Survey of the distribution of immersive media for the Netherlands

Cassette

cassette

NL FILM FONDS

idfa DocLab

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With the support of:
The Dutch Filmfund and IDFA Doclab

We would like to thank all the people who participated in the interviews and contributed generously with their knowledge.

List of interviewees

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Film producer with a focus on immersive content. Founder **Studio Biarritz** (NL)

2. Camille Lopato
Founder **Diversion Cinema**. An event agency and international distributor of VR (FR)

3. Anna Abrahams
Programmer **Eye Xtended** and VR director (NL)

4. Paulien Dresscher
Independent **curator and researcher** within the cultural and digital domain (NL)

5. Dorien van de Pas
Creative consultant, adviser, moderator and (script)coach (NL)

6. Roderik Lentz
Head of Film Programming **LantarenVenster** cinema (NL)

7. Pien Houthoff
Director of cinema **LUX** (NL)

8. Jimmy Cheng
Director of International Partnership at **Sandman Studios / Sandbox Immersive Festival** (CHN)

9. Ido Abram
Co-director Eye and director **SEE NL** (NL)

10. Daniël Ernst
VR director, creator and producer (NL)

11. Jonne ter Braak
Programmer of art with **Amerpodia** (NL)

12. Caspar Sonnen
Head of **New Media IDFA** (NL)

13. Nina Nannini
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14. Nikki van Sprundel
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15. Jolinde den Haas
IFFR Pro Immersive (NL)

16. Tamara Shogaolu
Immersive media artist – creative director **Ado Ato Pictures** (NL)

17. Nick van Breda
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18. Doede Holtkamp
Producer **ARVORE Immersive** – XR consultant (NL)

19. Renée van der Grinten
Industry consultant (NL)

20. Heleen Rouw
Director/Board Member of **Cinekid** (NL)

21. Jingshu Chen
Co-founder of **VeeR** – VR content platform (CHN)

22. Marcel van Brakel
Founder **Polymorf** – Interdisciplinary design collective (NL)

23. Anne-Sophie Braud
Head of Digital creation division (current title Deputy director – Mobilities and international events Department) **Institut français** (FR)

24. Avinash Changa
Founder **WeMakeVR** – VR production company (NL)

25. Liz Rosenthal
Curator Venice Immersive, Executive Producer Creative XR, Founder Power to the Pixel (UK)

Table of content

Table of content

1 Introduction

Thanks to great strides recently taken in available technologies and the adoption of the medium in exceptional quality storytelling, VR has become a fully-fledged medium. However, the chain from creative concept to exhibition of the work to an audience is still experiencing many growing pains. The sector is professionalising at an extremely rapid pace throughout the chain.

The initiative for this report was taken by Cassette, the first and sole distributor of immersive media in the Netherlands. From the end of the chain, Cassette sees how VR productions can find their way to a wide audience. The means for achieving this are research and the setting up of cooperations and initiatives within the cultural sector.

By carrying out a quality oriented survey in the form of 25 interviews with a range of stakeholders from the sector, selected from throughout the chain, the set of problems involved is defined specifically in relation to the situation in the Netherlands. The group of interviewees naturally consists of a number of makers/producers of VR, as well as representatives of festivals, distributors, online platforms, sector and network organisations, (arthouse) cinemas and cultural locations.

Their observations, experiences and questions are collated in this document, and the researchers have formulated a number of recommendations, as well as potential strategies and future models for the VR sector on the basis of this rich collection of knowledge, experience and information. We analyse the risks and opportunities in the area of the distribution of VR content. In so doing, we hope through our conclusions to offer a guide for makers/producers, government bodies, funds and financiers, as well as online platforms and physical exhibition locations, which we hope will enrich and strengthen the VR sector as a whole, and enable the essential next step to be taken in the professionalisation of the distribution of VR in the Netherlands.

This research could not be carried out without an extensive analysis and exploration of the entire chain, as the problems facing the last link in the chain – distribution – are inextricably bound up with issues facing the VR domain at earlier points in the chain.

2 How can we present an innovative, immersive form of storytelling to a wider Dutch audience?

2.1 Focus on artistic VR

Immersive media have attracted more and more interest in recent years. A lot is happening in this area, both within the Netherlands and internationally. Technological developments are progressing at lightning speed, and the quality of storytelling and virtual reality (VR) technology are improving every year. More and more film festivals, in the Netherlands and abroad, are adopting 360 VR and interactive VR installations into their programmes. Museums are keen to incorporate more VR options into the presentation of their exhibitions. Interest in working (more) with this new medium is seen on the part of makers and producers within the art and cinematography sectors.

In this report, we will analyse both the current and the desired climates. We will examine existing and new ideas, as well as available and desired knowledge and information, in order to answer the following question:

What is needed within the chain of a (Dutch) production within the VR domain to ensure that artistic VR in the Netherlands reaches the biggest, widest possible audience?

Answering this question will specifically lead to strategy models for the distribution of VR, i.e. the professional, organised dissemination of VR to target groups by means of establishing networks, promotion and marketing.
With this new knowledge, we will be able to allow talent and artistic quality to develop to their full potential and create opportunities for new, creative audience-oriented activities for immersive media with a focus on projects produced within the Netherlands.

In this report, we will focus on VR as currently the most significant form of immersive media. Other existing forms of immersive media, such as AR, MR, XR[1] and immersive spaces are (as yet) clearly less visible within the field. Other forms may of course become dominant within the immersive media field in the future. The relevance of the conclusions of this report in general terms will not be lost in relation to other forms[2].

VR as a genre is already a highly differentiated medium: at one end of the spectrum we find the zombie shooters in VR arcades (VR games arena), and at the other VR helping a surgeon to perform operations (business VR applications).

Here we focus specifically on creative, artistic production, which can be compared to the arthouse genre in film. In addition, we also focus on productions with a lower threshold (that are less 'arthouse'), but that still contain exceptional and/or high-quality storytelling. Genres

[1] AR: Augmented Reality, MR: Mixed Reality, XR: Extended Reality
[2] Of course, each other form will bring new and specific problems, for example in the technical area, or in terms of the preconditions for presentation online or on location.

such as drama or comedy in films have not yet been defined within the artistic VR domain. In **Section 3** we will look in greater detail at the definition of VR, and the subdivisions in terms of applications and related technologies.

The fact that VR as a medium is made up of such a broad spectrum of genres makes it highly appropriate for large audiences. Sold-out VR programmes at film festivals and in EYE demonstrate a clear interest in artistic VR from the arts- and culture-loving public. However it should – and we believe can – be accessible as a medium (the "experience") to a much larger, wider audience.

Huge opportunities are there for the taking when it comes to presenting the steadily growing numbers of productions, from within and outside of the Netherlands, both to online audiences and physical ones on location in the Netherlands.
Existing titles such as *The Line, The Key, Notes on Blindness, Space Explorers, Kingdom of Plants* (David Attenborough) are low-threshold titles, both in terms of content and global story as well as in terms of opportunities for presentation, but these can only be watched by owners of an Oculus Quest headset.

