

Emerging from the
Covid-19 Crisis into
the New Real:
**Scenarios and
challenge themes for
the festivals sector**

Interim Report on
Resilience in the New Real

Drew Hemment
Matjaz Vidmar
Caroline Sindors
Keili Koppel
Holly Warner
David Sarmiento Pérez

ABSTRACT

In this interim report we present near future scenarios, challenges and opportunities for the arts and festivals sector as we emerge from the Covid-19 crisis, with a specific focus on how lessons from the Covid-19 period and from 'digital native' practitioners can inform and support recovery and transition. The report describes the digital pivot in the cultural sector after the pandemic and presents findings from the first stage of our co-creation research with international festivals and creative practitioners in artificial intelligence and the arts. In our design research, we combined a futures design process with a multi-level perspective to understand how strategies from digital artists and platforms can be situated in the wider cultural sector to create positive change, with a focus on artists working with machine learning. Here we present the results of the 'scope' and 'connect' stages of our Open Prototyping methodology, and the findings that were collaboratively developed through a co-creation process with project stakeholders. We report on gaps faced by practitioners and organisations, especially festivals, and discuss four near future scenarios for the sector as it emerges from Covid-19. Based on these, we present promising directions for further research and development in the festivals and creative sector, and also propose challenge themes on Arts and AI.

1.

Introduction

At a time of multiple crises, there is an urgent need to equip future generations to flourish on a thriving planet in the midst of surprising, joyful, and inclusive forms of intelligent life.

In 2020, Edinburgh's Festivals were cancelled for the first time in their 73 year history (Wade 2020). Health and safety measures implemented during the Covid-19 pandemic presented a number of challenges to festivals, cultural venues, and arts organisations both in Scotland and around the globe (Kloskowski and Kwiatkowski 2021). Issues included the cancellation of live events, severe restrictions on visitor numbers, and relocation of events from indoor venues to outdoor sites.

In this context, the Resilience in the New Real research project investigates innovative forms of artistic commissioning, production and distribution with potential to facilitate and accelerate recovery and resilience in the festivals and cultural sector. It aims to surface and articulate strategies from the Covid-19 period and from 'digital native' practitioners and platforms that can equip cultural organisations to navigate the multi-dimensional challenges of technology transition, with a focus on artists working with artificial intelligence (AI). The project has brought together festivals, researchers, artists, policy advocates, and media and technology companies, on a journey to understand the challenges created by the pandemic and how we can bounce back. Along the way, the focus shifted from the immediate crisis, to the future opportunity for, in the words of a participant, a 'refreshing reset' for the sector.

This is an interim report in which we describe the first stages of our co-creation research developing pilot experiences with festivals, and present preliminary findings. These include near future scenarios, challenge themes, and promising directions for future research and development. We use an 'Open Prototyping' methodology (Hemment 2015; Hemment 2020; Hemment et al 2020) in which practitioners and audiences are connected to the research through festivals and other platforms. The findings in this report help us to understand what this positive reset could look like, and build on pilot experiences through which these strategies are situated in festivals, which we report on elsewhere.



Image 1. An event at Edinburgh Castle during the Edinburgh International Festival in 2019. Credit: Adek Berry/Agence France-Presse — Getty Images

2. Background

The digital pivot in the arts

The challenges posed by the COVID-19 pandemic for the arts and creative economy are profound (e.g. Harper 2020; Comunian and England 2020; Khlystova et al, 2022). This is especially true for those arts sectors that present live work to in-person audiences, and those who rely on the use of indoor venues. Previously, many cultural organisations have organised their outputs around a predominant or even exclusive reliance on in-person events and activities. However, since the beginning of the pandemic, this is no longer a viable route to audiences.

Additionally, the digital expertise of organisations working with in-person, live events has often been focused on marketing and audience development, rather than on the design, production, and delivery of digital experiences. Moreover, for many practitioners working in art forms whose histories and traditions pre-date the emergence of digital technologies, the essence of what they do is about delivering an in-person experience, where the physical intimacy between artist and audience, or the placing of and encounter with an object in a

Each year Edinburgh's Festivals deliver over 3,000 events, reaching audiences of more than 4.5 million and creating the equivalent of approximately 6,000 full time jobs (BOP Consulting 2018). Their extensive media coverage includes an estimated 30.1 billion views of online articles globally. The University of Edinburgh has been involved every year since 1947, and provides 65 Festival venues annually.

space, or the immersion in a crowd, are all integral to the integrity of the cultural experience and its meaning.

In response to the pandemic, organisations and events across the arts and creative sector have had to find new ways of working with artists, new operating models, and new routes to audiences (Rentschler and Lee 2021). Programmes that are digital-first are created for digital platforms from the outset, which is different to the capture of in person events for online audiences. This can mean delivering experiences and services across multiple channels – including web, mobile and social media – as well as in person. Works can be hybrid, experienced by both online and in person audiences, or blended, combining online and in person dimensions in the work. This has for many created a need to rapidly develop their digital resources and programmes, including digital-only and hybrid methods for content creation and consumption, and digital experiences which may be immersive, networked, algorithmic and data-driven. This transition goes beyond the simple adoption of new formats or technologies, and includes far-reaching changes at cultural, organisational, economic, and infrastructural levels (Banks and O'Connor 2021). We call this 'the New Real.'

New and emerging technologies in areas such as artificial Intelligence (AI) and immersive media present both opportunities and challenges for cultural producers (Hearn 2020; Lee 2022). AI systems and AI-driven tools, combined with data capture and processing capabilities, create astonishing new possibilities for artistic production, distribution and experience, and the innovation potential for the cultural and creative sector is high (du Sautoy 2019; Miller 2019). Recent advances in machine learning and the explosion of big data have made these tools more accessible to artists and cultural organisations, as well as those working across a wide range of creative and entertainment sectors, from games and broadcast to heritage and museums. The capabilities arising from this – both creative and business-oriented – would have been unimaginable only a few years ago.

The creative industries are a major part of the UK economy, and a priority in industrial strategy following the Creative Industries Sector Deal in 2018. However, despite a significant level of research on immersive technology and AI applications for image, text and sound, the level of investment in direct applications of AI in the creative industries remains low (Davies 2020). Moreover, cultural organisations newly producing digital or hybrid experiences have been confronted with the formidable challenge of pivoting towards formats and business models that work in and with networked, online infrastructures. Companies and artists require swift acquisition of new concepts and skills, the adoption of new tools and technologies, and access to new networks and resources. Cultural workers face new and unfamiliar opportunities and constraints in working with artists and engaging audiences. Difficult questions can arise for curators, marketers, technicians, all the way through to senior managers and creative directors.

Following the pandemic, we face a cultural landscape that has changed. Some producers and audiences passionately want to return to life as it was. Others have found new vital and successful ways of doing things they want to take further. All of us have seen the risks of business as usual, and gained a taste of something new and different. The genie will not go back into the bottle: audiences have new expectations, producers have new skills, artists have new creative ambitions. The question is how we can all flourish moving forwards.

3.

Methodology

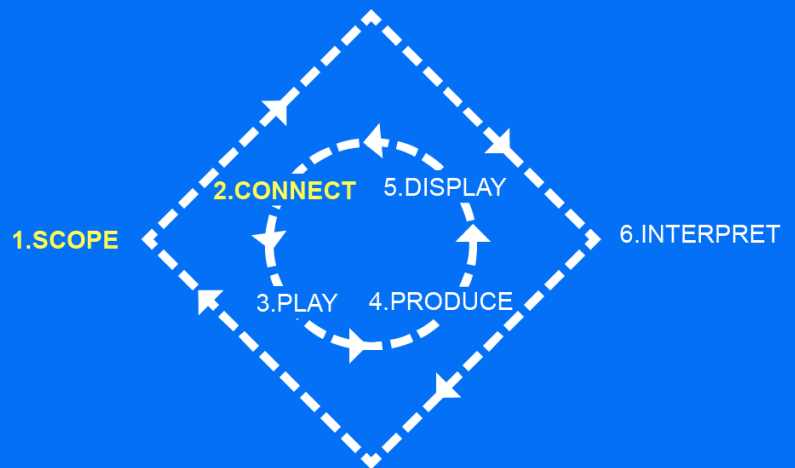


Figure 1. Open Prototyping Process Model (Hemment et al., 2017)

3.1. Open Prototyping

In the Resilience in the New Real project, the Open Prototyping co-creation methodology is used to collaborate with stakeholders to understand the key challenges and opportunities for the cultural and creative community and co-design pathways towards pandemic-resilient online and hybrid experiences and business models.

