available. The fact is, however, that not many of the event producers or attendees were using these devices in Finland. One in seven (13%) of the event organizations had worn VR or AR glasses during the pandemic. Majority of these users (60%) had organized an event using VR or AR, four out of five (80%) was of the opinion that the use of VR or AR could improve the content of their events and just under half (40%) was of the opinion that VR or AR will be an important part of events in the sector in the future.

More than half (57%) of all the respondents could not comment on whether VR or AR will be a significant part of events in the sector in the future. One in six (17%) event organizers were of the opinion that VR or AR will be a significant part of events in the sector in the future, and one in four (25%) disagreed on this. The latter was claimed in particular by the cultural and sporting event organizers. Few of these (10%) were large companies, and, in relative terms, the most negative aspects of the VR/AR future were found in small organizations. One third (32%) had received financial coronavirus support, and, in relative terms, the highest number of those of critical opinion was among those who were not supported. There were also organizations founded after 2010, accounting for 16%. In relative terms, these figures were higher, but not entirely comparable due to the small subsets.

In the near future in Finland it still seems that few event organizers (18%) are confident about carrying out an event using VR or AR after the COVID-19 pandemic. These organizations typically included those who were active in many fields and both newer and older organizations. More than half (56%) of these had also organized remote, virtual and/or hybrid events before the pandemic. By contrast, very many, almost two out of three (64%) could not take a position on this. One in five (19%) were sure about not carrying out an event using VR or AR. These organizations were a fragmented bunch in terms of their background variables. In general, the intentions to implement an event applying VR or AR after the pandemic were less common (18%) than the intentions to organize a remote event (51%), a hybrid event (69%) or a physical event (96%).

On the basis of the organizations involved in this study, the majority of the organizations had an interest in the application of VR and/or AR at events. At the same time, many organizations did not know about these opportunities or doubted their potential. Larger organizations were more interested in VR and AR applications than small event organizers, which was often about the content of events, but also about the resources to invest in the necessary technology and know-how. On the other hand, many large organizations still considered these technologies too complex or expensive. The size of the event organizer was not a determining factor, as many small organizations were agile and some of them were already specialised in using VR and AR to carry out events. Many small organizations were interested in these technologies as part

of the development and implementation of events. Practically none of the organizations that grew during the pandemic took a negative view of the application or interest of VR and AR in events.

The data examined was too small to present detailed results, but the most positive organizations to apply VR and/or AR at events were those in many fields, sports or seminars. Of these, larger organizations and those that received financial coronavirus support were particularly positive. Often these carried out more than 25 events during the pandemic year. The organizations with the most reservations about VR and AR were likely to have reduced their operations and staff during the pandemic. Some event organizers operating in culture were less enthusiastic about virtual solutions, especially because of their economic unprofitability. Many organizations that carried out sporting events were interested in VR/AR opportunities, but considered these still too expensive.

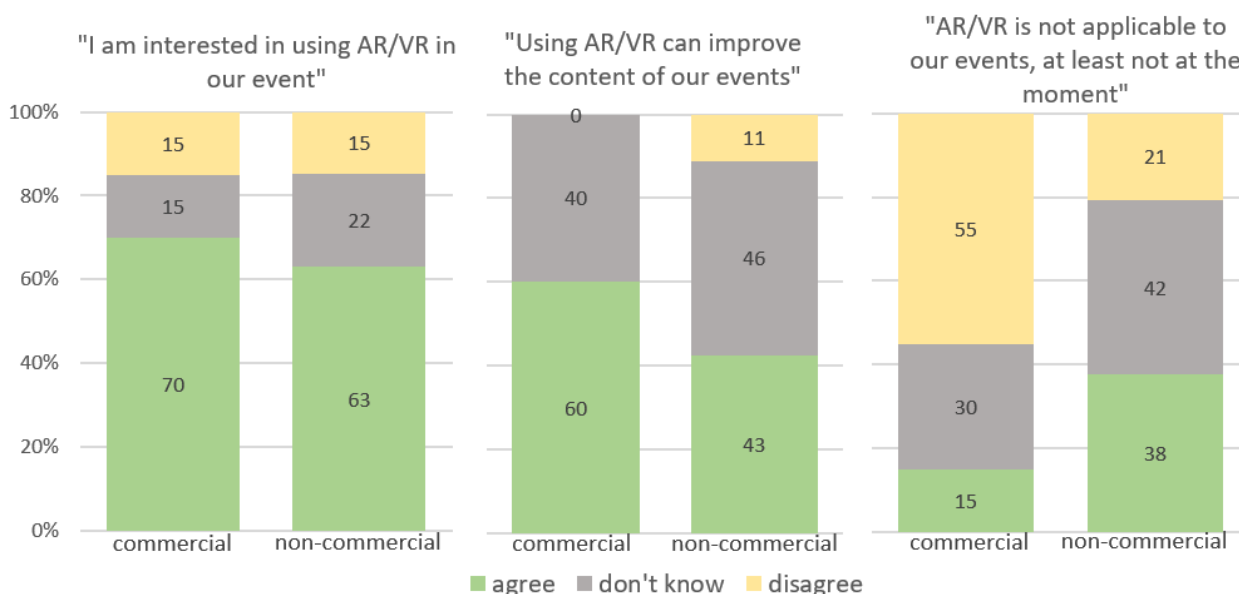


Figure 5.2. Views of profit-making and non-profit organizations on the suitability of AR and VR for their events. (N=73–74)

6. Conclusions

The event industry generates event-related business with tangible and intangible value. A major motive is the pursuit of economic profit. In addition, there are associations, organizations and also companies who organize events without the aim of gaining financial profit. Put together, they employ tens of thousands of people in Finland every year directly, and generate hundreds of thousands of jobs linked to their activities indirectly. It is challenging to present an exact figure on their turnover or employment impacts, as the event industry is not calculated as such by the national statistical office. The sector includes activities in many industries. These include actual event organizations and event-related planning and consulting, physical and digital event services for performers and programmes, as well as a wide range of other services related to events and related facilities, ticket sales and ancillary events (Wiren et al. 2020b). Events involve a large number of logistics and accommodation and catering services indirectly. They also increase the awareness of concrete places and localities and contribute to their branding.

The development of the COVID-19 pandemic in spring 2020 caused a significant change in the implementation and participation of events. In Finland, as in other countries, significant restrictions were imposed on gathering and mobility. People followed various physical means of protection, such as keeping social distance and using face masks. Restrictions increased and reduced in accordance with the spread of the virus and its estimated risks. In practice, the basic activities of the entire event industry were significantly impacted.

During the pandemic, the activities of event organizers changed in many ways. In 2020 and 2021, many events were cancelled completely or postponed to another date. This was the case for 85% of the event organizers who participated in this study. Significant changes were also applied to the formats in which events were carried out. Hybrid events, where a small part of the audience was physically present at the venue and some followed the event remotely through various digital tools, became popular. One in four (24%) of the event organizers in this study carried out hybrid events before the pandemic, and during the pandemic they were carried out by one in two (50%). There were also remote events where participants took part in the event for example using computer or smartphone at home. Sometimes the performers were also separately each in their own location. Some events also took advantage of various forms of virtual reality. "Leaps" in remote organizing and virtuality were taken: 77% of the organizations participating in this study carried out at least one remote event (10% had already organized a remote event before the pandemic) and 43% carried out a virtual event (8% had done so before the pandemic).