In **Sections 4 and 5**, we will discuss the production of VR works and zoom in on the challenges makers and/or producers come up against at the start of the chain: in relation to technology, (lack of) knowledge and finance options.

> ***Social VR[3] and the pandemic introduced me to a whole new world of immersive experiences. Over two years, I explored some of the extraordinary and unbounded creativity of the VRChat world-building community. On this platform there is a huge community of people who consume and create VR experiences, but have no connection with the film festival community or funding.***
>
> ***Maybe it is interesting to think about the media that we support. There is a segment of media that is subsidised by Europe and there is a segment that is not. I am really interested in the new things that are happening, it is really exciting stuff!***
>
> Liz Rosenthal *(Curator Venice Immersive)*

Ideally, completed productions should flow into distribution systems in order to be shown. However, the options for presenting content within the VR domain are still extremely limited (see **Section 5**).

To illustrate the lack of models, we would like to cite Marianne Lévy-Leblond of ARTE France. ARTE is a party which, during the 2010s, produced a marvellous catalogue of award-winning immersive and interactive works. This branch has now been scaled-down because, to freely quote Lévy-Leblond, ARTE too didn't know how to bring this content to the public. In addition, they did not have a revenue model.

The challenge is, how can we unlock and exploit this audience potential? Creative VR is a unique, autonomous cultural experience that deserves to be brought to the public's interest, and to enjoy great public attention.

[3] Social VR consists of metaverse platforms: places that can be visited as a 'participant' or 'viewer' "in the headset". Social VR can be compared to Second Life, the online metaverse social platform from the 2000s.

> *You need a distribution strategy.*[4]
>
> Liz Rosenthal *(Curator Venice Immersive)*

We identify three preconditions and three challenges for distribution:

Preconditions:

- Incisive analysis of the 'why' of your project
- Who is it for?
- How can you reach your audience?

Challenges:

1. Financial: How can you obtain financial support? What will you spend this on?
2. No knowledge of and model for licensing. How can you make pre-sales for your project?
3. Creative makers are not good at pitching their projects.

> ***Right now there are no efficient models, even for the French professional. The key problem is the distribution. We have great productions but they are not seen by enough people.***
>
> Anne-Sophie Braud *(Institut français)*

In **Section 5** we will itemise the issues productions specifically come up against in terms of distribution, and the recommendations and potential future models will be set out in **Section 5.**

2.2 Target group VR

Sold-out programmes at IDFA Doclab, IFFR and EYE Xtended demonstrate that there is a demand for VR. In fact, interest and curiosity about the programmes are such that tickets regularly sell out immediately.
At present, VR arcades are the only structural working form of LBE[5] in the Netherlands. These bring the general public into contact with VR, with the associated risk that people will then come to identify VR with games. Also, these do not cater for the target group looking for content and exceptional stories.

> ***The audience for VR is the culture-loving audience, but also those people who find these types of things exciting and interesting, and travel far and wide to experience them. I think it's the same phenomenon as when Eye is the only cinema in the Benelux to show a film on 70 mm, then people from all over the Benelux book tickets for it. It's the same with VR. So yes, it is specialist, but it is also broad.***
>
> Ido Abram *(SEE NL)*

Culture-lovers are the perfect target group for VR projects; they can be offered a broad range of these and so can get to know the medium on a large scale – for example, by creating low-threshold opportunities at those places already frequented by this audience.

[4]A Guide to Financing and Distributing Immersive Entertainment and Art / Digital Catapult / 24-07-2018
[5]Location Based Events

Such initiatives should be implemented at a national level: not only in Amsterdam, and not only at film locations, in order to cater to the audience that, for example, goes more to performing arts events or museums.

After all, although VR as a medium is no longer new, people do not often come across it in the usual range of cultural offerings. Which means it is important to popularise the experience of VR so it becomes less of a “not really my thing” activity, perhaps also motivating the general public to buy a headset.

The interviewees all say that they believe that there is an audience for VR. They also think that there is probably a potential audience with an interest in the VR medium, but that they don’t get to experience it owing to a lack of opportunities. Additionally, prejudices exist among people who may have had a bad VR experience, and who may not know that such a thing as artistic VR content exists. There is a huge opportunity to reach these audiences with good VR content.

The number of people who own their own VR headsets is also growing, with strong growth clearly taking place during the pandemic (almost 3 million headsets sold). The Oculus Quest 2, a stand-alone headset, is not cheap, but then again is no more expensive than the average games console. This market could become the major sales market for VR – something Meta (the owner of Oculus) is hoping. For makers/producers, the Quest home market is seen as a significant first step towards the general public. However, in practice it has proven difficult to realise the potential of this home market to date. The range of artistic productions available is lagging behind that of games, and findability is also an issue.

It is clear that a translation is needed from VR production to audiences. Exactly who the target group is – alongside arts- and culture-lovers – is not yet clear. This is an area into which further research will have to be carried out in the future. This report focuses more on what distribution options there actually are, and can be.

3 The VR domain

3.1 Definition of immersive media

Immersivity can now be found in all corners and layers of our (digital) culture and society. According to **Camille Lopato (Diversion Cinema),** this is because immersivity is so powerful, it triggers people: "It's a way to trigger most of yourself actually, in your body, in your mind, in your emotion. There is no better way to experience something fully."

Paulien Dresscher (curator and researcher) describes immersivity as an experience in which the viewer/visitor is completely drawn into (immersed in) the story and the experience.

The domain of immersive media is characterised by immersivity: unlike film, where the viewer looks in from the outside at what is happening, in immersive media the viewer becomes part of the whole. As a viewer, you become immersed, you are in another world in which, in the words of **Dorien van de Pas (Creative consultant)**, you "can look into yourself, or forget yourself." An experience that closely approaches the reality of 'a' world and that then plays with this, as in *Notes on Blindness*[6], where the viewer experiences something that you could not normally experience.

> *VR is above all a spatial medium. It is visual, and interactive at least in the sense that you yourself can look around within a virtual space. From there, it becomes more difficult to give an exact definition. Can you move around freely? Are other senses also triggered? Are you alone or with others? Is it live or not? Does the experience take place within an installation or only in your VR headset?*
>
> *What characterises every new medium is that it gives rise to endless discussion, at the risk of ending up in a factional conflict about what is and what isn't 'real VR', or 'the exact difference between AR and VR'. Sometimes it makes more sense to apply a slightly looser definition, recognising that VR is a medium in development, and that it is still largely undecided what exactly does and does not typify the medium. Maybe this is also why the term XR is gaining in popularity as an umbrella name for all kinds of immersive experiences that make use of new technologies.*
>
> *Caspar Sonnen (New Media IDFA)*

Not everyone is familiar with the term 'immersive media', or knows exactly what it means. The term 'VR' however is well-known to the general public:
According to **Roderik Lentz (LantarenVenster)**, the term 'immersive media' is too vague. VR is already familiar; people have an idea of roughly what this is. You can explain what it is every now and again, or use the term, but it shouldn't be used in a sales pitch.

3.2 VR: pioneering

VR, Virtual Reality, is the furthest developed medium within immersive media. **Nikki van Sprundel (Immersive Media & VRAcademy)** describes immersive media as a sliding scale, a spectrum, on which VR is currently "the most immersive". This may change in the future, but other media (AR, MR, XR) are still on the margins.