The Open Prototyping process includes six key stages as shown on the process model (Figure 1), the first two of which are reported in this report: SCOPE and CONNECT, in which we explored the landscape of user needs, current practices, data/ethical literacies, and requirements for new interfaces and experiences, leading towards the specification of co-creation proposals for festival experiences or services.

As the diagram suggests, the Open Prototyping process is iterative, cyclical and provides a structured approach to shaping new creative experiences with/of technology and deriving insights and learning from those experiences. SCOPE and INTERPRET are based on creative divergence and convergence, where SCOPE aims to articulate the thematic interest and conceptual challenges and INTERPRET delivers practical insights, transferable understanding and impact evaluation. CONNECT-PLAY-PRODUCE-DISPLAY are the iterative stages of artistic and technical exploration and development, where new work is envisioned, built and displayed to stakeholders and audiences. The separation between the outer diamond and the inner circle represents a purposeful separation between the design research methodology and the practice of the artists and creative technologists, to preserve the autonomy of the artistic work.

Open Prototyping is a methodology and a process that helps to guide and support companies and research organisations, to design, deliver and evaluate creative and technical projects with(in) multi-disciplinary teams.

We build on this in the Experiential AI framework, as discussed in (Hemment et al 2019; 2022a), and further in (Hemment et al 2022b) developing the four critical dimensions as:

Aspect - the institutional dimension and the themes or issues of concern,

Algorithm - the technology and catalyst that enables and is developed by the work,

Affect - the quality and character of an experience for an audience, and

Audience and Apprehension - the people it reaches and the impact upon them.

Open Prototyping Process Stage	Objective	Result
SCOPE	Elicit themes and questions for exploration.	Resources to build strategies for resilient programme development.
CONNECT	Identify promising collaborations and build consensus on project directions.	Cutting edge emerging technologies used by artists in the co-creation of new works, addressing social and technical challenges.
PLAY	Explore possibilities, experiment, play.	
PRODUCE	Concretise work for display.	Identification of new opportunities for business development.
DISPLAY	Collect data on technical implementation and audience response.	
INTERPRET	Translate data from audiences into insights.	Skills and organisational development with new routes to audiences and/or revenues.

Table 1. Objectives and expected results of the Open Prototyping stages.

The New Real research also draws on the Three Horizons foresight method (Sharpe et al 2016) and a multi-level perspective (MLP) to understand and facilitate socio-technical transition towards networked, online and hybrid working following the pandemic, with a focus on wider adoption of AI in the creative sector. MLP is an analytical tool positing that transitions come about through interaction between three analytical levels: niche, regime and landscape (Geels 2006). The niche level is the site of radical innovations that can drive change. The regime level represents the current structures and practices characterised by dominant rules, institutions and technologies that are self-reinforcing. The landscape is the exogenous environment, made up of opportunities and threats, such as COVID-19.

MLP is used here to pinpoint barriers and opportunities associated with the move to networked, online communication and interaction in the cultural sector and society during the pandemic. The Three Horizons method enables us to understand transition in terms of the interaction between 1) emergence of a novelty in the current landscape (during or before the Covid-19 period); 2) its development within a niche to build a new regime (the period of turbulent transition post-Covid-19); 3) the wide diffusion and stabilisation of the new practices and models (the broader context of digital transition in this century).

3.2. SCOPE – Elicit themes and questions for exploration

In the SCOPE stage, research is undertaken to map, identify, and frame emerging issues.

This stage enables and structures the identification of current challenges alongside new opportunities and possible catalysts that could support transition and novel directions to explore. Figure 2 shows a canvas that was designed to apply the Three Horizons foresight method to the scoping process for the coming festival cycle, which, to align to the majority of the festival partners, we defined as 18 months.

In this (Figure 2), the current festival position is Horizon 1, the transformation represented by the expectations of future audiences is Horizon 2, and the intervention of artists, creative teams and new tools or media is Horizon 3. For each triangle in the SCOPE canvas, we introduced a corresponding question to use in workshops and discussions with stakeholders:

Horizon 1: Where you are now – What is your current position?

Horizon 2: What does the future care about – What do your 2022 audience & stakeholders care about?

Horizon 3: How you evolve – How do you work with artists & teams to achieve astonishing programmes and positive feedback in 2022?

Statements given in response to these prompts were then used by the workshop participants to build scenarios.

3.2.1. Scoping Workshops

To support the festivals recovery following Covid-19, we set out to understand the key challenges and opportunities for the culture and festival sector through two exploratory workshops with 20 practitioners and stakeholders from different festival, media and policy organisations. Participating organisations included Edinburgh International Festival, Edinburgh Science Festival, Edinburgh Book Festival, Edinburgh Arts Festival, Ars Electronica, BBC, The Space, Edinburgh City Council and Creative Scotland, most represented at Artistic Director or Programme Head level. External participants were invited to give 5 minute presentations on the place for digital and AI-fuelled experiences in the transition to resilience and recovery after COVID19.

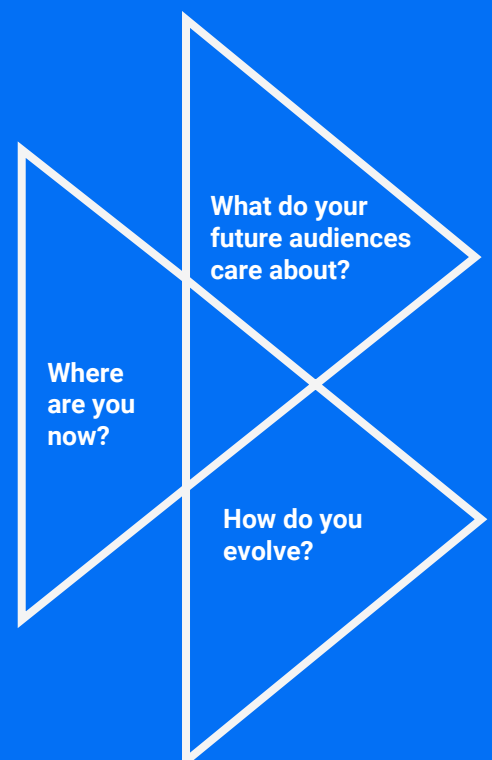


Figure 2. In Resilience in the New Real, we elicited project directions through three main questions.

There was then an interactive session when all participants populated the SCOPE Canvas, and then proposed and discussed scenarios based on triads of those statements. It closed with a session when stakeholders shared their plans for the coming festival cycle and discussed insights from the workshop. An audio recording was created of the workshop for later analysis, except for the final session to remove barriers to candid discussion. A Miro board was used to capture data on electronic post-its in the interactive session, and the project team recorded notes and annotations throughout. Through the workshops we built an understanding of festivals current format and visions for the future.

3.2.2. Interviews

15 interviews were conducted with internationally-leading 'digital native' practitioners from data arts and platforms to surface strategies and tools for the design of pandemic-resilient services and experiences, and to understand the strategies used by data arts practitioners and organisations to delight audiences and build critical literacies in the New Real. The interviews did not use the SCOPE Canvas, rather they provided contextual data used by The New Real team to further develop the scenarios.

3.2.3. Studied experiences

2 interactive online AI artworks were developed as a part of The New Real and presented as the first data art programme of Edinburgh International Festival that explored the potential for online artistic works and performance during lockdown. These were The Zizi Show by Jake Elwes and Mechanized Cacophonies by Anna Ridler and Caroline Sindors. For SCOPE, reflection on the 'design', development and presentation of the artworks during Covid-19 was used to contextualise and deepen understanding of the results from the workshops.