External factors affected both event formats and contents. It was not possible or even necessary to change everything, but the implementation of events would no longer be exactly the same as before the pandemic. There is no returning to the exact conditions of the time before the pandemic, but instead a new normality has developed and will develop. It will have features of the implementation of events from before the pandemic, but also new enabling implementations experienced during the pandemic. Physical intimacy is at the heart of events, but it will be accompanied by different forms of digital intimacy. Material and intangible values will be generated in multidimensional physical and digital networks related to events. Almost every organization planned to carry out events based on close physical contact after the pandemic, but most of them were also interested in carrying out remote and/or virtual events. Hybrid events in particular will remain in the toolbox of many of the event organizers. Based on the responses of the event organizers, the content of the event formats will still develop. Various forms of participation, interactivity or the development of individual and collective experiences made possible by the new formats have not yet been widely utilised.

In many ways, the implementation of events is challenging from the perspectives of sustainable development and responsibility, but it also offers opportunities. On one hand, events always increase consumption, thus

presenting challenges to achieve sustainable development. The value chain in events is extensive, and managing it to take sustainability and responsibility into account is not easy. One can also consider where the responsibilities of the event producer extend from the perspectives of sustainable development. On the other hand, events can be developed in a number of ways so that they will have both direct and indirect positive effects on sustainable development and responsible activities. Sustainable development and responsibility are absolutely essential for the long-term activities of the event organizers, including economic development. Based on the responses in this study, the participants have taken sustainable development into account in their thoughts and speeches. Many have also taken concrete steps towards broader sustainability goals, starting with reducing and recycling their waste and providing local food. More concrete actions are needed, also throughout the subcontracting and value chains. Previous event formats should be renewed to better support sustainable development and responsibility.

Virtual reality and augmented reality were still only possible futures for the majority of event enablers in Finland. One-quarter (24%) of the event organizers responded that they had in some ways applied VR or AR in their events. Interest in the application of these methods was even stronger: two out of three (65%) respondents said they would like to apply them in their events in the future. Both experimentation and especially systematic application of these technologies are needed. The first step can be just to try these technologies. They offer opportunities for completely new dimensions and experiences in events. VR and AR can be used complementary in more conventional events, or events can be fully based on VR and AR dimensions. From the point of view of many respondents, this is not just a matter of content or format, but the organization of virtual events requires significant resources and their means of service must be designed and implemented to consider VR and AR.

Based on the research carried out, the COVID-19 pandemic and related restrictions brought many challenges to event organizers, but they also opened up many possibilities. These apply both to commercial organizations and to organizations, associations, companies and individual implementers for whom the material value and financial gain of the event are not an essential motive. Dynamic event organizers can move forward to the post-pandemic era with events that will become more interesting and popular, and can create positive new development to the industry. At the same time, they will bring about positive and responsible sustainable development through the events they will carry out.

References

- Bielli, S. & Harris, C.G. (2015) A mobile augmented reality system to enhance live sporting events. *AH '15: Proceedings of the 6th Augmented Human International Conference*. DOI: 0.1145/2735711.2735836
- Bryson, A., Dolton, P., Reade, J.J., Schreyer, D. & Singleton, C. (2020) Experimental effects of an absent crowd on performances and refereeing decisions during COVID-19. IZA Discussion Papers. 28.4.2021. <<https://www.econstor.eu/bitstream/10419/224020/1/dp13578.pdf>>
- Business Finland (2021) Information about financial coronavirus financial support by the Business Finland. Email to Ada Virnes. 10.5.2021.
- Clerkin, C.C. & Taylor, B.L. (2021) Online encounters with museum antiquities. *American Journal of Archaeology* 125: 1, 165–175.
- Cudny, W. (2019). *Urban Events, Place Branding and Promotion: Place Event marketing*. Routledge, New York.
- de Jesus, D. S. V. (2020) Necropolitics and necrocapitalism: The impact of COVID-19 on Brazilian creative economy. *Modern Economy* 11: 6, 1121–1140.
- Devindriati Kusuma, P. S. (2020) Children virtual concert in the Covid-19 pandemic. *Journal of Music Science, Technology, and Industry* 3: 2, 247–260.
- Dillette, A. & Ponting, S.-A. (2020) Diffusing innovation in times of disasters: considerations for event management professionals. *Journal of Convention & Event Tourism* DOI: 10.1080/15470148.2020.1860847
- Drewes, M., Daumann, F. & Follert, F. (2020) Exploring the sports economic impact of COVID-19 on professional soccer. *Soccer & Society* 22: 1–2, 125–137.
- Ebrahim, S. H. & Memish, Z. A. (2020) COVID-19 – the role of mass gatherings. *Travel Medicine and Infectious Disease* 34. DOI: 10.1016/j.tmaid.2020.101617
- Estien, C. O., Myron, E. B., Oldfield, C. A., Alwin, A. & Ecological Society of America Student Section (2021) Virtual scientific conferences: Benefits and how to support underrepresented students. *Bulletin of the Ecological Society of America* 102: 2, 1–12.
- Florida, R. & Seman, M. (2020) Lost art: Measuring COVID-19's devastating impact on America's creative economy. Metropolitan Policy Program at Brookings. 20.4.2021. <https://www.researchgate.net/publication/343587506_Lost_Art_Measuring_COVID-19%27s_devastating_impact_on_America%27s_creative_economy>
- Healthcare professionals' experiences of virtual congress (2020) International Pharmaceutical Congress Advisory Association & Ashfield Meetings and Events. 28.4.2021. <<https://start.ashfieldmeetings.com/acton/fs/blocks/showLandingPage/a/36531/p/p-0024/t/page/fm/0>>
- Kersting, M., Steier, R. & Venville, G. (2021) Exploring participant engagement during an astrophysics virtual reality experience at a science festival. *International Journal of Science Education* 11: 1, 17–34.
- Lee Ludvigsen, J. A. & Hayton, J. W. (2020) Toward COVID-19 secure events: considerations for organizing the safe resumption of major sporting events. *Managing Sport and Leisure*. DOI: 10.1080/23750472.2020.1782252
- Moon, S. (2020) Effects of COVID-19 on the entertainment industry. *IDOSR Journal of Experimental Sciences* 5: 1, 8–12.
- Moro, S.; P. Rita; P. Ramos & J. Esmerado (2019) Analysing recent augmented and virtual reality developments in tourism. *Journal of Hospitality and Tourism Technology* 10: 4, 571–586.
- Museums, museum professionals and COVID-19: follow-up survey (2020) International Council of Museums. 20.4.2021. <https://icom.museum/wp-content/uploads/2020/11/FINAL-EN_Follow-up-survey.pdf>
- Parnell, D., Widdop, P., Bond, A. & Wilson, R. (2020) COVID-19, networks and sport. *Managing Sport & Leisure*. DOI: 10.1080/23750472.2020.1750100
- Richards, G. (2017) From place branding to placemaking: the role of events. *International Journal of Event and Festival Management* 8:1, 8–23.