[6]Notes on Blindness – James Spinney, Peter Middelton (2016, GB)

From a technical perspective, Augmented Reality and Mixed Reality are not yet sufficiently developed to be immersive to a significant extent.
The quality of VR at present is good enough for it to be applied at a high level, and therefore for experimentation to take place.

Although the technology has been around for some time now, VR as a sector is still in its infancy. The makers of VR are at present still mainly acting as pioneers. **Heleen Rouw (Cinekid)** refers to this point in the chain as the 'humus layer', the compost or nutrient layer. Without good productions, good content, there can be no sector. On the basis of this layer, work takes place to create new, innovative, or consolidating applications using the technology. These developments are often taken over at lightning speed by big tech companies and the makers, who create this nutrient layer, do not share in the final profits. This is a small world of pioneers: artists and producers who often lack "business sense"; nevertheless it is a small, transparent world where everyone knows everyone else, people help one another, and communicate openly.

> ***As filmmakers, we had to make clear plans, we'd approach producers and pitch to them. But this feels much better. That autonomy, being able to decide for yourself, take your own decisions and bring in expertise, and keep on growing in an organic way.***
>
> ***When we started out we were amateurs because we knew nothing about VR, and everyone was finding out as they went along. This industry or this corner of it hasn't already crystallised out like film – everyone's an amateur here. This also makes it vulnerable... I think that as a maker you should set goals for yourself: think carefully about how you want to position something, why and for whom?***
> ***The games world, from which I need to take people to help create our project, is completely different: it's totally specialised. Everyone knows exactly what s/he has to do and does one thing perfectly, and can't do the rest.***
>
> *Marcel van Brakel (Polymorf)*

> ***It's great to be a pioneer, but it's also lonely and it's not a profitable lifestyle, as it were. You have to constantly invent everything yourself, and by the time you've invented it it gets shared with everyone and then there are people who are better, smarter, who already have an infrastructure, who pick it up and can immediately make money from it.***
>
> *Daniël Ernst (VR director)*

3.3 Brief historical overview

2012: The Oculus Rift headset is developed, making use of a Kickstarter campaign.

2014: Facebook buys Oculus VR, an important moment in the history of VR. Developments take place extremely rapidly from here.

Google launches the Cardboard: a cheap, do-it-yourself stereoscopic "viewer" for smartphones.
Samsung also launches the Samsung Gear VR, a headset for the Samsung Galaxy smartphone.

Both of these developments are now seen as fatal to the current reputation of VR: using these headsets, people from the target group experienced VR as a clunky medium with low visual quality.

IDFA DocLab launches its Immersive Reality programme with premières of the first VR projects by pioneers such as Felix & Paul, Oscar Raby and BeAnotherLab.

2015: VR breaks through in a big way in the New Frontier programme at Sundance.

> ***It was like, 'here is VR', and people would come and run and see what VR was about. Because they were interested in VR, and not really in the content: the movie, the quality of the experience, or the topic.***
>
> *Camille Lopato (Diversion Cinema)*

2016: The HTC Vive is released, the first headset with sensor-tracking: this meant that for the first time users were able to move around freely in the space.

The first VR presentation was shown at the Cannes Film Festival.

Notes on Blindness VR was released at various festivals – a work that is still seen as one of the first timeless masterpieces.

The Start of VR Cinema in Amsterdam by &Samhoud Media. This closed in 2018.

2017: The first Venice VR programme at the Venice Biennale.

2018: VR finds more and more commercial and other applications, for example in the medical sector and as a tool for learning new skills. VR gaming starts to emerge.

During this year, articles are published giving a negative view of VR technology, and portraying it as a hype.

> ***"A lot of people tried to see VR in 2016 and 2017 and back then of course it wasn't really good yet. They need to be convinced again. It worked against us a bit that Samsung ruined the upward development of the sector with a mediocre headset.***
>
> *Doede Holtkamp (ARVORE Immersive)*

2019: Facebook releases the Oculus Quest: the first stand-alone headset, opening the door to the consumer market.

Launch of the Immerse\Interact scheme by the Netherlands Film Fund and the Creative Industries Fund NL.

2020: Lauch of the Oculus Quest 2: a cheaper, lighter headset.

2021: The French government announces a new investment scheme for digital innovation, including immersive technologies, involving 20 billion Euros over a five-year period.

2022: The Venice Film Festival screens no less than 75 projects and changes the name of its programme section from Venice VR to Venice Immersive.

> *At the end of 2015, the international VR world thought it was ready to upload VR content to millions of people on their computers or mobiles at home.*
> *VR wasn't able to live up to expectations at that point. The headsets did not sell in large quantities.*
>
> *Half way through 2021 this situation has still not changed, in spite of a slight increase in headset sales since the coronavirus crisis. The headsets are still too expensive for the average home consumer and VR exhibitions on location (Location Based Events / LBE) are still limited.*
>
> *Where games has a sales market in the many millions, VR doesn't yet. Unlike entertainment-oriented content, narrative content is a niche within a niche. I do believe that there is an opportunity to grow users, just like with games. But it takes time.*
>
> *Daniël Ernst (VR director)*

3.4 Current state of play

The VR sector as it is at present is characterised by its multi- and interdisciplinary nature, and is therefore also characterised by a certain degree of fragmentation of knowledge and practice. People from different disciplines make up this sector, including people working in technology, design, games, film, art, media and theatre. **Corine Meijers (Studio Biarritz)** sees people with larger and smaller roles within the VR domain: perhaps large in their own disciplines, but still learning and discovering in the immersive field.

People have no trouble coming into contact with one another, but the diversity of perspectives can lead to fragmentation of knowledge when this is being gathered.

For the time being, experimentation continues to be extremely important. The makers have to retain the scope to allow their creativity free reign and must be given every opportunity to develop their projects before actually making them. The variety seen in types of projects is huge: there are smaller, charming, technically less complex projects in which a story or specific experience is central alongside large, complex projects geared more towards a spectacular presentation. **Camille Lopato (Diversion Cinema)** sees this as a domain as yet without a rigidly drawn-up definition, without or even superseding genres, where disciplines and pigeonholes blur.

This moment marks the freedom a new, emerging medium can offer makers. **Caspar Sonnen (New Media IDFA)**: We have to try to secure the scope for poetry, performance art and radical experiments every medium holds in its early stages. We need to retain this space to make exceptional things, even if this is expensive and doesn't immediately make money. The development of the medium can only take place if there is scope for projects the success of which is proven only more indirectly, or over a longer period. In the same way that documentary has to be more than reality TV, VR has to be more than games and 360° videos.

It's also striking how open the people involved in the sector are with one another. The sharing of knowledge and the open, transparent atmosphere is remarkable.

It is also important to note that productions differ widely in their suitability for presentation to a large audience, for example because only one person can see the work every half hour, or because presentation is costly owing to the technology used or the use of live actors.

However, the stakeholders for VR – makers, producers, funds and venues – without exception do not yet have any clearly profitable distribution model for the future.
Often, the knowledge is not available internally or there is a lack of time to tackle distribution and operational issues in a structured way.