Figure 3. Screenshot of the scoping workshop Miro board.



Image 2. Mechanized Cacophonies by Anna Ridler and Caroline Sindors

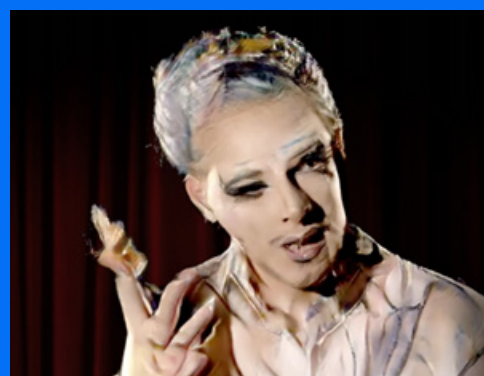


Image 3. The Zizi Show by Jake Elwes

3.3. CONNECT – Identify promising collaborations and build consensus on project directions

As the festival organisations were pressured during this period, a preliminary step in CONNECT was to provide transparency on the nature and scope of the engagement, through a simple summary of what participants are asked to bring to the project, and what they can expect to take away.

In the CONNECT stage, a transdisciplinary team is brought together around a scenario or a concept note to set out shared, flexible, and realistic objectives for the co-creation research. By bringing together artists, scientists, researchers and creative producers, along with building ownership and trust, the CONNECT stage ensures that each perspective and interest is represented. The four dimensions of the Experiential AI framework, Aspect, Affect, Algorithm and Apprehension, are used to structure interaction with and between participants, using the headings: Challenge, Technology, Art, Audience. In addition to a more rich and nuanced scenario, the outcome of this stage should be a clearly defined creative brief or co-creation agreement with a set of aims and objectives agreed with project stakeholders. The transdisciplinary team is onboarded and ready to embark on exploration and play around the project's themes and questions.

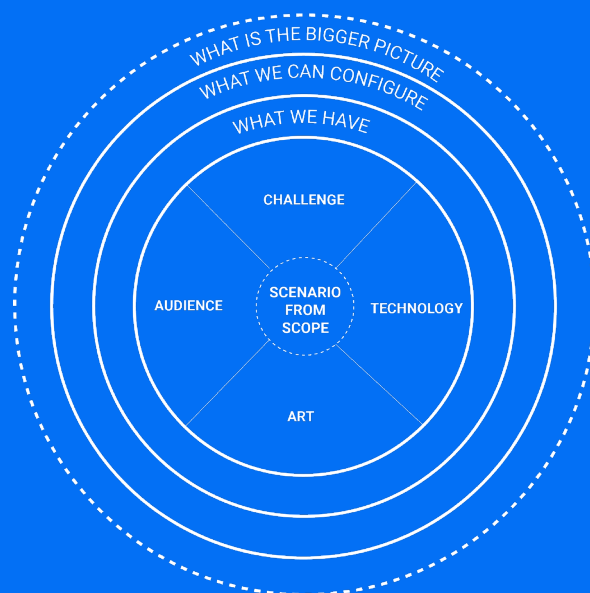


Figure 4. The segments at the centre ensure equal representation of the four dimensions - Challenge, Technology, Art, Audience.

One-to-one meetings with festivals

In the Resilience in the New Real project, we engaged our festival and cultural partners in one-to-one sessions where we explored the alignment between the festivals programming priorities and timelines, with possibilities for developing digital and AI-fuelled formats, experiences and services. In the sessions, we presented and discussed a set of synthesised scenarios from SCOPE as a way to further explore partners' hopes and ideas. The scenarios acted as communication tools, to focus the conversations and enable us to effectively explore with festival partners what is possible, plausible and desirable. They allowed us to dive more deeply into the festival challenges and capture relevant data to strengthen the project directions. Following the presentation of the scenarios, the CONNECT Canvas (Figure 3) and four questions which again reflect the framework dimensions (Figure 4) were used to guide conversations with festivals to further develop the scenarios, uncover promising directions for co-creation research and how we might connect to their upcoming programmes.

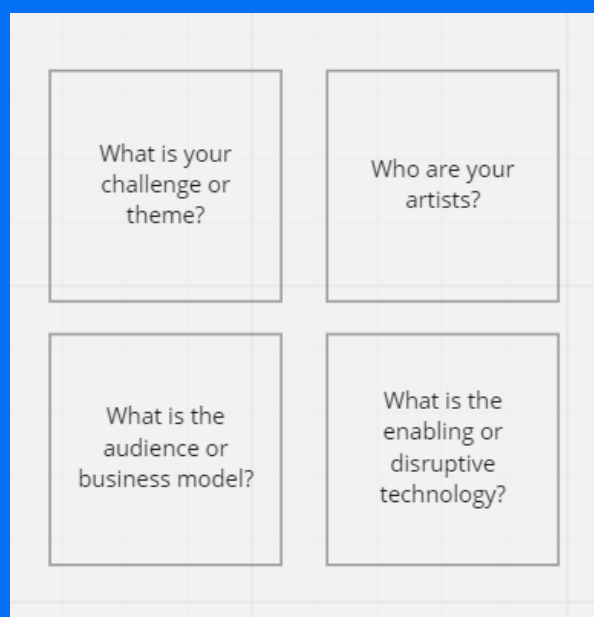


Figure 5. Four questions developed to guide the 1-to-1 meetings with festival partners.

3.4. Analysis – Building near futures

We synthesised the workshop data into four near future scenarios to present to festival partners as potential avenues for further exploration. These enabled us to communicate with partners and to quickly and effectively come to desirable, plausible, and impactful co-creation briefs.

During the SCOPE workshops, we first sought to surface as many 'gaps' as possible, discussing with participants what is needed by practitioners that isn't there, and why is it missing. The project team clustered the gaps and challenges of the partner organisations in horizon one. Our analysis concentrated on: (i) short-, medium- and long-term opportunities and challenges, both among Festivals, and other key segments of the creative sector; (ii); which platforms organisations are familiar with and how the flow of data (personal, cultural and economic) currently informs their existing business models and modes of delivery; and (ii) barriers to acceptance and adoption including anxieties based on a lack of knowledge around data governance, digital rights and misinformation in online environments.

We looked for insights in key dimensions of cultural work:

- artistic programme;
- audience engagement;
- revenue and ticketing;
- operational structure;
- governance and values.

Figure 5. Building initial near future scenarios in SCOPE and CONNECT



We then invited participants to build initial near future scenarios by combining statements from each of the three horizons. Participants selected statements that were significant to them, then place a single statement (or small number of statements) to the corresponding horizon in a separate canvas (Figure 5) to create triads of statements. They were then invited to reflect on the correspondences and tensions across the three, and tell stories about the navigational dilemmas in a transition to a near future they suggest.

The early stage scenarios from the workshops were further developed by looking across and integrating data from the other co-creation activities. The transitions were elaborated through contributions of 'digital natives' in the interviews, and promising directions from the 1:1 discussions. Short narrative descriptions of the scenarios were developed (see section 4.3), alongside more detailed versions in which related statements were clustered around the scenario descriptions (Tables 6-9 in appendix). Each scenario provided an object for discussion leading to the development of key insights relating to each one.

By reflecting on the scenarios, we identified key emerging themes, looked across the scenarios for areas for future development, and developed recommendations for recovery and resilience in the sector. The recommendations suggested by the four scenarios are:

- 1) develop multivalent and adaptive business models;**
- 2) develop capacity and capability for R&D in emerging platforms and technologies;**
- 3) infuse experiences with intelligence, and intelligence with serendipity;**
- 4) operationalise ethics and sustainability in data- and AI-fuelled cultural services.**

We explore correspondences between the scenarios and key aspects of AI arts using the four dimensions of the Experiential AI framework: Aspect, Algorithm, Affect, Apprehension. We find broad alignment in the scenarios to the four dimensions of our framework, and, by reflecting on the implications of our framework dimensions for these areas, we propose emerging challenge themes for research on AI and Arts. See Table 2 on page 23.

4.