- Runde, D. F., Rossow, R. M., Metzger C. H., Sullivan, B. F. & Carlson, R. (2020) Creative economies in the Indo-Pacific and Covid-19. CSIS Project on Prosperity and Development. 20.4.2021. <http://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/200928_Creative_Economies_Indo_Pacific_Covid19.pdf>
- Ryan, W., Fenton, A., Ahmed, W. and Scarf, P. (2020) Recognizing events 4.0: the digital maturity of events. *International Journal of Event and Festival Management* 11:1, 47–68.
- Sahlstedt, M. (2021) Impact of COVID-19 pandemic on event industries. Email to Ada Virne. 17.5.2021.
- Seraphin, H. (2020). COVID-19: an opportunity to review existing grounded theories in event studies. *Journal of Convention & Event Tourism* 22: 1, 3–35.
- Sosiaali- ja terveystieteiden ministeriö (2021) STM:n ja THL:n tilannekatsaus koronavirustilanteesta 4.3.2021. 19.5.2021. <<https://stm.fi/documents/1271139/63557268/tilannekatsaus+4.3.2021.pdf/92bce93e-b1c9-054b-8839-076983929a81/tilannekatsaus+4.3.2021.pdf?t=1614842850179>>
- Tammara, A. M. (2021) COVID 19 and libraries in Italy. *International Information & Library Review* 52: 3, 216–220.
- Tapahtumateollisuus (2020) Mitä on tapahtumateollisuus? >www.tapahtumateollisuus.fi/mita-on-tapahtumateollisuus/ 20.5.2021
- Tapahtumateollisuus (2021) Tapahtumateollisuus ry - tapahtumaelinkeinon keskusjärjestö. www.tapahtumateollisuus.fi 20.5.2021
- Terveystieteiden ja hyvinvoinnin laitos (2021) Koronaepidemia: alueiden tilanne, suositukset ja rajoitukset. 19.5.2021. <<https://thl.fi/fi/web/infektioaudit-ja-rokotukset/ajankohtaista/ajankohtaista-koronaviruksesta-covid-19/tilannekatsaus-koronaviruksesta/koronaepidemia-alueiden-tilanne-suositukset-ja-rajoitukset>>
- Wirén, M., Westerholm, T. & Liikamaa, A. (2020a) Tapahtumateollisuuden toimialaraportti osa 1. Tapahtumateollisuus ry:n tilaama raportti. Turun yliopiston Turun kauppakorkeakoulu. 24.4.2021. <https://www.utu.fi/sites/default/files/public%3A//media/file/Tapahtumateollisuuden%20toimialaraportti%202020_osa%201_FINALweb.pdf>
- Wirén, M., Westerholm, T. & Liikamaa, A. (2020b) Tapahtumateollisuuden toimialaraportti osa 2. Tapahtumateollisuus ry:n tilaama raportti. Turun yliopiston Turun kauppakorkeakoulu. 24.5.2021. <https://www.utu.fi/sites/default/files/public%3A//media/file/Tapahtumateollisuuden%20toimialaraportti%202020_osa%202_FINALweb.pdf>
- Worldometers (2021) Finland COVID: Daily new cases in Finland. 25.5.2021. <<https://www.worldometers.info/coronavirus/country/finland/>>
- Wreford, O., Williams, N. L. & Ferdinand, N. (2019) Together alone: An exploration of the virtual event experience. *Event Management* 23: 4–5, 721–732.
- Zollmann, S., Langlotz, T., Loos, M., Lo, W. H. & Baker, L. (2015) ARSpectator: Exploring augmented reality for sport events. *SIGGRAPH Asia 2019 Technical Briefs (SA '19 Technical Briefs)*. DOI: 10.1145/3355088.3365162

Appendices

Appendix 1: Finnish news articles

- Aholainen, S. (2020). Kauneimmat joululaulut -tapahtumia on joutunut verkossa huijausyritysten kohteeksi – Facebookissa järjestettiin valetapahtumia ja kalasteltiin luottokorttitietoja. *Helsingin Sanomat*. 20.5.2021. <<https://www.hs.fi/kotimaa/art-2000007674910.html>>
- Ala-Korpela, A. (2021) Teatterit ja kesäteatterit ovat jäämässä tapahtumatakuun ulkopuolelle, mutta ministeriö valmistelee niille omaa koronatukea. *Helsingin sanomat*. 19.5.2021. <<https://www.hs.fi/kulttuuri/art-2000007910130.html>>
- Arkko, S. (2020) Sveitsi reagoi koronavirukseen: tukee urheiluseuroja 50 miljoonan frangin lainalla. *Yle urheilu*. 20.5.2021. <<https://yle.fi/urheilu/3-11259540>>
- Entä jos esiintyvät taiteilijat saisivat poikkeusoloissa tukea kotikunnaltaan? (2021) *Helsingin Sanomat*. 20.5.2021. <<https://www.hs.fi/paakirjoitukset/art-2000007805000.html>>
- Ervasti, A. E. (2020) Pohjoismaissa peruttu yleisötapahtumia koronaviruksen vuoksi, THL:n mielestä siitä ei ole hyötyä: ”Pahimmassa tapauksessa saadaan vain haitat”. *Helsingin Sanomat*. 20.5.2021. <<https://www.hs.fi/kotimaa/art-2000006434050.html>>
- Esitys tapahtumatakuuksi jättäisi pääosan tapahtumista tuen ulkopuolelle ja eriarvoistaisi rajusti alan toimijoita (2021) Tapahtumateollisuus ry. 19.5.2021. <<https://www.tapahtumateollisuus.fi/ajankohtaista/2021/03/esitys-tapahtumatakuuksi-jattaisi-paaosan-tapahtumista-tuen-ulkopuolelle-ja-eriarvoistaisi-rajusti-alan-toimijoita/>>
- Grönholm, P. (2020) Kevään ylioppilaskiljat järjestetään etänä ja todistus lähetetään valmistuville postissa. *Helsingin Sanomat*. 20.5.2021. <<https://www.hs.fi/kotimaa/art-2000006473953.html>>
- Gustafsson, M. (2020) Koronasta jättitappiot museoille – satojen tuhansien arvoiset teokset möllöttävät nyt aavemaisen tyhjissä saleissa. *Yle uutiset*. 20.5.2021. <<https://yle.fi/uutiset/3-11262026>>
- Hakola, E. (2021) Tapahtumatakuu tulee osaksi kustannustuen neljättä hakukierrosta – ”Ei täytä alan tarpeita”. Yrittäjät. 19.5.2021. <<https://www.yrittajat.fi/uutiset/646806-tapahtumatakuu-tulee-osaksi-kustannustuen-neljatta-hakukierrosta-ei-tayta-alan#2d050cd6>>
- Hallamaa, T. (2020) Boeing alkaa kouluttaa astronautteja suomalaisyrityksen virtuaalitodellisuuslaseilla. *Yle uutiset*. 20.5.2021. <<https://yle.fi/uutiset/3-11396157>>
- Hankkeet ja säädösvalmistelu: Turvalliset tapahtumat työryhmä (2020) Opetus- ja kulttuuriministeriö. 20.5.2021. <<https://minedu.fi/hanke?tunnus=OKM059:00/2020>>
- Hasala, I. (2020) Messut videolähetyksinä ja joululauluja Facebookissa – Epidemia muuttaa jo toisen suuren kirkollisen juhlan viettoa. *Helsingin Sanomat*. 20.5.2021. <<https://www.hs.fi/kotimaa/art-2000007664610.html>>
- Hiltula, K. (2021) Lukiolaisten virtuaalimatalla Berliiniin dönerit ja munkit haettiin Ylitornion paikallisesta – koulujen kansainvälisyys on koetuksella korona-aikana. *Yle uutiset*. 20.5.2021. <<https://yle.fi/uutiset/3-11736533>>
- Hirvonen, H. (2020) Norjassa ryhdyttiin auttamaan pysähtynyttä urheilumaailmaa, valtio tukee 600 miljoonalla kruunulla – Suomessa odotellaan päätöksiä. *Yle urheilu*. 20.5.2021. <<https://yle.fi/urheilu/3-11266116>>
- Holopainen, H. (2021) Oulussa Hiukkavaaran koululaiset saavat aiempaa vahvemman visuaalisen kokemuksen opetettavista asioista – apuna lisätty todellisuus. *Yle uutiset*. 20.5.2021. <<https://yle.fi/uutiset/3-11879512>>
- Jokelainen, J. (2020) Monen tapahtuma-alan toimijan edellytykset riittävät enää pariaksi kuukaudeksi – Aika rajua tekstiä alkaa olla yrittäjien some-päivityksissä, sanoo kattojärjestön Mirva Merimaa. *Helsingin Sanomat*. 20.5.2021. <<https://www.hs.fi/kulttuuri/art-2000007681447.html>>
- Kartastenpää, T. (2021). Ministeriön työryhmä esitteli kolmiportaisen mallin, kuinka yleisötilaisuuksia voidaan järjestää pandemian rauhoituttua. *Helsingin Sanomat*. 20.5.2021. <<https://www.hs.fi/kulttuuri/art-2000007874337.html>>
- Keski-Heikkilä, A. (2020a) Elastinen kertoo ”häätähuudosta”, Olavi Uusivirta ”ahdingosta”: Näin artistit kertovat tapahtuma-alan ongelmista. *Helsingin Sanomat*. 19.5.2021. <<https://www.hs.fi/talous/art-2000006628765.html>>
- Keski-Heikkilä, A. (2020b) Tapahtumia tekee Suomessa yli 3 000 yritystä, mutta sitä ei tiedetty ennen tätä kesää. *Helsingin Sanomat*. 20.5.2021. <<https://www.hs.fi/talous/art-2000006657079.html>>