According to **Camille Lopato (Diversion Cinema)**, festivals in the Netherlands – but also worldwide – are the most accessible, most direct platform for VR and immersive works. One issue currently still being investigated is how these festival audiences can be transformed to give a broader reach.

Outside of festivals, there is nowhere in the Netherlands where immersive media is available to the general public in a structured way at a national level on a daily basis.

3.5 Types of VR

Various different forms of VR can be distinguished. Each form or sub-form is related to other technologies, and no technological standards are currently in place for the various different headsets. This makes it impossible to make generalisations about VR as a medium or as a sector.

> ***Why don't we have a good business model yet? Because there are no standards. Immersive experiences are different sizes, different configurations. Nothing is standardized. It is complicated. Sometimes you have a great project, but it requires specific, like tailor-made, conditions, which can make the distribution quite difficult.***
>
> *Anne-Sophie Braud (Institut français)*

1. Three Degrees of Freedom (3DoF)

This is a form of VR that is not interactive. The viewer consistently occupies a position at his/her central viewpoint, from where s/he looks out into a filmed world. This can be watched using a headset (stereoscopic, 360 degrees), or monoscopic (2D) on a tablet or a smartphone, but also for example on YouTube 360 and Vimeo 360.

1.a 360°

The 360° live-action video form is the most well-known form of this. This form is often seen by VR makers as not real VR, as there is no great degree of immersivity. For audiences (who don't have any experience of VR) and from a distribution viewpoint, however, this is a welcome, accessible and content-rich introduction to VR for large audiences. 360° is also the easiest from to operate and therefore more commercially attractive.

360°:
- Runs on headsets
- But can also be viewed on 2D screens (Vimeo, YouTube, Facebook)
- Playing a 'film' file
- Few requirements in terms of physical presentation

The production process is still reasonably comparable to that of film: after all, the content is still shot using a camera and script development, post-production, et cetera, all still take place.

2. Six Degrees of Freedom (6DoF)

This form is generally developed in a game engine. It concerns 3D environments with a greater or lesser degree of possibility for interaction. For example, the visitor can walk around ('roomscale'), interact with objects, and trigger actions. The complexity of the interaction determines to a great extent the technical complexity of the production and differs radically from the production process in filmmaking.

In actual fact, this is more akin to a production process from the games world, even if the outcome is not a traditional video game, but something with more narrative content. This concerns the development of a piece of software, using programmes such as the game engines Unity and UnReal, as well as programming languages such as C and C++. Working with software gives rise to a different production process, one in which the final result cannot be predicted. This requires an iterative, agile way of working. Processes have to be adjusted along the way, and this can also have an effect on budgeting.
Daniël Ernst (VR director) states that the production process for narrative content also brings different, new challenges because, as he states, in game development a lot of design features can be re-used, while a narrative character-driven animation is always unique, and therefore involves a lot more work than routine game design.

Great diversity of form

The huge differences between these forms not only require different expertise from the team of makers, but also from the producer, and from the exhibition venues, whether these are online or on location. As **Tamara Shogaolu (Ado Ato Pictures)** states, we are dealing with forms that are so different that a work in different exhibition forms – for example, for a physical presentation, various online platforms, or a mobile version – are in fact different versions that may well have to be produced by a different team, with all the financial consequences this entails. It is not a simple matter of re-encoding, as it is for film.

The fact that the technology is constantly and rapidly evolving makes standardisation even more difficult. Which makes the acquisition of equipment by presentation venues, for example, extremely high-risk. It has been stated above that the sector also has no central mechanism for the dissemination of knowledge: this is a fragmented, multi-disciplinary domain.

Versioning

As is the case in software development, a lot of versioning takes place within the VR domain. Precisely because, as a maker, you develop a unique new piece of software, it is normal that the first version offered for exhibition is a beta version.

This is a technical characteristic of the making process, but can of course in practice also be related to finance. In the latter case, a beta version can serve to attract new financiers for further development.

As we are dealing with software, further development is also possible, unlike in other media such as film. **Heleen Rouw (Cinekid)** states that projects are sometimes presented at the Cinekid MediaLab in their beta version and then again, six years later, as a "finished product". In the meantime, the project has been further developed with partners who may be outside of the VR domain, such as universities[7].

Technology

As stated above, use is made of a whole range of technologies within VR. Both on the making side, but also on the production side.

A VR work may, for example, be shown on different headsets. Generally speaking, these can be divided into:

- **Oculus Quest**, a stand-alone headset (no computer needed), for which use has to be made during the making process of Oculus SDK (the software that allows it to run on Oculus).
- **Other headsets**, such as HTC Vive, and many others, which involves the use of a headset connected to a PC. This is called **tethered VR**. To make content for these types of headset, use can be made of OpenVR, a standard that allows the end product to work on all tethered headsets.

The choice between these two also influences the choice of audio format. These can roughly be divided into:

- Spatial
- Immersive audio specifically for use in Oculus
- Immersive audio specifically for use on the online games platform Steam
- OpenVR systems

3.6 Bottlenecks in the VR production process

Makers/producers often come up against the same bottlenecks, which we summarise below:

3.6.1 Lack of standards

As stated above, there are no **standards** in terms of the technology to be used (**see 3.5 Types of VR**). On the software side, it is clear what tools can be used, but on the exhibition side (hardware: the headsets or online platforms), there are no standards.

3.6.2 Lack as yet of a clear definition of the target group

It is difficult to specify who a work is being created for. **The audience for VR cannot yet be clearly defined (see also 2.2 Target group VR and 5.7 No data available).** A maker may of course think more in terms of themes, and investigate the market in relation to each theme.

[7] This was the case with DEEP, a VR project by Owen Harris (IR) and Niki Smit (Monobanda), which was further developed with the Radboud University (Games for Emotional and Mental Health group), among others.

3.6.3 Knowledge gap among financiers

There is a knowledge gap among financiers, including among the subsidy providing funds, in relation to the production process for VR. Further to this are the bottlenecks a maker/producer faces because the finance programme Immerse\Interact, which is of great importance to the sector, falls under the regulations and conditions of the Film Fund. These naturally are a good fit with the realities of film production processes, but not with those of an immersive media production.

In this respect, it is important to explicitly refer to the stipulation stating that the artistic person (the maker) must be separate from the producer. To date, the immersive domain has consisted principally of makers who have always acted as their own producer. The stipulation that the IP (the Intellectual Property) on productions has to be ceded to the producer represents a huge obstacles within the domain.

The risks within a VR production are also much smaller, thanks in part to the fact that the teams involved are much smaller, often consisting of five to six people.

3.6.4 Lack of makers and producers with the right knowledge and experience

The VR chain requires specific experts, also on the production side. The number of such experts in the Netherlands can still be counted on one hand. This requires a different approach from, for example, being a producer in the film world. Producers have to be familiar with an iterative way of working, for example in sprints, whereby flexibility is built into the planning to adjust the feature list according to the progress of (software) development.

The immersive media producer also has to have a reasonable basic level of technical knowledge to be able to make complex, technological choices that may be necessary at an early stage of the development process.