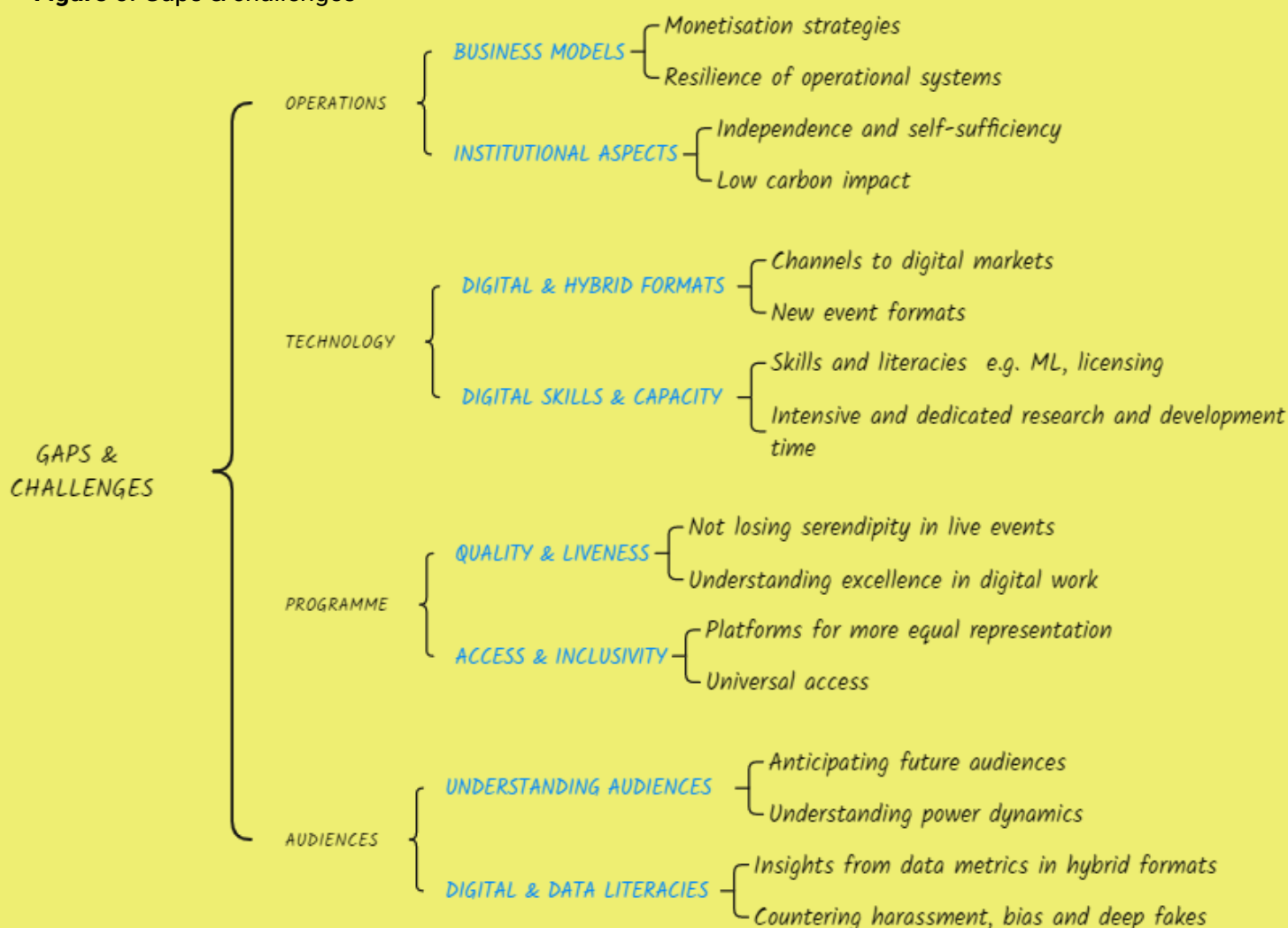
Findings

Key challenges for the sector have been shown to be:

- Covid-19 impact
- Rapid need for new production and distribution models
- Major infrastructural shifts likely
- Fast-track to digital technology and the future needs to be "hybrid"
- Skills and knowledge gaps

Examining these challenges across a series of key dimensions and features, we identified the following gaps for the cultural and festivals sector:

Figure 6. Gaps & challenges



4.2

Near future scenarios, research insights & recommendations

There have been various efforts to develop future scenarios for the arts and festivals sector after COVID-19¹. Here we present four scenarios for the near future of the festivals and cultural sector, covering the festivals' upcoming programming cycle, over a +/-18 month period to 2023. Each responds to one of the four knowledge gaps we identified: in business model, technology, format and audience engagement. These are intended not to present a comprehensive outlook, but to expose navigational challenges in socio-technical transition.

¹ This includes the Future of Arts & Culture <https://futureofartsandculture.org> and Envisioning digital futures for equitable and sustainable festivals in 2030 <https://creativeinformatics.org/news/creative-horizon-3-envisioning-digital-futures-for-equitable-and-sustainable-festivals-in-2030>

Near Future Scenario #1 – The festival as futures laboratory

What is happening in this near future?

In 2023, an Edinburgh Festival creates a space to think ahead and help a more resilient world emerge. This fulfils its mission, inspires imaginative programming, and unlocks new revenue streams.

Why did the scenario emerge?

Following an unsuccessful foray into NFTs, an Edinburgh Festival was struggling to monetise its digital programme, and made the decision to focus on its core values.

What enabled it?

The festival held on to and productively integrated lessons on digital engagement learned from the pandemic. It moved to November to align with the COP28 UN Climate Change Conference, and became the most effective mechanism for imaginative climate engagement, quoted by the press and policy makers.

INSIGHT 1.

A landscape transformed

The shock of the Covid-19 pandemic left everyone asking what formats and jobs will be sustainable in the future, and many cultural workers suffered real hardship. An overriding sentiment of the cultural professionals at Edinburgh's Festivals is to get back to work and 'back up to speed'.

It is clear that through exposure to the innovations during the Covid-19 period audiences have new expectations, a window has been opened to other kinds of experiences, and cultural professionals have experienced new ways of working. Overall, we expect the changes will be lasting.

The navigational dilemma is in the tension between the desire to go back or go further. Some want to return to 'in real life', while others are embracing new models. A lot of festivals are locked into established formats (the 'regime'), because of the artforms they are funded to support, or because they have audiences with deep-seated tastes. The call for a refreshing reset was voiced by a senior member of the team at an Edinburgh Festival. It stood out because of its optimism, and forward looking character, even in the midst of the Covid-19 crisis. One radical voice argued for renewal and to 'actively seek to dismantle the canon.' A widely held sentiment was to hold on to and productively integrate lessons learned from pandemic.

Quotes from workshop participants:

"Refreshing reset – need space to think ahead"

"Things are going to get weirder, more niche, more evolutionary"

"Festivals can be laboratories for other artistic sectors"

INSIGHT 2.

Delivering value in many places

Pressures on the sector and also the Planet ('landscape') call for sustainable new operational and business models. In scenario 1, we saw passionate support for the distinct cultural value of festivals, in the way they create a shared sense of purpose, and channel the hopes and aspirations of the times. One theme was the need for new revenue models, and new forms of value creation. Another was leveraging festivals to engage with issues confronting society, and the use of futures methods to drive change. These intersect in the insight that festivals can be platforms to tackle social and environmental problems, and that this can itself be a business model. The innovation in our fictional scenario is that one festival applied this core value proposition to the challenge of climate advocacy in order to create a new business model.

Many organisations grappled with a transition towards data-driven, networked, hybrid cultural and business models. We expect ongoing challenges and unpredictability moving forwards. This is also an opportunity, to forge new strategic partnerships, around both technology and societal challenges.

Recommendation:

In helping a different world emerge, we see the opportunity for festivals to develop new sustainable value propositions. This leads us to recommend that festivals can operate as laboratories for the arts and other domains, informed by futures design methods, and that multivalent and adaptive business models can be built around the many kinds of value they generate.

Near Future Scenario #2 – Cultural platforms have evolved

What is happening in this near future?

While cultural platforms with only incremental improvements pile up in the rear view mirror, one festival spent the last year learning how to work with technology and data as a creative and interactive medium.