- Keski-Heikkilä, A. (2020c) Suomalainen tapahtumayhtiö siirtyy kokonaan verkkoon – Näin yritys käänsi toimintansa korona-aikana pääläelleen. *Helsingin Sanomat*. 20.5.2021. <<https://www.hs.fi/talous/art-2000006673965.html>>
- Komonen, O. (2020) Syksyn kirjamesut Messukeskuksessa perutaan – tapahtuma järjestetään verkossa. *Helsingin Sanomat*. 20.5.2021. <<https://www.hs.fi/kulttuuri/art-2000006607978.html>>
- Korona-avustus kulttuurialan yhteisöille (2020) Opetus- ja kulttuuriministeriö. 20.5.2021. <<https://minedu.fi/-/kohdennettu-yleisavustus-kulttuurialan-yhteisöille-koronaepidemian-johdosta-aiheutuvaan-lisarahoitustarpeeseen->>
- Koutonen, J. (2020) Huijarit kalastelevat henkilö- ja maksutietoja Turun Keskiäikaisten markkinoiden virtuaalitapahtuman varjolla. *Yle uutiset*. 20.5.2021. <<https://yle.fi/uutiset/3-11411899>>
- Krogerus, M. (2021) Xamk mukana järjestämässä virtuaalipenkkareita – tähtiesiintyjänä Teflon Brothers. *Yle uutiset*. 19.5.2021. <<https://yle.fi/uutiset/3-11810804>>
- Kulttuuri- ja tapahtuma-alan palautumisen mahdollistamiseksi alaa koskevien rajoitusten purkaminen oltava oikea-aikaista (2021) Helsingin kaupunki. 20.5.2021. <<https://www.hel.fi/uutiset/fi/kaupunginkanslia/kulttuuri-ja-tapahtuma-alan-palautumisen-mahdollistamiseksi>>
- Laitinen, T. (2020). Kiteen virtuaalisessa kulttuuriviikossa paljon seurattavaa. *Yle uutiset*. 20.5.2021. <<https://yle.fi/uutiset/3-11382643>>
- Larsen, S. (2021) Hikipisaroita kyberavaruudessa. *Helsingin Sanomat*. 20.5.2021. <<https://www.hs.fi/visio/art-2000007868082.html>>
- Lausuntopyyntö yritysten määräaikaista kustannustukea koskevan lain (508/2020) muuttamisesta/Tapahtumatakuu (2021) Lausuntopalvelu. 20.5.2021. <<https://www.lausuntopalvelu.fi/FI/Proposal/Participation?proposalId=f6fd8430-2fab-49f8-9aac-5ee61fb48e76>>
- Lehmusvesi, J. (2021a) Kesän festivaalit lähestyvät, rajoituksista ei ole tietoa, ja sadat yritykset ovat veitsenterällä – ministeri Lintilän takuupuheet herättävät toivoa. *Helsingin Sanomat*. 19.5.2021. <<https://www.hs.fi/kulttuuri/art-2000007804517.html>>
- Lehmusvesi, J. (2021b) Barcelonassa järjestetään tässä kuussa rock-konsertti, jota tapahtuman-järjestäjät ympäri maailmaa seuraavat pilottina pandemia-ajan tapahtumille. *Helsingin Sanomat*. 20.5.2021. <<https://www.hs.fi/kulttuuri/art-2000007845106.html>>
- Lehtonen, V-P. (2020) Huijarit iskivät Elastisen hyväntekeväisyys-keikalle, ja inhottava tilanne aiheuttaa päänvaivaa muusikoille – Nyt asiaa selvittelee lakitoimisto. *Helsingin Sanomat*. 20.5.2021. <<https://www.hs.fi/kulttuuri/art-2000006506241.html>>
- Mankkinen, J. (2020a) Live-striimejä ja virtuaalitapahtumia: keikkakatoa paikataan nyt Suomessa erilaisilla nettitempauksilla. *Yle uutiset*. 20.5.2021. <<https://yle.fi/uutiset/3-11258105>>
- Mankkinen, J. (2020b) Suomalainen yritys hyppää Broadway-musikaaleihin – Arilynin lisätty todellisuus on kiinnostanut myös Ozzy Osbournea. *Yle uutiset*. 20.5.2021. <<https://yle.fi/uutiset/3-11270694>>
- Mankkinen, J. (2020c) JVG tähdittää vappua uuden teknologian avulla – mallia otettu Fortnite-pelistä. *Yle uutiset*. 20.5.2021. <<https://yle.fi/uutiset/3-11330068>>
- Minadis, A. (2021) Korona on kouraissut useita tapahtuma-alan yrityksiä – exit-suunnitelma ja tapahtumatakuu tuomassa toivoa tulevaisuuteen. *Yrittäjät*. 20.5.2021. <<https://www.yrittajat.fi/helsingin-yrittajat/a/uutiset/647390-korona-kouraissut-useita-tapahtuma-alan-yrityksia-exit-suunnitelma-ja-tapahtumatakuu>>
- Museokortin vinkit kiinnostavimpiin näyttelyihin verkossa – matkaa kotisohvaltasi museoihin ympäri Suomen (2021) Museot.fi. 20.5.2021. <<https://museot.fi/museokortin-vinkit-kiinnostavimpiin-nayttelyihin-verkossa>>
- Museokorttilaisia hemmotellaan virtuaaliopastuksilla – varaa paikkasi Museokortti-klubeille! (2021) Museot.fi. 20.5.2021. <<https://museot.fi/uutiset.php?aid=15646>>
- Niskanen, A-M. (2020) Hämeen kyliin pääsee tutustumaan kätevästi netissä – Kanta-Hämeestä on mukana virtuaalitapahtumassa yli 70 kylää. *Yle uutiset*. 20.5.2021. <<https://yle.fi/uutiset/3-11398767>>
- Pajala, M. (2021) Osa kesän tapahtumista on jo päätetty perua, ala odottaa linjauksia – ”Oletan, että peruutuksia on lähiaikoina tulossa lisää”. *Helsingin Sanomat*. 20.5.2021. <<https://www.hs.fi/kotimaa/art-2000007860051.html>>