The producer also has to be approved by the Film Fund. The conditions for such approval at present rest on the financial size of the production slate, rather than on any knowledge the producer may have. This means that makers are still too often matched with film producers who don't have the requisite knowledge, with all the risks for the production process this brings.

Makers of immersive media are drawn from different disciplines: film, art, theatre, design, gaming, et cetera. This means that, often, not everyone will have sufficient knowledge of all relevant domains, such as: technology, storytelling, relevant networks, exhibition locations, finance and potential audiences.

> ***The funny thing is that theatre directors have more affinity with the fictional aspect of VR than film directors. Which means it's a bit strange that you then need a film producer***
>
> *Nikki van Sprundel (Immersive Media & VRAcademy)*

> *As a producer of any media format, you need to understand creative, business and production management in order to lead the creative development, the IP development and the production delivery.*
>
> *It is difficult enough, even in an established media form like film, to find producers working across a production with all of these skillsets. In XR production, with its rapidly evolving creative formats, hardware, software and business models, developing the skills of producers is a pressing necessity.*
>
> *We need producers with critical and analytical skills in this field of innovation. We seriously lack producers with an overview of the media, of how it's evolving, and what the possibilities and models are.*
>
> *Liz Rosenthal (Curator Venice Immersive)*

> *Actually for producers to have a successful project, they need to think about the distribution strategy before producing the project.*
>
> *It is not 'oh my project is done and then I start to look for distribution'. I find that that is a problem, many projects we get who pitch to us, we find that they actually didn't have a clear distribution strategy when they started the project. And that actually makes it very hard for a distribution platform like us to distribute the project because it is already finished and when you find that there's something they didn't really put into consideration, for example who their target audience is, even though that is very important for distribution. Because if you are targeting different audiences and doing different channels, actually, the content might need to be different.*
>
> *We really need more producers who understand what distribution is and who can balance between the creative, artistic side of the project and the commercial distribution side of the project. You basically need to understand both, creation and distribution, to be successful.*
>
> *Jingshu Chen (VeeR VR)*

3.6.5 Lack of knowledge of the production pipeline

The characteristics of the VR production process demand a thorough knowledge of how to make the right choices at the start of the process, as well as for any adjustments to the process. The same applies specifically in relation to the future potential for the exhibition and distribution of the project.

The technological choices made determine the way in which the project can finally be shown: on which headset, online or other platforms, mobile or physical.

When preparing a project, the maker/producer must already take into account in the budget the choices between these different formats. As stated in **3.5 Types of VR**, making a different form of the same title often involves a whole different production pipeline, with different expertise requirements. This then in fact becomes a whole different, new project, requiring its own, additional investment.

It's better to include the choices of different formats in the budget from the start in order to save on cost and prevent technical surprises. This is also ideal for the distribution strategy, as makers/producers then know in advance where their production will be shown.

For **Daniël Ernst (VR director)**, for example, it was an important, strongly underpinned decision to split up his production between what he refers to as the 'festival version' of his work in progress. With the traction he hopes this will generate, he is hoping to look for extra investment to then finally make a version for the digital sales platforms. He knows that this means he will have to make at least two hours of content with sufficient interaction. The festival version is clearly a different version, with less (complex) interaction, a more linear narrative and a shorter run time.

> ***I already knew I wanted to make it into VR. So when we were setting up the project, the pipeline or the way that we were working was designed in a way that it could be exported and set up for VR. I always think about scale when I start, so we know how to make it easier to adjust it to other formats even after you finish the project.***
>
> *Tamara Shogaolu (Ado Ato Pictures) about Echoes of Silence, which was developed as a dome projection project for IDFA Doclab*

The choice to develop for a specific headset or a specific distribution platform has consequences for the choices that have to be made in the production pipeline both in the visual and auditive areas. Which technologies will you use as a maker? Knowledge of the technologies and the different possibilities on offer is key in this.

3.6.6 Challenging criteria for granting of subsidies

1. The obligation to repay as enshrined in the Film Fund regulations is based on the situation of a film production, where following its release the production is really finished. In the VR domain, as stated above in **3.5 Types of VR (Versioning)**, a VR production often goes through several phases, whereby the first version may well be more of a beta version, or a festival version. Frequently, this will serve as a vehicle to attract additional finance for further development. It is important that the definition of profit be revised for VR productions, as these cashflows cannot currently be used in further development.

2. Emphasis on a distribution plan in the Immerse\Interact scheme.
At present, an unrealistic demand is being imposed on makers/producers that they include a thorough marketing and communication plan and a quantified distribution plan in their project applications. Although the importance of a distribution plan is recognised, the focus is then mainly on physical screenings and location based events (LBE). Online exhibition is not at present seen by the Film Fund as sufficient.

> ***That is kind of the crux of the matter, and it's not a lack of will, it's just that there's a knowledge gap.***
> ***But, indeed, the whole idea of the location based event. At which festivals is your work programmed, how many YouTube views will you get? These are the questions often asked, and too much value is linked to this, while this is not in fact so relevant to the success of an immersive work right now.***
> ***Of course, being at the right festivals is very important for your visibility, as this can lead to more people searching for your project on the Steam or Oculus platforms. But you can't look at the visitor numbers at a festival, or the number of visitors to an installation.***
>
> *Avinash Changa (WeMakeVR)*

> *You need a very different business model [from in film], to become sustainable with immersive media and attract bigger audiences than we currently are with beta versions and the development of new things...*
> *I think that we really should reserve the Immerse\Interact money for pioneering, the experimentation. And yes, that a maker in any event should think about who it is for and what ideas you have for further development, but not that you know how many people will see it, and where, as these people just don't know that.*
> *And that a maker like this can then apply for funding to show such a project in other locations, after it's had its first festival premières. This is in fact a two-stage rocket.*
>
> *Heleen Rouw (Cinekid)*

3. Lack of budget for marketing, communication, sales and executive event production. Just like every cultural production, VR projects need publicity. As well as creation, there is currently hardly any support and expertise available for sales and promotion. A dedicated budget is needed for this within the overall budget. This could be done internally, or someone with the right expertise could be brought in.

4. Obligation to work with a producer approved by the Film Fund.
It has been stated in 3.6.4 Lack of producers that it is not always easy to comply with this requirement. Firstly because the more experienced makers are often used to doing everything by themselves. And secondly because there are not many producers who specialise in this area.

5. Producers' fees are too low, and are taken from the maximum amount that can be applied for. Producers in the VR sector face gigantic challenges not only performing the normal tasks of a producer, but also managing the technical production process and looking for distribution opportunities in an experimental domain. **Corine Meijers (Studio Biarritz)** notes that, alongside your usual investment as a producer in time and sometimes also costs, it is essential that you really feel the necessity for and love of these projects if you want to bring them to a satisfactory conclusion. This applies both to the production itself and to distribution. Every project involves a lot of R&D (research and development), and this largely has to come from within the team itself in terms of investment.