Why did the scenario emerge?

Festivals lacked access to digital markets, and discovered an appetite for new hybrid formats, but the big tech platforms don't provide the tailoring or flexibility they need.

What enabled it?

To offer a genuine alternative to the homogenous experience of some big tech platforms, a festival works with an international team of artists and engineers to use AI and other emerging technologies to make experiences compelling and visceral for audiences.

INSIGHT 3.

Platforms, digital teams and developer

In 2020, the arts suddenly faced an urgent need for new channels to audiences. The novelty of streaming platforms such as Zoom quickly expired, and streaming of live events felt inadequate. Some saw potential in hybrid formats, and looked for imaginative ways to engage audiences.

The navigational dilemma is between benefitting from the scale and access to audiences a big tech platform can provide, or looking for something more tailored and bespoke. Building and maintaining a platform is an effort far beyond the scope of most arts budgets, and it is a rule of thumb for many NOT to build your own platform. 'Big tech' platforms give access to global audiences, but can create frictions and limits on creative control. There is a burden on individual organisations to think through the tradeoffs, but an opportunity for the sector as a whole to negotiate strategic partnerships centred on the value of the arts.

Creative producers to become UX designers, and curators digital product managers. Creators of digital experiences sometimes need to make the venue and the work at the same time. Artists and producers need to re-think the entire user journey when creating art online. The walk to the venue, buying a ticket, taking a seat, are replaced by a staging and setting manufactured in a digital space. To enter the digital space asks a lot of creative organisations, and is helped by access to dedicated R&D teams.

Quotes from workshop participants:

"Tech is changing, and so how it's made as art is changing."

"It's not about the tech, it's about the story telling."

"Do not build your own platform."

INSIGHT 4.

Creativity and invention between the arts and engineering

Technology and the way art is made are changing. Communities of digital artists collaborate to build and maintain code and infrastructure, and often collaborate to support each other's projects. Across many sectors, AI, immersive and data-driven technologies are transforming the ways that creative works are produced and reach audiences. Online audiences discover content served to them by algorithms. Festivals urgently need new tools, formats and infrastructures, and new skills to work with immersive and automated or semi-automated technologies and data.

In the technology sector, there is a corresponding need for engineers to connect AI to applications and impacts in the real world. The entanglements of humans and machines, and ethical challenges posed by data-driven and automated or semi-automated technology, can be better understood by the arts and sciences working together. Therefore experiments in creative media can fuel innovations in science and technology.

Recommendation:

For the cultural sector to benefit from the creative potential of data and emerging technologies, there is a need for investment in technology and R&D. For AI technology and data is used as a creative and interactive medium, development is needed on data- and AI-fuelled creation and discovery, and on cutting edge AI for artists used in the creation of new works.

Near Future Scenario #3 – The new LIVE

What is happening in this near future?

Liveness has been reimagined for a hybrid era, digital experiences are infused with serendipity and spontaneity for audiences who interact across multiple devices and at many points in space and time.

Why did the scenario emerge?

During the Covid-19 pandemic, there was a fear that in the process of going digital, the serendipity and spontaneity of live events might get lost. People wanted to protect festivals as being about the live experience of being in a place and time together, but the form that may take was up for grabs.

What enabled it?

To evolve, festivals infused digital experiences with spontaneity, so they felt more 'live'. The festival decided to take its established audience on a journey, and works with its artists to expand the experience, outside the venue, beyond showtime, while heightening the serendipity and spontaneity of the live event.

INSIGHT 5.

Digital serendipity

The rallying cry of the festivals community was “live is our DNA”. The joy and magic of many events comes from the serendipity and spontaneity of the live experience. Similar to scenario 1, the navigation dilemma was between a desire to preserve and to innovate.

There are many imaginative efforts to engage audiences before, during and after live events. With developments in ‘extended reality’, or XR, we see new ways to combine best of remote and in person, live and on demand. There is high potential for AI to interact with humans in “real-time”, in artistic collaboration between human and machine, and yet the outputs of current AI systems remain far from ‘creativity’ and ‘spontaneity’ as we commonly understand it. The leading current approach in AI is machine learning, which learns by ingesting massive amounts of historic data. Its ‘discoveries’ repeat in some high-dimensional way existing features in the data. This throws down a challenge to the AI community: a new paradigm is needed to infuse digital experiences with serendipity and spontaneity, so they feel more ‘live’. The instinct to protect led to a noteworthy call for change.

We found a concern to make work scalable and understandable for all users. But there is a need to look beyond the efficiencies AI can bring to creative workflows, to think differently about technology, and ask how art made with intelligent machines can be playful, improvised, and open to critique. We envision a new generation of digital-first and hybrid experiences are serendipitous, improvised, inclusive, legible, and rewarding of human creative practice.

Quotes from workshop participants:

“Think beyond “LIVE”, there are other kinds of experiences.”

“We struggle around what actually is “hybrid”, it can mean many things.”

“The online isn’t a one-to-one of the offline, and that’s okay.”

INSIGHT 6.

Artistic excellence in AI-fuelled and hybrid experiences

Curators and programmers in the festivals (‘regime’) were interested to better understand what artistic excellence and a virtuosic work look like in new and emerging areas (‘niche’). They know why they enjoy an actor or dancer, the body of training that has reached that moment in the performance is immediately evident in their timing and poise. They don’t have that same recognition when there is not an equivalent physical experience. The real expertise of a human performing with an intelligent machine or building a model with other people’s data is not as immediately self-evident. They want to understand the rationale for a work, as well as the development that has gone into it, and to find the learning you get in the appreciation in the process, and what got the piece to that point. Critically, this needs to be nurtured in audiences as well, an even more challenging prospect at short timescales and with diversity of background and the limitations of virtual/online participation.

Recommendation:

To delight audiences with digital experiences, and support artistic excellence, work is needed on serendipity, spontaneity and liveness in hybrid formats. We recommend infusing experiences with intelligence, and intelligence with serendipity.

Near Future Scenario #4 – Festivals are climate and data/AI conscious

What is happening in this near future?

In 2023, festivals are adept in moderating controversial topics, addressing climate and inclusion, and using data metrics to understand how events function.

Why did the scenario emerge?

A festival looks at data metrics from 2022 and discovers a spike of audience interaction around a festival strand on social and climate themes. Our audiences, and our artists, told us they care about the climate, social unity, and being able to influence positive change.

What enabled it?

In 2023, a show is disrupted when an abusive deep fake video of a climate artist goes viral and attracts the attention of trolls. The festival had anticipated this and deft work by content moderators helps to mobilise the festival's audience to defend them.

INSIGHT 7.

Future audience intelligence

During the pandemic, what worked one year, failed the next. A festival reported that they enjoyed success with strategies in 2020 that did not succeed in 2021. One festival did not get return on investment across their digital programmes, while another enjoyed huge success in hybrid events, but is not sure why. We need to significantly better understand who we are producing content for, and what tools people are prepared to use, as there are more options and channels now and that creates cost. New methods are needed when the next audience no longer responds as the last audience.

The data generated by festivals can enable us to understand how events function and to design new models ('regime'). This presents a new way to learn about and through data. At an inflection point, there is a pressing need to know your future audiences, and what they care about. New and democratic ways are needed to understand future audiences and new ways of doing things ('niche').

INSIGHT 8.

Scaffolding critical literacies

The navigational dilemma is in finding ways to better exploit data metrics, without falling into an extractive model or surveillance mode. New challenges include countering online harassment, bias and deep fakes, as well as the climate emergency and other crises. At this moment, more than ever, it is necessary to connect to the broader societal issues ('landscape'). Programmes need to enlighten as well as entertain, and to reflect the changing world. Festivals can be spaces where we equip future generations with the critical literacies to thrive in a changing world. Institutions need to embed in their structures a climate conscious, ethical and inclusive approach.

Quotes from workshop participants:

"Tech is changing, and so how it's made as art is changing."

"It's not about the tech, it's about the story telling."

"Do not build your own platform."