- Palomaa, A. (2021) Pitäisikö kulttuurisetelillä pystyä maksamaan myös livestriimi? Valtiovarainministeriö pohtii mahdollista lakimuutosta. Yle uutiset. 20.5.2021. <<https://yle.fi/uutiset/3-11820831>>
- Palvaila, J. (2021) Cup-taikkaa virtuaaliviheriöillä – Yle näyttää e-jalkapallon Suomen Cupin kolmannen kierroksen ottelut. Yle urheilu. 20.5.2021. <<https://yle.fi/urheilu/3-11818861>>
- Parkkinen, P. (2021) "Ihmiset pyörittivät päätään, että ei me sellaisia määriä myydä" – tamperelainen teatteristriimi keräsi yllättäen lähes 10 000 katsojaa. Yle uutiset. 20.5.2021. <<https://yle.fi/uutiset/3-11757109>>
- Pukkila, T. (2021) Kankaanpään Ramppikuume menee taas verkkoon. Yle uutiset. 20.5.2021. <<https://yle.fi/uutiset/3-11770492>>
- Rantala, K. (2020) Opiskelijat ideoivat norppatietokeskusta Savonlinnan Oraviin: "Harvempi on päässyt koskettamaan norppaa". Yle uutiset. 20.5.2021. <<https://yle.fi/uutiset/3-11640276>>
- Riihinen, E. (2020) Verkkohyökkääjät iskivät suomalaisten muusikoiden nettikeikoille ja kalastelivat maksutietoja: "Aivan super-raivostuttavaa". *Helsingin Sanomat*. 20.5.2021. <<https://www.hs.fi/kulttuuri/art-2000006480925.html>>
- Ruokangas, P. (2020) Finnair järjestää virtuaalilentoja Rovaniemelle – lennolle tarvitset tietokoneen, älypuhelimien tai VR-lasit. Yle uutiset. 20.5.2021. <<https://yle.fi/uutiset/3-11686898>>
- Salokangas, K. (2020) Itä-Suomen yliopiston opiskelijoilla etävapppu ja Wappuradio. Yle uutiset. 20.5.2021. <<https://yle.fi/uutiset/3-11313526>>
- Suomen kulttuurifestivaalien kattojärjestö: Tapahtumatakuu toimii huonosti, eikä riitä korvaamaan kesällä syntyviä tappioita. (2021) MTV uutiset. 20.5.2021. <<https://www.mtvuutiset.fi/artikkeli/suomen-kulttuurifestivaalien-kattojarjesto-tapahtumatakuu-toimii-huonosti-eika-riita-korvaamaan-kesalla-syntyvia-tappioita/8109928#gs.18o0pi>>
- Suomen Rautatiemuseon virtuaaliopastus Museokortilla alehintaan (s.a.) Museot.fi. 21.5.2021. <https://museot.fi/nayttelykalenteri/?nayttely_id=26064>
- Suopuro, M., Pitkänen, H. & Hiilloskorpi, H. (2020) "Lomautan myös itseni" – Urheiluseurat ovat ajautuneet hetkessä karuun talousahdinkoon, apuun ovat rientäneet valtion sijasta yksittäiset ihmiset. Yle urheilu. 20.5.2021. <<https://yle.fi/urheilu/3-11269150>>
- Tapahtuma-alan pandemiakriisistä kärsiviä autetaan keräyksellä (2021) *Helsingin Sanomat*. 20.5.2021. <<https://www.hs.fi/kulttuuri/art-2000007857022.html>>
- Tapahtuma-ala perusti uuden järjestön – haluaa ensimmäisenä avata keskustelun koronan seuraamuksista (2020) *Helsingin Sanomat*. 20.5.2021. <<https://www.hs.fi/kulttuuri/art-2000006537761.html>>
- Tapahtuma-alojen edunvalvonta-järjestö jätti oikeuskanslerille kantelun eduskunnan päätöksen-teosta (2021) *Helsingin Sanomat*. 20.5.2021. <<https://www.hs.fi/kulttuuri/art-2000007849125.html>>
- Tapahtumateollisuuden avoin kirje Suomen hallitukselle 26.3.2021 (2021) Tapahtumateollisuus ry. 20.5.2021. <<https://www.tapahtumateollisuus.fi/ajankohtaista/2021/03/tapahtumateollisuuden-avoin-kirje-suomen-hallitukselle-26-3-2021/>>
- Tapahtumateollisuuden kriisi kärjistymässä – koko vuoden tapahtumat vaarassa ilman nopeita tukitoimia (2021) Tapahtumateollisuus ry. 20.5.2021. <<https://www.tapahtumateollisuus.fi/ajankohtaista/2021/02/tapahtumateollisuuden-kriisi-karjistymassa-koko-vuoden-tapahtumat-vaarassa-ilman-nopeita-tukitoimia/>>
- Tapahtumateollisuus pelkää mahdollisten uusien korona-rajoitusten johtavan konkurssi-aaltoon (2020) *Helsingin Sanomat*. 20.5.2021. <<https://www.hs.fi/talous/art-2000006597476.html>>
- Tiekartta yleisötalouksien järjestämiseksi (2021) Opetus- ja kulttuuriministeriö. 20.5.2021. <https://api.hankeikkuna.fi/asiakirjat/357f8713-8741-49d5-8946-fc19dcfa0a45/d3c40757-aab7-466e-aafa-aa90e94af174/ESITYS_20210322120928.pdf>
- Valtavaara, M. (2020) Yliopiston etäpääsykokeet epäonnistuivat Itä-Suomessa – Kaikki hakijat eivät päässeet järjestelmään vaan jäivät linjoille kuuntelemaan "hissimusiikkia". *Helsingin Sanomat*. 20.5.2021. <<https://www.hs.fi/kotimaa/art-2000006497380.html>>
- Valtioneuvosto (2021) Lakiesitys lausuntokierrokselle: Yleisötapahtumien järjestäjille uusi tuki. 20.5.2021. <<https://valtioneuvosto.fi/-/1410877/lakiesitys-lausuntokierrokselle-yleisotapahtumien-jarjestajille-uusi-tuki>>

- Vastuullinen tapahtuma-työryhmän periaatteet tapahtumien järjestämiseksi koronaepidemian aikana (2020) Opetus- ja kulttuuriministeriö. 20.5.2021. <https://api.hankeikkuna.fi/asiakirjat/357f8713-8741-49d5-8946-fc19dcfa0a45/2faf671a-ce6c-49a1-8f45-4c479fd83280/MUISTIO_20201221120022.PDF>
- Vedenpää, V. (2019) Vesalan konsertissa kokeiltiin lisättyä todellisuutta – yleisö pidättäytyi vielä perinteisessä kännykkävalomeressä. *Helsingin Sanomat*. 20.5.2021. <<https://yle.fi/uutiset/3-11038501>>
- Vedenpää, V. (2020a) Kaverukset Hanna, 29, ja Sonja, 27, suunnittelevat häitään virtuaalimessujen avulla ja saivat miehensäkin innostumaan – nettimestut voivat olla myös menestys. Yle uutiset. 19.5.2021. <<https://yle.fi/uutiset/3-11612152>>
- Vedenpää, V. (2020b) Keikat, teatteriesitykset ja museot ympäri maailmaa ovat nautittavissa karanteenisohvalla – keräsimme tärppejä viikonloppuun. Yle uutiset. 20.5.2021. <<https://yle.fi/uutiset/3-11267347>>
- Veirto, T. (2021) Kiinalaiset kasvattajat vierailevat suomalaisessa päiväkodissa nyt Zoomin kautta – voiko virtuaalimatkailu korvata fyysisen matkustamisen? Yle uutiset. 20.5.2021. <<https://yle.fi/uutiset/3-11724181>>
- Viinikka, P. (2021) Virtuaalisuus olisi Lapin matkailullekin mahdollisuus, mutta uskalletaanko askel ottaa? Futuristi kannustaa: "Älä anna hyvän kriisin mennä hukkaan". Yle uutiset. 20.5.2021. <<https://yle.fi/uutiset/3-11744760>>
- Viinikka, P. & Hiltula, K. (2020) Sodankylän elokuvajuhlien ja Jukolan piti tuoda Lappiin kymmeniä tuhansia matkailijoita, nyt ei tule ketään – järjestäjille ja yrittäjille menetys on miljoonaluokkaa. Yle uutiset. 20.5.2021. <<https://yle.fi/uutiset/3-11390824>>
- Vilkman, S. (2020) Sodankylän virtuaalisilla elokuvajuhlilla esitetään yli 50 elokuvaa – myös karaokenäytökset, leffaraati ja baarittelu hoituvat verkossa. Yle uutiset. 19.5.2021. <<https://yle.fi/uutiset/3-11372058>>
- Wirén, M., Westerholm, T. & Liikamaa, A. (2020) Tapahtumateollisuus on koronakriisin suurimpia kärsijöitä. Turun yliopisto, uutiset. 20.5.2021. <<https://www.utu.fi/fi/ajankohtaista/uutinen/tapahtumateollisuus-on-koronakriisin-suurimpia-karsijoita>>
- YlexPop keräsi yhtäaikaaisesti yli 170 000 katsojaa nauttimaan kesän parhaasta aloituksesta (2020) Yle. 19.5.2021. <<https://yle.fi/aihe/artikkeli/2020/06/03/ylexpop-2020-kerasi-yhtaaikaisesti-yli-170-000-katsojaa-nauttimaan-kesan>>
- Ylönen, U. (2021) Presidentti Niinistön virtuaalinen Kultaranta-kierros ulottuu LUT-yliopistoon – keskustelun aiheena ilmastonmuutos. Yle uutiset. 20.5.2021. <<https://yle.fi/uutiset/3-11895210>>