> *What you should do as a fund is embrace the fact that we don't know it all. That is actually a very thrilling moment, because you can test a lot of things. For a fund I think it is super interesting to have this diversity of actors because immersivity is present in theatre, in cinema, in art, in visual art, design, the digital, in music, learning tools, et cetera.*
> *So it is a way to get more perspective on the relevant fields in the arts.*
>
> *Camille Lopato (Diversion Cinema)*

> *I think it's completely legitimate to ask an applicant for a distribution plan. The viewer doesn't know what to expect, so it's important that you think about this, as this is a component of your work. But the question is: how to ask for this, and how to assess it?*
> *I think that, internationally, with the big institutions, we sometimes fall back into our old ways and the old 'rules and regulations'. Institutions have to be transparent and have to justify their policies, but they can't do so without clear rules and regulations. But in a field and with technology that is moving so fast, by no means everything can be covered by rules*
>
> *Caspar Sonnen (New Media IDFA) on the regulations attached to the Immerse\Interact scheme*

> *It's tricky: after all the money that's been poured into this scheme, the following question arises: 'What now?' How can we take the next step for these works, what about distribution and exhibition, who will see them, who will show them? 'Return on investment' is not always an issue, it's not an 'industry' powered by profit. It's often all about experimentation, art and culture, the value of which is expressed in other ways.*
>
> *For now, research in this area is still pretty vulnerable because this is pioneering work, because there are not yet any standards that everyone agrees on. A lot of things still need to be invented, a lot of experiments are taking place, and that's the great thing about it.*
>
> *Paulien Dresscher (curator and researcher)*

3.6.7 No D&I (Diversity & Inclusivity)-friendly sectors

A number of interviews also revealed that the film world is experienced as a very closed world, a world where 'it ain't what you know, but who you know'. A lot of new makers, for example, are unable to find their way to the Film Fund, for example. They don't know that the Immerse\Interact scheme even exists. Or that there are other funds that provide support, such as the Dutch Foundation for Literature (Dutch: 'Letterenfonds').

> *Where is the cultural diversity among the makers who do find their way to the funds? These are still mainly the white westerners, there are few people of colour.*
> *You could say, well then, let's take a focused look at this. How can we stimulate this? But it actually starts earlier, it starts with the art and film academies or even before that: in the Dutch social, economic reality in a broader sense. If you are from a family that has fewer opportunities, you're less likely to study something riskier like the arts. Is this what we want?"*
>
> *Paulien Dresscher (curator and researcher)*

Female makers are also much less quickly recognised than their male counterparts, partly due to the technological nature of VR productions. On the other hand, it is striking how many women currently work in the immersive industry. 16 of the 25 participants in this research are female, though the sample is predominately white.

In addition, it's strange that it is required of Dutch makers (that is, makers who live and work in the Netherlands) that they speak Dutch when representing their work or during application procedures.

3.6.8 Lack of a makers' community or association

In spite of the open climate within the VR sector, there are actually no makers' organisations or associations, except for NAPA. There is also little joint presentation of work (touring or group exhibitions).

Unlike in the Dutch games industry (Dutch Game Association, see also **7.1 Combining forces**), there is no association to represent the interests of stakeholders throughout the immersive media chain.

NAPA is an association of producers, resulting from the merger of Film Producers Netherlands (FPN), Documentary Producers Netherlands (DPN), Animation Producers Netherlands (ApN) and Interactive Producers Netherlands (IPN). In recent years, these associations have increasingly acted jointly. Their mission is to represent these shared interests even more effectively.

The Interactive & Games domain is a very small component within NAPA compared to the representation of the film world within the association. This means that it is not always possible for NAPA to continue to actively promote the immersive media sector's agenda.

3.6.9 Ever-higher production costs versus few available subsidies in NL

In the Netherlands, there are few available forms of subsidy for makers, particularly when compared to France and the United Kingdom.
Production costs have increased enormously in recent years: the cost of labour, also following the introduction of the Fair Practice Code, as well as prices of software (licences) and hardware (computer chips, graphics cards) have skyrocketed.

More finance should be made available. Makers/producers can already apply for larger sums under the Immerse\Interact XL scheme, but given the abovementioned costs increases this will not lead to increases in scale (in the quantity and quality) of productions.

3.6.10 Lack of knowledge among (new) makers

In **3.6.7 No D&I-friendly sectors**, we referred to the fact that new makers, and makers from diverse backgrounds, do not have ready access to the funds. However, this is about more than simply access to finance.

New makers entering the VR domain frequently do not have the right knowledge, or sufficient knowledge, of the VR domain and the production pipeline. This can mean that they also don't recognise the relationship to choices in their creative process in relation to distribution. They may also be unaware of the existing options for distribution.

Doede Holtkamp (ARVORE Immersive) notes that makers who are just starting out can make the mistake of not making their work for a global market, thereby automatically restricting themselves to the Dutch market. He believes that in education, for example, there is a lack of a realistic bridge between training and the industry, which could be made fairly easily.

Additionally there is then also a greater risk, in spite of its artistic quality or potential at the exhibition phase, of them then making work that 'fails', even though they may have had a great concept.

4 Distribution of VR

4.1 Definition

What exactly do we understand by distribution? Distribution is the last phase in the chain, during which we look for audiences who will pay to experience the end result. In the books, music and games sector, this is the role of publishers, and in the film sector of distributors. The mission of a distributor or publisher is to reach the widest possible, most relevant audience for the artistic product. The numbers and success factors involved will differ for each project. One book may have forecast sales of 100,000 units, and another 10,000. In both cases, the book can be a success.

Distribution is about selling and promoting work, offering this to potential paying customers and looking for places where the work can be shown to the public. Specifically in the case of VR, it is important that the party carrying out the distribution – whether this is the maker, the producer or a separate distributor – also has the relevant knowledge and is able to find appropriate venues and the appropriate audience.
Within the Immersive Media domain, unlike in film, it is very common for the maker to be intensely involved in the distribution of his or her production. In this respect, this domain is more like the art world, where the preconditions for exhibition are extremely important in the way the work is received upon exhibition.

Anna Abrahams (Eye Xtended) sees a distributor as an intermediary with knowledge of both the artistic content (what is going on in relation to VR and this particular work's place within this), as well as the technology involved in the VR experiences they will distribute. This intermediary must be able to explain what the experience will evoke, how the experience works, what equipment a presentation venue needs and what the other preconditions are for good presentation of the work.

In fact, this should play a role at an earlier phase in the chain: in the final analysis, all makers want their work to be seen, and preferably by as many people as possible.
The problem is that the market is not mature: there is still relatively little publicity devoted to the titles being released or to the awards they win, so the general public has little opportunity to familiarise itself with these projects. What's more, a lack of suitable physical locations is both a local and an international obstacle.