Recommendation:

For festivals to navigate the crises of the present day and the concerns of audiences, we propose the priority development area of public and practitioner literacies in data, environmental and ethics, and recommend that cultural organisations and institutions operationalise ethics and sustainability in data- and AI-fuelled cultural services.

4.3. Promising directions in the arts, creativity and artificial intelligence

Challenge themes and recommendations

We reflected on these scenarios to propose priority areas for development and recommendations for festivals and creative industries emerging from the pandemic. Drawing together the insights from the four scenarios, these priorities and recommendations are mapped against scenarios in Table 2.

Near future scenarios for festivals in 2023	Priority areas for development	Recommendations	Delivered through
The festival as futures laboratory.	Futures intelligence and new sustainable value.	Develop multivalent and adaptive business models.	International futures forum and a roadmap for AI in the sector.
Cultural platforms have evolved.	Data- and AI-fuelled creation and discovery.	Develop capacity and capability for R&D in emerging platforms and technologies.	Research on cutting edge AI for artists used in the creation of new works.
The new LIVE.	Serendipity and liveness in hybrid formats.	Infuse experiences with intelligence, and intelligence with serendipity.	Future festival experiences and concept touring presented to audiences.
Festivals are climate and data/AI conscious.	Data, environmental and ethical literacies.	Operationalise ethics and sustainability in data- and AI-fuelled cultural services.	Open prototyping toolkit to design and evaluate formats, services and outcomes.

Table 2. Priority areas for development and recommendations for festivals and the creative sector

We go on to draw on our work on AI and Arts and look at the correspondences to the four dimensions of our Experiential AI framework: Aspect, Algorithm, Affect and Apprehension. Based on this, we build on these recommendations for the festivals and the creative sector to propose emerging challenge themes for research and development between the Arts and AI in Table 3.

Framework dimension	Corresponding research challenge	Challenge theme
Aspect	Building on the need for the festivals sector to generate new sustainable value we propose an inclusive and universal approach to responsible creative AI with a specific commitment to promote diversity, fairness and accountability for positive societal and environmental impact.	Creative AI for good
Algorithm	Provocatively we ask how art and creativity can help to radically change how we think about AI design, moving beyond the current paradigm of learning patterns from large amounts of data, to embrace human traits such as bias, disagreement, and uncertainty as a signal with creative potential rather than noise that needs to be removed.	New paradigms for human-centred creative AI
Affect	To answer the sector demand for serendipity and spontaneity in hybrid formats we ask how we can simultaneously infuse experiences with intelligence, and intelligence with serendipity. We envision experiences infused with AI that foster serendipitous, unexpected interactions for audiences, across creative industries from TV and broadcast to games and advertising.	Next generation intelligent experiences
Apprehension	Finally, we ask what audiences can learn about AI, and what we can learn about audiences using AI, when we democratise public understanding of AI and Machine learning through accessible, open and inclusive explainable AI that provides the kinds of explanations humans need. We hope this can inform research and development on the use of AI and data systems to support engagement and trust in news, science, and entertainment.	Public XAI and future audience literacy

Table 3. Emerging challenge themes for research and development in Arts and AI.

5.

Future work

The findings in this preliminary report are built on in co-creation we work with artists, technologists and cultural organisations to test how strategies we surface can be integrated in festival programmes.

Planned outputs are shown in Table 4:

PILOT EXPERIENCES	TOOLKIT & ROADMAP	FESTIVAL FUTURES FORUM
Co-commissions and partnerships to pilot new cultural programmes and routes to audiences in the New Real.	Actionable strategies, methods and tools to develop and evaluate delightful and trusted digital experiences.	Forum for the festivals community to share breakthrough ideas on a positive reset and innovations for the future.

Table 4. Expected outputs of the Resilience in the New Real project

Innovation potential is explored through co-creation pilots that test transformative new forms of artistic experience fuelled by AI. Data artists and other creative practitioners as well as scientists and engineers participate in these pilots alongside the research team and festival partners. This includes an AI platform as a sandpit for artists to build interactive experiences with climate data.

The pilot experiences are presented at festivals to engage target audiences with the art experiences and test the strategies, concepts and technologies in a live setting. Based on these, we develop recommendations on the processes by which cultural organisations can commission and present these experiences, and how technologies and practices in cultural organisations can be re-configured to improve resilience. Engagement in the experiences and findings – for the festivals community and beyond is facilitated through demos, exhibits, videos, blogs, reports, webinars and other ‘wrap-around’ engagement.

Future work will include a roadmap for a positive future, which will use the multi-level perspective to further explore the transitions between innovations in the Covid-19 period, the festivals and arts sector, and the wider economic and cultural landscape. Development of the Open Prototyping framework will produce accessible tools to enable more people and organisations to initiate and manage these cross-

disciplinary projects even in the absence of an intermediary or research-driven project such as The New Real.

We use an impact logic model (Table 5) to describe the progression from the opportunities and barriers pinpointed in the Scope stage, to inputs, activities to be delivered in later stages of the project, and on to outputs, outcomes and potential impacts. In this we consider impacts at three levels: individual, collective and societal, using the professional and organisational context of Festivals as the common thread.

Objective	OP stage:	Delivered through:	Outcome:	Expected impact:
Develop multivalent and adaptive business models.	Scope	International futures fora and a roadmap for AI in the sector	A forum and network for Festivals as they develop strategies for resilient programming and roadmapping digital pivot in in-person, online and hybrid content.	Transfer and uptake of evidence-based recommendations by the arts and festivals practitioners (individual), including national and international stakeholders (collective), and in other sectors (societal).
Investigate new paradigms for human-centred creative AI technology.	Connect + Play	Research on cutting edge AI for artists used in the creation of new works	A sustainable AI-powered data-art platform (The New Real Observatory) as a resource for festivals and other creative organisations to deliver trusted, delightful online/hybrid experiences to drive recovery and build resilience.	Ready strategies and tools for implementation in programmes as open access resources to develop trusted, delightful online/hybrid experiences (individual).
Infuse experiences with intelligence, and intelligence with serendipity.	Produce + Display	Future festival experiences and concept touring presented to audiences	Identification of new commissioning opportunities for Festival programme and business development, built around the commissioning work on the New Real Observatory platform. Report and recommendations on co-creation and commissioning processes.	New formats and business models adopted by cultural partners (collective).
Operationalise ethics and sustainability in data- and AI-fuelled cultural services.	Interpret	Open prototyping toolkit to design and evaluate formats, services and outcomes	Skills and organisational development for cultural professionals - summarised into Open Prototyping Toolkit . New routes to audiences and/or revenue will be identified for Festival-based organisations through situated strategies, especially concerning understanding of sustainability, climate, and data-driven economy / society.	Policy and strategy revisions in charter/mission of sectoral organisations (societal).

Table 5. Impact logic model

6.

Conclusion

Resilience will be strengthened by new cultural, social, and economic models in the festivals and cultural sector that are artistically original and also viable, sustainable and fair. This report finds that investigating novel forms of artistic production and distribution can reveal culturally, ethically, environmentally and economically transformative experiences, formats and models to enable and support post-COVID-19 recovery.

The New Real project develops strategies, methods and tools for AI-powered experiences of cultural delight, in particular, associated with sustainable programme innovation in the festivals sector, and advances academic, practitioner and public understanding of data ethics and emerging technologies. This then informs the development of cross-sectoral resilience in the face of the digital transformation, and improves understanding of practical constraints of the post-pandemic cultural production.

Practitioners from the arts, media and technology have explored the future place and role of Festivals in the 'New Real'. To reflect the ethos of the festival professionals we met along the way, we would like to think that the cultural strategies, tools and methods developed through this project can be applied across society both beyond and through cultural programmes.

Festivals are historically sites where society rehearses new forms of culture and citizenship. The Festivals sector faces a particular threat but also offers a space for renewal – a means and infrastructure – for producers, companies, communities and agencies from many domains to experiment with widening practitioner and public literacies through the design of digital and hybrid experiences.

This report finds that investigating novel forms of artistic production and distribution can reveal culturally, ethically, environmentally and economically transformative experiences, formats and models to enable and support post-COVID-19 recovery.