Appendix 2: Foreign news articles

- 2021 Australian tourism exchange to return as hybrid event in June (2021) Australian Leisure Management. 20.5.2021. <https://www.ausleisure.com.au/news/2021-australian-tourism-exchange-to-return-as-hybrid-event-in-june/>
- Adelphi Orchestra to present virtual reality concert on March 20th (2021) New Jersey Stage. 20.5.2021. <https://www.newjerseystage.com/articles/2021/01/12/adelphi-orchestra-to-present-virtual-reality-concert-on-march-20th/>
- AfricaNXT: The Way Forward event (April 30 – May 1) (2020) Africanian. 20.5.2021. <https://africanian.com/africa/africanxt-the-way-forward-event/>
- Antoniuk, N. (2020) Are we witnessing the death of the events industry? Small business. <https://smallbusiness.co.uk/are-we-witnessing-the-death-of-the-events-industry-2551438/>
- Baxter, S. (2020) Helsinki's huge VR gig hints at the potential of virtual tourism. *The Guardian*. 20.5.2021. <https://www.theguardian.com/travel/2020/may/05/helsinki-huge-vr-virtual-reality-gig-potential-virtual-tourism>
- Brown, D. (n.d) Online church: Ministries use VR, apps to deliver digital services and virtual baptisms. US Today. 20.5.2021. <https://eu.usatoday.com/story/tech/2019/05/02/churches-add-apps-vr-and-online-services-engage-millennials/3538527002/>
- Bullard, B. (2021) Can't go to Sundance? Strap on a VR headset as the film festival heads to virtual reality. SyFy Wire. 20.5.2021. <https://www.syfy.com/syfywire/sundance-film-festival-goes-virtual-reality-2021>
- Chidekel, D. (2021) The future of live events: AR, VR, and advertising. *Forbes*. 20.5.2021. <https://www.forbes.com/sites/legalentertainment/2021/02/09/the-future-of-live-events-ar-vr-and-advertising/?sh=185b3e792b65>
- Coronavirus outbreak makes Met Gala 2020 go virtual: Theme, where to stream — all you need to know (2020) Firstpost. 20.5.2021. <https://www.firstpost.com/firstcricket/sports-news/coronavirus-outbreak-makes-met-gala-2020-go-virtual-theme-where-to-stream-all-you-need-to-know-8334191.html>
- Davis, J. (2021) As CES goes virtual in 2021, forecasts show a mixed reality for AR/VR. Insider. 20.5.2021. <https://www.businessinsider.com/ar-vr-spotlight-at-ces-2021-belies-mixed-reality-2021-1?r=US&IR=T>
- Deighton, K. (2020) Software developers look to offer virtual Hajj as a viable alternative for pilgrims. WSJ. 20.5.2021. <https://www.wsj.com/articles/software-developers-look-to-offer-virtual-hajj-as-a-viable-alternative-for-pilgrims-11595325600>
- El Nazer, S. (2020) What is the future of events? Wamda. 20.5.2021. <https://www.wamda.com/2020/07/future-events>
- Events industry to take a hybrid turn as Covid-19 increases uncertainty (2020) IOL News. 20.5.2021. <https://www.iol.co.za/news/south-africa/western-cape/events-industry-to-take-a-hybrid-turn-as-covid-19-increases-uncertainty-f7b2389a-bb7c-4b9e-b68b-e0908f5f9b2a>
- Flink, C. (2020) The Platform is the star of Steve Aoki's new VR concert *Forbes*. 20.5.2021. <https://www.forbes.com/sites/charliefink/2020/09/30/the-platform-is-the-star-of-steve-aokis-new-vr-concert/>
- French, K. (2018) This pastor is putting his faith in a virtual reality church. *Wired*. 20.5.2021. <https://www.wired.com/story/virtual-reality-church/>
- Fullard, M. (2020) Long read: why has the events industry been left behind? *Conference News*. <https://www.conference-news.co.uk/coronavirus-updates-blogs/long-read-why-has-events-industry-been-left-behind>
- Gullery, L. (2020) Coronavirus: Fieldays Online virtual event aims to fill void left by Covid-19 restrictions. *Stuff*. 20.5.2021. <https://www.stuff.co.nz/business/121155079/coronavirus-fieldays-online-virtual-event-aims-to-fill-void-left-by-covid19-restrictions>
- Holmes, C. (2020) I've never played Fortnite, but was forced to attend Travis Scott's Fortnite concert. *Rolling Stone*. 20.5.2021. <https://www.rollingstone.com/music/music-features/travis-scott-fortnite-concert-989209/>
- Huffman, A. (2020) Review: V²EC 2020 Virtual VIVE Ecosystem Conference. *Chicktech*. 20.5.2021. <https://chicktech.medium.com/review-v%C2%B2ec-2020-virtual-vive-ecosystem-conference-17255000dfa>