> *This sector is not about just creating pieces. In the end it is about making sure that the piece, an immersive art piece, can be seen by the public. So distribution is every step to make that happen, or to increase the chance or the opportunity so that it can happen. It is important to work on, even before the piece is finished, up to after the premiere. It is the whole scope of what you do and what you need to do to ensure the created art piece is being seen by the broader public.*
>
> *Camille Lopato (Diversion Cinema)*

> *The XR community is growing, and distribution is shifting as different ways of distribution are being explored in different territories. Defining the correct distribution strategy for a project and working with the correct partner in each territory have become the most important elements of being successful.*
>
> *Jimmy Cheng (Sandman Studios / Sandbox Immersive festival)*

4.2 Distribution strategy: points for analysis

A distribution strategy is critical at an earlier phase of the VR chain, as additional investments are often sought for further development. According to **Liz Rosenthal (Curator Venice Immersive)**, it is important to develop this in a bottom-up manner with the maker/producer.

A number of specific criteria exist that are of importance in drawing up a distribution strategy for a VR production. These are:

4.2.1 The importance of the theme or subject of the work to the audience

A major aspect of the marketing of a title: how will you finally position it in the market?

> ***This is really about communication. That marketing and how you position your film in the market. I really like it if you think in broader terms than just your own artistic baby. That you also look at this content in terms of what am I saying and what is behind this.***
>
> *Renée van der Grinten (Industry consultant)*

For example, for the work *Ayahuasca*[8] it proved possible to attract a broader audience through interest in the topic, rather than in the medium. An article was published in the best-selling lifestyle magazine in the Netherlands, *Happinez*.
The work *Symbiosis*[9] is interesting to exhibition venues such as the Hortus Botanicus botanical gardens owing to its subject matter, symbiosis.

4.2.2 Identifying the potential target group/groups

This too is essential for the marketing of the work. The more widespread VR becomes, the more accurate the target group analyses become.
At present, a distinction can be seen between a more highbrow festival audience, the broader film- and culture-loving audience, and the – mainly online – games audience. For which a different VR form perhaps could and should be chosen and produced.

> ***The audience that came to see this was really fantastic. All ages and very different interests. It was really a party. Everyone was really enthusiastic and of course this has an added value, pulling the casuals over the threshold.***
>
> ***I think that a lot of these visitors like VR, but would never buy a headset. Just like the people who prefer to see a film in the cinema rather than at home on a beamer.***
>
> *Daniël Ernst (VR director), on an exhibition of his work The Great Orator at the Filmhuis Den Haag arthouse cinema in The Hague*

4.2.3. The characteristics of the production:

1. The technical possibilities, ensuing from the technology chosen and the form
Depending on the form of VR, a work may be suitable for distribution to consumers, i.e. distribution in the headset. Other works are specially made suitable for a physical experience[10] – in this sense, these are more immersive performance, theatre or art pieces[11], with different expectations in terms of audience numbers.

[8] Ayahuasca: Kosmic Journey – Jan Kounen (2019, FR/LU)
[9] Symbiosis – Polymorf (2019, NL)
[10] For example Notes on Blindness – Amaud Colinart, Amaury La Burthe, Peter Middleton, James Spinney (2016, UK/FR), Ayahuasca: Kosmik Journey – Jan Kounen (2019, FR/LU)
[11] For example The Collider – Anagram (2019, UK

The differences in forms of VR therefore often determine the type of distribution that can follow. This begins with the choices made during the making process, see also **3.5 Types of VR** and **3.6 Bottlenecks in the production process, point 5.**

2. In what way can this be presented physically
What equipment is needed? How much space does a work need? How many visitors can see the work at once? Can this be scaled up? How many hosts are needed? Does the maker have a specific, physical presentation design, or can the presentation be done in a more generic way?
Answers to these questions will ultimately determine the **'through-put'**: the number of people who can experience a VR installation physically at the same time.

A low through-put will of course have a great impact on quantitative visitor numbers. For the award-winning title *The Line*[12], for example, the through-put at a physical exhibition (LBE) was four people an hour.

3. The duration of the experience
For LBEs, it is essential that VR experiences don't last too long. Approximately 25 minutes is generally seen as a long experience. The headsets are still relatively heavy and not entirely comfortable to wear, meaning that a longer experience is considered less attractive. In the case of interactive, game experiences in the headset (for home consumers), a longer experience is often more acceptable – after all, it is possible to take a break and come back to the experience.

4. The degree of activity or interaction
This influences the suitability of a work for a particular audience and a specific customer.

4.2.4 Marketing and communication budget and expertise

How much marketing and communications expertise can a production attract or does a project have in-house? How much time can be invested in writing and sending press releases, and creating social media posts with the right hashtags, producing a trailer, creating good screenshots or making posters? In other words: what is the capacity and competence in terms of creating visibility?

How much budget can be set aside for these marketing activities? It is important to research this before commencement of the production and to include this in the total budget.

It should be borne in mind at this point that the VR sector is not yet a mature sector. The press is still devoting little attention to VR, which means that makers/producers have to shout louder to be seen and heard, both by the press, operators/exhibitors and the public.
In this sense, festivals can also be seen as marketing tools, particularly if a production aims to move more towards online platforms in its ongoing development.

[12] A Linha – Ricardo Laganaro (2019, BR)

> *We made a trailer, the tour dates are on it, we have a 'news' section], but we made separate investments in this because of IDFA.*
> *For us, IDFA was the 'gateway' to more bookings, so it was very important to have all this sorted out ahead of IDFA. So we hired someone specially to take care of these aspects. And now we have 'follow-up money' to complete all of that, so that's really good. We are able to continue to employ this person for another six months.*
>
> *Marcel van Brakel (Polymorf), on the Symbiosis website*

4.2.5 Knowledge of and network in existing forms of distribution

This concerns knowledge of the local situation, and a network of potential customers: festivals, (arthouse) cinemas, as well as businesses and online platforms.

> *For the local market for LBE we work with local distributors like Diversion Cinema. Because they are actually like a local distributor, they are more familiar with the audience and the market in their country. So when we operate outside of China, we prefer to work with local distributors.*
>
> *In general I think with LBE VR Cinema, there is a product-market fit there, but the key to success is to find a location or a scenario where there is a good match between the content, the audience and the location.*
> *I talked about location cinema with Diversion Cinema, but their problem is the labour costs are far higher than in China.*
>
> *Jingshu Chen (VeeR VR)*

> *The producers need to think: What are the important XR festivals that can promote the project well and get in touch with the correct buyer or distributor. Each type of project has its own suitable festivals to apply for, which going to many festivals to showcase will not guarantee a bright future of distribution.*
>
> *Jimmy Cheng (Sandman Studios / Sandbox Immersive festival)*

> *I think for a local distributor in the Netherlands, you need to do a lot of research first: who is the audience and where are they? Who is the buyer who will want your content and/or support you to reach out to your target audience?*
> *If you want to be a distributor, you need to define the direction you want to go in. Are you going offline, or online? Are you going for music-related, art-related, or educational content with schools and museums? Once you choose the direction of distribution, the next step is to define the real buyers to approach.*
>
> *From an [XR] distributor's perspective: you need to think for both sides. On the one hand for the producers who want to maximize profit. And [on the other hand, the buyers]: you don't want to do a one-off deal with this buyer and then no more deals*
>
> *Jimmy Cheng (Sandman Studios / Sandbox Immersive festival)*

An inventory of the points from the list above will eventually lead to a plan for distribution. At the beginning of the chain, this plan will be less extensive: specifying a potential venue for the première and the names of a number of physical presentation locations. But more information can be gathered during the course of the production phase.