We invite you all to join us as we together accept this challenge and explore the New Real.

References

Banks, M. and O'Connor, J., (2021). "A plague upon your howling": art and culture in the viral emergency. *Cultural Trends*, 30(1), pp.3-18.

BOP Consulting. (2018). *Edinburgh Festivals The Network Effect: The role of the Edinburgh Festivals in the national culture and events sectors.*

Comunian, R. and England, L., (2020). Creative and cultural work without filters: Covid-19 and exposed precarity in the creative economy. *Cultural Trends*, 29(2), pp.112-128

Davies, J. (2020). *The art in the artificial*, London: Creative Industries Policy and Evidence Centre and Nesta. <https://pec.ac.uk/research-reports/the-art-in-the-artificial>

Geels, F. (2006). Multi-Level Perspective on System Innovation: Relevance for Industrial Transformation. In Olsthoorn X., Wieczorek A. (eds.) *Understanding Industrial Transformation*. Environment & Policy, vol 44. Springer, Dordrecht. https://doi.org/10.1007/1-4020-4418-6_9.

Harper, D. (2020). Creative industries beyond COVID-19. *Creative Industries Journal* 13(2): 93-94, DOI: 10.1080/17510694.2020.1795592.

Hearn, G., (2020). *The future of creative work: Creativity and digital disruption*. In *The future of creative work*. Edward Elgar Publishing.

Hemment, D. (2015). *Open Prototyping Alpha*. FutureEverything. www.futureeverything.org/news/open-prototyping-alpha (Accessed March 2022).

Hemment, D., Bletcher, J. and Coulson, S. (2017). Art, creativity and civic participation in IoT and Smart City innovation through 'Open Prototyping'. *Creativity World Forum 2017: Creativity Cities and Neighborhoods of Opportunity*.

Hemment, D., Aylett, R., Belle, V., Murray-Rust, D., Luger, E., Hillston, J., Rovatsos, M. and Broz, F., (2019). Experiential AI. *AI Matters*, 5(1), pp.25-31.

Hemment, D. (2020). Reordering the assemblages of the digital through art and open prototyping. *Leonardo*. 53: 5. Cambridge, MA: MIT Press, 529-536. DOI: 10.1162/leon_a_01861.

Hemment, D., Bletcher, J., & Coulson, S. (2020). *Open Prototyping: A framework for Combining Art and Innovation in the IoT and Smart Cities*. In Eds. Hjorth, L., de Souza e Silva, A., Lanson, K. *The Routledge Companion to Mobile Media Art*. London: Routledge, 270-283. ISBN 9780367197162.

Hemment, D., Murray-Rust, D., Belle, V., Aylett, R., Vidmar, M., Broz, F. (2022a) Experiential AI: Enhancing explainability in artificial intelligence through artistic practice. Preprint: www.newreal.cc/publications/experiential-ai-enhancing-explainability-in-artificial-intelligence

Hemment, D., Zeilinger, M., Vidmar, M., Elwes, J., Warner, H., Sarmiento, D., Hill, R.. (2022b) Towards a Heuristic Model for Experiential AI. Preprint: www.newreal.cc/publications/towards-a-heuristic-model-for-experiential-ai

Khlystova, O., Kalyuzhnova, Y. and Belitski, M., (2022). The impact of the COVID-19 pandemic on the creative industries: A literature review and future research agenda. *Journal of Business Research*, 139, pp.1192-1210.

Kloskowski, D. and Kwiatkowski, G., (2021). Events and Festivals in Times of Uncertainty. *European Research Studies*, 24(2B), pp.469-487.

Lee, H.K., (2022). Rethinking creativity: creative industries, AI and everyday creativity. *Media, Culture & Society*, p.01634437221077009.

Miller, A. I. (2019). *The Artist in the Machine: The World of AI-Powered Creativity*. Cambridge, MA: MIT Press.

Rentschler, R. and Lee, B., (2021). COVID-19 and arts festivals: whither transformation. *J. Arts Cult. Manag*, 14, pp.35-54.

du Sautoy, M. (2019). *The Creativity Code: Art and Innovation in the Age of AI*. Cambridge, MA: Harvard University Press.

Sharpe, B., Hodgson, A., Leicester, G., Lyon, A. and Fazey, I., (2016). Three horizons: a pathways practice for transformation. *Ecology and Society*, 21(2).

Wade, M. (2020). Edinburgh festivals cancelled for first time in history. *The Times*. <https://www.thetimes.co.uk/article/coronavirus-in-scotland-edinburgh-festival-cancelled-for-first-time-in-history-w90z53cmz>

Appendix

Near Future Scenarios – Expanded evidence

Table 6. Expanded evidence: near future scenario #1 – **The festival as futures laboratory.**

KEY TAKEAWAYS BY HORIZON	Evidence from workshops - What participants said?	Evidence from practitioner interviews - What interviewees said?
H1 Sustainable future festival formats – what are they?	<ul style="list-style-type: none"> - Distinct cultural impact of festivals - Financial precarity. - Sustainable Financing - How do we finance different experiences? - How do we monetise/finance hybrid festivals? - Climate change – How do you plan for a low carbon impact? - Our audiences want genuine dialogue and public discourse - grassroots democracy. - Understanding power dynamics. - Networks - Extensive network has allowed us to extensively reach international audiences. - What will people pay for, what is the value, how much do we charge – we don't have good models for that. - We have some experience of presenting works digitally but no real strategy developed. - How do we get back to full speed? - How can data metrics help us design the most appropriate payment models? 	<ul style="list-style-type: none"> - The event and audience are just different things now post COVID 19. - People's expectations have changed. - The audience isn't local anymore.
H2 Festivals as laboratories for the wider artistic sectors	<ul style="list-style-type: none"> - Hold on to and productively integrate lessons learned from pandemic. - Developing new monetization models for online consultation / mentoring in the field of digital transformation for research, industry & public sector (sic). - We are trying to radically reduce carbon footprint. - Getting new input and inspiration. - What futures methods can enable design, delivery and evaluation of a hybrid festival? - Actively seek to dismantle the canon. 	<ul style="list-style-type: none"> - Technology can be an opportunity for strategic collaboration - Get ahead of trends and form collaborations with companies to understand that technology - Get buy in from the top, educate those in leadership positions, etc - Crypto space and empathic capital: NFTS, DAOS or DALs.
H3 Refreshing reset	<ul style="list-style-type: none"> - Creation of value, meaning - Sustainable business in a sustainable environment. - Future formats are sustainable, trusted and inclusive. - Adaptive business models - Working out what public benefit looks like - Engaging critically with central issues confronting society relevant thematic focus areas – environment, privacy, ethics. - Responsible and ethical programmes providing a platform for greater equality of representation - Affordable experiences - Don't leave internationalism to the corporates - Make the case for investment in physical infrastructure so the city becomes a playground - Refreshing reset – need space to think ahead 	<ul style="list-style-type: none"> - Things are going to get weirder, more niche, more evolutionary. - Diversifying your funding.

Table 7. Expanded evidence: near future scenario #2 – Cultural platforms have evolved.