- Hyland, S. (2020a) Marc Geiger confirmed for Interactive Festival Forum 2020 keynote. Event industry news. 20.5.2021. <<https://www.eventindustrynews.com/news/marc-geiger-confirmed-for-interactive-festival-forum-2020-keynote>>
- Hyland, S. (2020b) First virtual Event Tech Live wows whole wide world. Event industry news. 20.5.2021. <<https://www.eventindustrynews.com/news/first-virtual-event-tech-live-wows-whole-wide-world>>
- Hyland, S. (2020c) COVID-19 and how it's changing the industry. Event industry news. 20.5.2021. <<https://www.eventindustrynews.com/news/covid-19-and-how-its-changing-the-industry>>
- Hyland, S. (2021a) Live events industry urge MPs to save the festival season and its wider supply chain. Event industry news. 20.5.2021. <<https://www.eventindustrynews.com/news/live-events-industry-urge-mps-to-save-the-festival-season-and-its-wider-supply-chain>>
- Hyland, S. (2021b) B2B marketers are putting their faith in sponsored virtual events in 2021: GDS research. Event industry news. 20.5.2021. <<https://www.eventindustrynews.com/news/b2b-marketers-are-putting-their-faith-in-sponsored-virtual-events-in-2021-gds-research>>
- Hyland, S. (2021c) £1 million digital boost for Edinburgh Festivals. Event industry news. 20.5.2021. <<https://www.eventindustrynews.com/news/1-million-digital-boost-for-edinburgh-festivals>>
- Hyland, S. (2021d) E3 2021: Biggest conference in gaming is going online. Event industry news. 20.5.2021. <<https://www.eventindustrynews.com/news/e3-2021-biggest-conference-in-gaming-is-going-online>>
- Impey, S. (2020) MLB set to launch Oculus VR live streams. SportsPro. 20.5.2021. <<https://www.sportspromedia.com/news/mlb-oculus-virtual-reality-2020-live-streaming-technology-baseball>>
- Ingham, T. (2020) Live Nation set to raise another \$1.2bn to boost liquidity during COVID concert shutdown. Music business worldwide. 20.5.2021. <<https://www.musicbusinessworldwide.com/live-nation-raises-another-1-2bn-in-debt-to-boost-liquidity-during-covid-enforced-shutdown/>>
- Ingman, T. (2020). Sony launches \$100m Covid-19 relief fund, including money for entertainment industry. Music business worldwide. 20.5.2021. <<https://www.musicbusinessworldwide.com/sony-launches-100m-covid-19-relief-fund-including-money-for-entertainment-industry/>>
- Jaehnig, J. (2020) Opera Beyond creates virtual theater with Varjo and the FNOB. AR Post. 20.5.2021. <<https://arpost.co/2020/12/14/opera-beyond-virtual-theater-varjo-fnob/>>
- Jean-Michel Jarre VR concert from Notre Dame (2021) Music connection. 20.5.2021. <<https://www.musicconnection.com/jean-michel-jarre-vr-concert-from-notre-dame/>>
- Jurejko, J. (2020) Virtual Madrid Open: Rafael Nadal, Andy Murray, Johanna Konta among ATP & WTA stars 'in action'. BBC News. <<https://www.bbc.com/sport/tennis/52434238>>
- Killion, A. (2020) Virtual reality could become sports' next big thing in post-coronavirus world. San Francisco chronicle. 20.5.2021 <<https://www.sfchronicle.com/sports/annkillion/article/Virtual-reality-could-become-sports-next-big-15265703.php>>
- Laharia, U. (2020) VR theatre doesn't seem so distant anymore. American theatre. 20.5.2021. <<https://www.americantheatre.org/2020/05/18/vr-theatre-doesnt-seem-so-distant-anymore/>>
- Lee, H.K. (2020) K-pop boy band SuperM thrills fans as it performs concert online during coronavirus pandemic. ABC News. 20.5.2021. <<https://abcnews.go.com/International/pop-boy-band-superm-thrills-fans-performs-concert/story?id=70362270>>
- Lewis, T. (2021) How COVID-19 has created a new kind of audience that could be a key element for our economy recovery. Event industry news. 20.5.2021. <<https://www.eventindustrynews.com/featured/how-covid-19-has-created-a-new-kind-of-audience-that-could-be-a-key-element-for-our-economy-recovery>>
- Lobosco, K. (2021) Theaters and music venues are still waiting on Covid relief funds approved in December. CNN Politics. 20.5.2021. <<https://edition.cnn.com/2021/04/16/politics/shuttered-venue-grant-small-business-administration/index.html>>
- McThenia, T. (2020) Could virtual reality and live theater combine for a new kind of entertainment experience? Departures. 20.5.2021. <<https://www.departures.com/lifestyle/art-culture/virtual-reality-live-theater>>

- Millman, E. (2020a) Coronavirus is giving livestreaming the chance to prove itself. *Rolling Stone*. 20.5.2021. <<https://www.rollingstone.com/pro/features/coronavirus-livestreaming-concerts-967169/>>
- Millman, E. (2020b) With live shows paused, John Legend and Tinashe turn to virtual concerts. *Rolling Stone*. 20.5.2021. <<https://www.rollingstone.com/pro/news/john-legend-tinashe-vr-concerts-990783/>>
- Millman, E. (2020c) The new reality for concerts in COVID: Virtual reality? *Rolling Stone*. 20.5.2021. <<https://www.rollingstone.com/pro/features/virtual-reality-livestreams-covid-1021683/>>
- Modiba, I. (2021) Events industry struggling to remain afloat. SABC News. 20.5.2021. <<https://www.sabcnews.com/sabcnews/events-industry-struggling-to-remain-afloat/>>
- Molodtsov, G. (2020) Jean-Michel Jarre and VRrOOM reinvent the live music performance in social VR on June 21. Film XR. 20.5.2021. <<https://vrfilmreview.ru/jean-michel-jarre-and-vrroom-reinvent-the-live-music-performance-in-social-vr-on-june-21-76545d497548>>
- Moss, M. (2020) Indie artists turn to livestreaming as coronavirus crisis unfolds. *Rolling Stone*. 20.5.2021. <<https://www.rollingstone.com/pro/features/livestreaming-concerts-coronavirus-967802/>>
- MPs want government to help festivals with insurance support (2021) BBC News. 20.5.2021. <<https://www.bbc.com/news/uk-politics-56463550>>
- Needleman, S. (2020) Ttraditional sports look to gamers to reshape viewers' experience. WSJ. 20.5.2021. <<https://www.wsj.com/articles/traditional-sports-look-to-gamers-to-reshape-viewers-experience-11583439591>>
- 'New normal' in the live events industry (2020) CNN Philippines. 20.5.2021. <<https://www.cnn.ph/news/2020/6/11/new-normal-live-events-concert-industry.html>>
- Nightwish unveils two virtual reality concerts in March 2021 (2020) Music Finland. 20.5.2021. <<https://musicfinland.com/en/news/nightwish-unveils-virtual-concert-in-march-2021>>
- Novak, A. (2020) Pride has gone virtual this year. Here's how you can celebrate. CNN. 20.5.2021. <<https://edition.cnn.com/2020/06/27/us/virtual-pride-events-trnd/index.html>>
- Ockhuysen, S. (2020) Virtual event brings people from across the country together to find solutions for post Covid-19 problems. Stuff. 20.5.2021. <<https://www.stuff.co.nz/taranaki-daily-news/news/121049974/virtual-event-brings-people-from-across-the-country-together-to-find-solutions-for-post-covid19-problems>>
- Okoye, R. (2020). Covid-19: Virtual reality events alternative to event industry – Akinlolu Jekins Jikiemi. The Sun. 20.5.2021. <https://docs.google.com/spreadsheets/d/1k7cowyti6kl_7G-CWMO9iBYrAyl0369PcYkSwHVPy9w/edit#gid=1634828780>
- Parry, A. (2020a) B2B events sector takes 40% hit to valuations during COVID-19 – but the crisis will likely create more resilient business models in the future. Event industry news. 20.5.2021. <<https://www.eventindustrynews.com/news/b2b-events-sector-takes-40-hit-to-valuations-during-covid-19-but-the-crisis-will-likely-create-more-resilient-business-models-in-the-future>>
- Parry, A. (2020b) Mesmerise launches Gatherings VR, a ground-breaking new Virtual Reality Experience providing the “best seat in the house” for the Morningstar Investment Conference 2020. Event industry news. 20.5.2021. <<https://www.eventindustrynews.com/news/mesmerise-launches-gatherings-vr-a-ground-breaking-new-virtual-reality-experience-providing-the-best-seat-in-the-house-for-the-morningstar-investment-conference-2020>>
- Parry, A. (2020c) Brighton Music Conference 2020 announces switch to virtual only conference. Event industry news. 20.5.2021. <<https://www.eventindustrynews.com/news/brighton-music-conference-2020-announces-switch-to-virtual-only-conference>>
- Parry, A. (2020d) DRPG launch first ever communications virtual theme park for annual thought leadership event. Event industry news. 20.5.2021. <<https://www.eventindustrynews.com/news/drpg-launch-first-ever-communications-virtual-theme-park-for-annual-thought-leadership-event>>
- Parry, A. (2020e) Research shows Farnborough International’s virtual event flew high. Event industry news. 20.5.2021. <<https://www.eventindustrynews.com/news/research-shows-farnborough-internationals-virtual-event-flew-high>>