KEY TAKEAWAYS BY HORIZON	Evidence from workshops - What participants said?	Evidence from practitioner interviews - What interviewees said?
H1 We need new approaches to event format in the hybrid era, and new channels to digital markets.	<ul style="list-style-type: none"> - We need to find more digital formats that we can deliver that are popular and worth the investment - They want to take advantage of the online intimacy that is provided with digital. - New skills and literacies are required to produce work using emerging technologies. - International vs local audiences - how are these two audience types (international vs local audiences) catered/ delivered to? - A thorough hybrid fluency. 	<ul style="list-style-type: none"> - Institutions often don't have the technical capacity to host their own websites/ servers or design their own sites. - Big companies deciding to change things that deeply affect users (and users can't do anything about it). - Big tech can cause frictions, particularly around getting info on and off platforms. - Big tech maybe doesn't have a mechanism to "understand art" – it was very frustrating to then prove the art was not spam. - It's not as simple as going online- you have to think about digital event design and two way interactive experiences. - Edinburgh festivals need new viewing platform/ partnerships?
H2 Digital tools are changing the ways that creative works are made and reach audiences.	<ul style="list-style-type: none"> - What data do we use to drive the next festival/s? - Clear development paths to transitioning artists and orgs to technology proficiency. - Translational roles between traditional domain areas and data science/AI more needed than ever. 	<ul style="list-style-type: none"> - AI creates new possibilities for interactivity and visual or time-based outputs. - Edited: do not build your own platform-- but for online design the entire user journey. - Builds her own stuff instead of using pre-existing platforms. - Tech is changing, and so how it's made as art is changing. - Design matters. Artist [name] really thought about how her audience understood her subject matter and tech. - Uses the web as a creative and interactive medium. - Think through the tech you use and the tradeoffs. - Think about acceptability (do users like/accept the platform) and how to onboard users. - Hire someone- this is a lot of work. - Avoid a digital silo- so hire more than one person who understands and works in digital.
H3 Refreshing reset	<ul style="list-style-type: none"> - Present work that has digital at its heart rather than just streaming. - Work made specifically for digital medium and digital audiences. - Include work in your programme that you could switch to online if necessary. - Privacy, less reliance on big tech - Universal access. - Data driven experiences tailored to anyone anywhere. - Intensive and dedicated r&d and development time for artists. 	<ul style="list-style-type: none"> - To artists, technology is like a paintbrush; just a tool in the tool box. - It's not about the tech, it's about the story telling - Art made with intelligent machines can be playful, improvised, and open to critique. - Tries to make their work scaleable and understandable for all users.

Table 8. Expanded evidence: near future scenario #3 – The new LIVE.

KEY TAKEAWAYS BY HORIZON	Evidence from workshops - What participants said?	Evidence from practitioner interviews - What interviewees said?
H1 Not losing the serendipity of live events.	<ul style="list-style-type: none"> - Protect festivals as about the live experience of being in a place and time together. - There has been a turn toward less liveness, people like the temporality. - Struggle around what actually is “hybrid”, it can mean many things. - Our programming team needs to understand what excellence looks like in new and emerging artforms. - Your audience is not just the people in your venue now – its much more global, and dispersed across space and time - Edited: what are different ways the audiences can interact with the artists/artworks? - How do you build a fluency of understanding how to translate or help install or help show the work digitally and physically and does it justice to the work [sic.] - How can you document your work to make it available for future audiences, wherever they are. 	<ul style="list-style-type: none"> - Prefers to do hybrid but not only digital (will say no to just digital shows). - How to figure out how to network the piece, and motivate people to submit their faces.
H2 Where is ‘liveness’ in hybrid festivals?	<ul style="list-style-type: none"> - Emphasis on return to largely irl experiences (and on where this may intersect with digital). - How to productively not go back to IRL only? - Hold on to and meaningfully integrate the worldwide reach of pandemic-time online festival iterations. - Design for engagement before/during/after irl live experiences. - Disconnect physical and online offers time-wise (not offering programs paralelly, but rather thinking of individual parts in the user journey). - Explore how bigger audiences could interact with each other in two physical spaces. - Collaboration - remote - how are remote collaborations enabled in a festival of the future? - How to make events which are both local and international 	<ul style="list-style-type: none"> - Think beyond “live”, there are other kinds of experiences - Hybrid events (and remote) create access to more audiences and that’s powerful - Think of VR/AR spaces as real world spaces (so thinking about how social norms are transported into those spaces).
H3 Refreshing reset	<ul style="list-style-type: none"> - Edited: use digital tools and techniques to deepen and enhance the ways that audiences can actively interact with the festival and the performances. - Infuse digital experiences with serendipity and spontaneity, so they feel more ‘live’. - Temporal hybridness: asynchronous and synchronous must work together (multi-dimensional!) - Immersion is multisensory - more than just visual or audio-visual. - It’s networked, dispersed across time and space. - Providing a platform for greater equality of representation. - Internationally connected and locally relevant experiences. - Interaction with immediate physical surroundings. - Bringing audiences into short online events that help them contribute to the creative process. - Communal experiences. 	<ul style="list-style-type: none"> - Accessibility matters, so does authenticity. - The online isn’t a 1 to 1 of the offline (and that’s okay!). - Creating more inclusive spaces

Table 9. Expanded evidence: near future scenario #4 – Festivals are climate and data/AI conscious.

KEY TAKEAWAYS BY HORIZON	Evidence from workshops - What participants said?	Evidence from practitioner interviews - What interviewees said?
H1 Who are the future audiences, and what do they care about?	<ul style="list-style-type: none"> - Know your audience - who are they, where are they? What are their expectations? What tools are they prepared to use? - Have very loyal core audience, interested in reaching new audiences. - We enjoyed huge success with an approach in 2020 that did not succeed in 2021. - There are more options now and that creates cost. Need to significantly better understand who you are producing content for. Diff expectations if on demand or real time audience. Need to tailor the programming. Ars is trying to embed this in their structures. - What is the role of data metrics in hybrid formats? - Festivals really interested in data metrics to better understand who pays for festival experiences and why. - How to connect the audience experience / journey to the broader societal issues - Audiences often lack the familiarity around new online/hybrid experiences. There is a need to consider the inclusion of people with different experiences and needs. - Interested in how climate change and sustainability are explored through the lens of art. 	<ul style="list-style-type: none"> - Galleries/museums haven't deeply had to think about digital harm, trolling or harassment (via using the work that is commissioned). - Adjusting privacy settings should be easier (and user enabled/user led). - Software made by white people and made from white perspectives.
H2 Rich cultural experiences that enlighten and entertain that reflect the changing world.	<ul style="list-style-type: none"> - Audience analysis: needs, behaviour and expectations. - New ways to evaluate hybrid experiences. - Interest in how the works themselves can collect data about audiences. - Re-invest in the local. - Understanding power dynamics. 	<ul style="list-style-type: none"> - Embrace experimentation (and failures)– also looking back, what is made now can look amazing in 50 years time. - People should know what's going on re privacy. - Consent matters. - Grow digital literacies on the ethics of interaction, users and deep fakes. - Thinks about content moderation and harassment when building interactive engagement for users (eg. On twitch, tumblr). - Trolls will trip up producers or organizers. - Privacy matters in vr/ar but there's so many dialog/ui choices it can be overwhelming (but we need privacy and consent). - Understanding power, and understanding that smaller institutions with less "power" (hierarchically) may have more power bc of audience reach and engagement (and understanding this precarity). - Dont tokenise artists. - Learn from artists – niche digital art communities (artists, professionals, audiences) can be highly active in political and ethical debates, more mainstream communities less so.
H3 Climate topics, inc people power to influence positive change.	<ul style="list-style-type: none"> - Wider and more diverse audiences. - Using data to understand the mobility of audiences and to enhance sustainability. - Technology transition for all ages and diverse backgrounds. - Climate conscious. - Social unity. - Engaging young people with STEM as a route to STEM careers - Success - how do we define/measure success in hybrid festival models? How do we better understand the social impact of the works? 	<ul style="list-style-type: none"> - Institutions can comment and should comment on new technology and business disruptions. - Institutions that say they care about data privacy need to institutionalize that and create structures for data privacy. - Institutions need to design for or think about safety online in the same way they have plans for it offline - Make black trans people more 'seeable' and work for black trans people. - Operationalizing ethics: ethics statements and harassment.

Published by The New Real, 2022

The New Real is an initiative by University of Edinburgh, working with Edinburgh's Festivals and The Alan Turing Institute, to showcase the extraordinary creative potential of AI, and support resilience and recovery in the arts and creative industries. It is made up of two projects Experience in The New Real and Resilience in The New Real.

Resilience in the New Real is funded by the Arts and Humanities Research Council, and The New Real Observatory is funded by Turing 2.0/Engineering and Physical Sciences Research Council.

Acknowledgements:

Thanks to Mario Antonioletti, Vishak Belle, Julie Ann Fooshee, Sarah MacKinnon, Evan Morgan, Daga Panas, Sohan Seth, Miriam Walsh and Holly Warner.