- Parry, A. (2020f) How the events industry can maximise technology to survive COVID-19. Event industry news. 20.5.2021. <https://www.eventindustrynews.com/guest-blogs/how-the-events-industry-can-maximise-technology-to-survive-covid-19>
- Parry, A. (2020g) Sustainability and Covid-19 – AGF Festivals seek audience insight. Event industry news. 20.5.2021. <https://www.eventindustrynews.com/news/sustainability-and-covid-19-agf-festivals-look-audience-insight>
- Parry, A. (2021a) Details of £7 million funding support for events industry confirmed. Event industry news. 20.5.2021. <https://www.eventindustrynews.com/news/details-of-7-million-funding-support-for-events-industry-confirmed>
- Parry, A. (2021b) VenuIQ ensures go ahead of vital NHS leadership conferences. Event industry news. 20.5.2021. <https://www.eventindustrynews.com/news/venuq-ensures-go-ahead-of-vital-nhs-leadership-conferences>
- Parry, A. (2021c) Stagehand Covid-19 Crew Relief Fund reaches over £1M. Event industry news. 20.5.2021. <https://www.eventindustrynews.com/news/stagehand-covid-19-crew-relief-fund-reaches-over-1m>
- Parry, A. (2021d) Half of future B2B events will be completely virtual and “pandemic-proof”, finds LinkedIn research. Event industry news. 20.5.2021. <https://www.eventindustrynews.com/news/half-of-future-b2b-events-will-be-completely-virtual-and-pandemic-proof-finds-linkedin-research>
- Pierce, D. (2019). The future of sports is interactive, immersive and intense. WSJ. 20.5.2021. <https://www.wsj.com/articles/the-future-of-sports-is-interactive-immersive-and-intense-11552827600>
- Porter, J. (2020) The Weeknd will perform in a virtual TikTok concert on August 7th. The Verge. 20.5.2021. <https://www.theverge.com/2020/7/30/21347803/tiktok-the-weeknd-virtual-concert-date-time-wave-cross-reality>
- Powell, O. (2020) 80% of event planners support hybrid events, Cvent Australia planner report reveals. CMW. 20.5.2021. <https://www.c-mw.net/80-of-event-planners-support-hybrid-events-cvent-australia-planner-report-reveals/>
- Prati, G. (2020) Abu Dhabi bets on virtual events to revive tourism. CNN. 20.5.2021. <https://edition.cnn.com/2020/05/11/middleeast/abu-dhabi-virtual-tourism-coronavirus-spc-intl/index.html>
- Respers France, L. (2020) Coronavirus has halted these concerts, festivals and movie premieres. CNN Entertainment. 20.5.2021. <https://edition.cnn.com/2020/03/10/entertainment/concerts-festivals-canceled-coronavirus/index.html>
- Ries, B. (2020) Bands try 'virtual tours' as the reality of a summer with no concerts settles in. CNN Entertainment. 20.5.2021. <https://edition.cnn.com/2020/06/20/entertainment/goose-virtual-tour-coronavirus-trnd/index.html>
- Robertson, A. (2020) How to watch Connect, Facebook and Oculus’ big AR/VR event. The Verge. 20.5.2021. <https://www.theverge.com/2020/9/16/21437713/facebook-oculus-connect-vr-ar-conference-watch-live-stream>
- Rogers, S. (2019a) How immersive technology can bring new audiences into opera. *Forbes*. 20.5.2021. <https://www.forbes.com/sites/solrogers/2019/11/14/how-immersive-technology-can-bring-new-audiences-into-opera/?sh=5e2ff9183117>
- Rogers, S. (2019b) How technology is augmenting traditional theater. *Forbes*. 20.5.2021. <https://www.forbes.com/sites/solrogers/2019/12/06/how-technology-is-augmenting-traditional-theatre/?sh=2069606750c0>
- Royal Shakespeare Company to stage virtual reality show (2021) BBC News. 20.5.2021. <https://www.bbc.com/news/uk-england-coventry-warwickshire-55969712>
- Séveno, V. (2021) Events in the Netherlands to potentially resume from July. I am expat. 20.5.2021. <https://www.iamexpat.nl/lifestyle/lifestyle-news/events-netherlands-potentially-resume-july>
- Sillar, J. (2021) COVID-19: 'Perfect storm' leaves 400,000 jobs lost in events sector - industry body. Sky News. 20.5.2021. <https://news.sky.com/story/covid-19-perfect-storm-leaves-400-000-jobs-lost-in-events-sector-industry-body-12200211>
- Sprung, S. (2019) How the NBA is using virtual reality and augmented reality to get fans closer to the action. *Forbes*. 20.5.2021. <https://www.forbes.com/sites/shlomosprung/2019/03/15/behind-the-scenes-how-the-nba-is-using-virtual-reality-to-get-fans-closer-to-the-action/?sh=7a4d47123727>

- Stassen, M. (2020) 98.5% of UK independent festivals aren't covered by insurance for COVID-19 cancellations. Music business worldwide. 20.5.2021. <<https://www.musicbusinessworldwide.com/uks-aif-warns-of-independent-festival-sector-collapse-without-urgent-government-support/>>
- Stassen, M. (2020b) 82% of festival-goers 'feel confident' to return to live events after Covid-19 lockdown is lifted. Music business worldwide. 20.5.2021. <<https://www.musicbusinessworldwide.com/82-of-festival-goers-feel-confident-to-return-to-live-events-after-covid-19-lockdown-is-lifted-report/>>
- Stassen, M. (2020c) Live Nation has already lost out on \$7bn of revenue due to Covid-19 – and will slash costs by \$900m across course of 2020. Music business worldwide. 20.5.2021. <<https://www.musicbusinessworldwide.com/live-nation-has-already-lost-out-on-7bn-of-revenue-due-to-covid-19-and-will-slash-costs-by-900m-across-course-of-2020/>>
- Stassen, M. (2021) Live Nation buys Stake in live-streaming concerts platform veeva. Music business worldwide. 20.5.2021. <<https://www.musicbusinessworldwide.com/live-nation-buys-stake-in-live-streaming-concerts-platform-veeva/>>
- Steele, A. (2021) As concerts prepare to return from pandemic lockdown, roadies have moved on. WSJ. 20.5.2021. <<https://www.wsj.com/articles/concerts-are-ready-to-return-are-workers-11617015601>>
- Taufik, S. (2020) An augmented-reality music experience with The Changcuters. *The Jakarta post*. 20.5.2021. <<https://www.thejakartapost.com/life/2020/09/17/an-augmented-reality-music-experience-with-the-changcuters.html>>
- The future of sports: How the roles of athletes, fans and industry businesses will change after covid-19 (2020) U.S Chamber of Commerce. 20.5.2021. <<https://www.uschamber.com/on-demand/coronavirus-pandemic/the-future-of-sports-how-the-roles-of-athletes-fans-and-industry-businesses-will-change-after-covid-19>>
- Töre, Ö. (2021) Covid-19 Sparks A Collapse in Italy's Conference Tourism. Ftn news. 20.5.2021. <<https://ftnnews.com/mice/41485-covid-19-sparks-a-collapse-in-italy-s-conference-tourism>>
- Visatek, K. (2020) Industry leaders challenge the event industry to reset their business model. Forbes. 20.5.2021. <<https://www.forbes.com/sites/katevitasek/2020/08/31/industry-leaders-challenge-the-event-industry-to-reset-their-business-model/?sh=2cb67047685c>>
- Young, J. (2020) Sports leagues are betting on augmented reality, as virtual courtside seats can't match the real thing. CNBC. 20.5.2021. <<https://www.cnbc.com/2020/11/01/tech-augmented-reality-sports-leagues-nba-mlb-nhl-profit-virtual-reality.html>>
- Yu, K. (2019) How immersive virtual reality theatre pushes the limits of storytelling. No proscenium. 20.5.2021. <<https://noproscenium.com/how-immersive-virtual-reality-theatre-pushes-the-limits-of-storytelling-8265b198bfc7>>