> *There's little point or guarantee when including physical exhibitions in your plans at this stage, as the physical locations are scarce. And those places that there are have a relatively limited reach. And every hour you invest in the attempt to get your work into physical locations, as against investing now in better findability on Steam, that just delivers a lot more in terms of numbers of eyeballs on your application. The number of people who actually see your work. And this should be what it's all about, how many people engage with this content, instead of just at which festivals you are.*
>
> *Some works are made to make a creative or technological statement, and in this case visitor numbers are not the right criterion. But if you make something that doesn't quite fit into these categories, then we are talking about eyeballs (viewers) on Oculus or Steam. And these are the works that are about where this sector is scalable.*
> *And these works, that is installations as opposed to online distributable works, have two different strategies; two different routes with different distribution models.*
>
> *Avinash Changa (WeMakeVR)*

Ultimately, the plan is also to include a calculation of what the buy-out should be, in the words of **Doede Holtkamp (ARVORE Immersive)**, the price point model, which is essential information for potential exhibition venues (both online and LBE). Will this be a flat fee/ buy-out sum? Or is a revenue sharing model possible or desirable? And for LBEs: how long should it be in a particular venue and how many stations do we need to cover the cost?

Depending on the maker/producer, this information will be known or available to a greater or lesser extent. **Renée van der Grinten (Industry consultant)**, for example, sees that experienced makers are well aware of where their audience is, and know their themes, which makes it clearer for them how and where they want to and are able to show their immersive works.

4.3 Distribution state of play: missing link

Exploratory discussions with many renowned makers, producers and operators (exhibitors) both from the Netherlands and abroad show that there are currently no distribution models for immersive media.

With the exception of distribution within the international film and immersive media festival circuit, there is no professional link in the chain between makers/producers/operators and audiences, meaning that artworks seeking to be seen on a larger scale are not getting visibility. There is simply no extensive infrastructure as yet. Which means that creating physical locations/partners is essential.

Smart distribution boosts visibility. It ensures that an art project is seen by as many people as possible. It also helps with getting paid for the project. This is how record companies and digital music platforms ensure that the music made by musicians finds its way to their audiences. And a film distributor or VOD platform provides all the activities needed to ensure a film reaches its audience. Both industries distribute their projects (music and films) both online and offline. We believe that this is also possible for the Dutch immersive media sector.

To date, there has been a lot of talk within the XR community and ideas on distribution are being exchanged, but there is a striking lack of real research. For this reason, in this report we are scarcely able to refer to any other reports.

> *Some people interviewed me shortly to get a small glance at distribution, but XR distribution is relatively complicated, and it is hard to understand all the opportunities or directions within under 30 minutes of conversation. The biggest and deepest interviews that I have is with you, one with Institute Français, and another one I did was with Quebec.*
>
> *Jimmy Cheng (Sandman Studios / Sandbox Immersive festival)*

4.4 The film model

Before examining the current VR models, it is a good idea to make a comparison with the film model.

In the film sector, a worldwide chain already exists (business model): from maker/producer, to finance and making, to sales agent and distribution, to screening to the audience: at physical locations (cinemas) and online (VOD platforms and television).
The tasks of the sales agent are clear: they buy the worldwide rights from the producer, and then sell these rights to local distributors in each country.
In turn, the distributors acquire all the IP to a title for a particular period (between 8 and 12 years) in a particular geographical area in order to sell this to cinemas, streaming platforms and both pay and free TV. They have their own release strategies and a budget for local marketing and communication activities.

The revenue model is tailored to ticket sales and MG[13] from platforms meaning that money flows back to the distributor and maker/producer.
Basically the same model also applies in the books and music sectors.

4.5 Current models within VR

In the VR domain, this chain that exists for film is not present. There are no sales agents, .and there are no local distributors. In Europe, the number of distributors that focus on immersive media can be counted on the fingers of one hand. In practice, therefore, it is largely up to the individual makers/producers to distribute their titles.
The maker/producer builds up a personal relationship of confidence with a distributing party and with operators. This is a fundamental difference from the film sector, where there is not usually contact between a producer and screening platforms. In this respect, distribution for VR is more comparable with how distribution works in the theatre sector, where shows have to be looked at for each location. All things considered, this will always be specific to each project.

Doede Holtkamp (ARVORE Immersive) makes a distinction between three existing models: digital distribution (Steam, Meta, PlayStation, Pico, et cetera), cultural LBE (EYE, festivals, museums) and commercial LBE (arcades). None of these models is currently a strong revenue model – only in the event that an artistic VR is picked up online by a games audience. However, this is filtered out by the platforms in advance.

These models are discussed below.

[13]Minimum Guarantee

Liz Rosenthal (Curator Venice Immersive) and Nick van Breda (Consultant XR – AI and IoT) are seeing new revenue models slowly emerging in social VR platforms: premium memberships, or through the sale of extra content or NFTs, but this is at present still too marginal.
The consumer market for VR, which is linked to digital distribution, is still too small: the number of people with their own headset, who are also interested in artistic VR, is still extremely low.

> *There has to be a revenue model attached.*
>
> *This can be done in one of two ways: you can ask the user for money, or you can ask the party doing the distribution for money. If you ask them both for money, usually it will go wrong. Then you are holding one another to ransom, and use won't grow fast enough.*
>
> *A good example of this is those Nespresso capsules: those machines used to be really expensive. Eventually, they ended up giving the machines away, with a year's supply of coffee; then Nespresso started growing really fast worldwide.*
> *You can of course apply that kind of model to VR. What is smart? Should I first have a lot of users, or should I first make sure that the distribution is good*
>
> *Nina Nannini (NBD Biblion)*

4.5.1 Existing VR distributors

In Europe, there are currently only two parties who act exclusively as international distributors/ sales agents: Diversion Cinema and Astrea (the new branch of well-known VR producer Atlas V). Both are based in France.
Both of these parties are unique and market leaders with their knowledge and expertise in the field of an VR exhibition. Diversion Cinema focuses on promotion, creating value for the project through exhibition at festivals and communication surrounding titles. However, they also devote a relatively large amount of attention to advising makers/producers on logistics and technical aspects, often early in the chain. And ultimately, they try – after the festival phase – to commercially operate titles.

Nevertheless, their activities are also limited to LBE exhibition in France and at international festivals. **Camille Lopato (Diversion Cinema)** states that the greatest challenge they currently face is that, owing to the lack of local distributors, they do not have information and knowledge of other countries: what audiences are there, what physical venues there are and which events can be tapped into.
This means that it is impossible to develop a working commercial revenue model at present.

It is also worth learning from the few other local distributors and platforms, such as VeeR in China, who are active in physical VR Arcades in Asia, or the Taiwanese Iconic Engine, who distribute to telecoms companies wishing to promote 5G. Naturally, the Asian market is very different from the European: activities outside of the home are much more important than here, and labour costs are much lower. Additionally, only 360° video is well-suited to distribution through mobile platforms.

4.5.2 VR: Festival model

In terms of festivals, a distinction can be made between prestigious (film) festivals with an immersive programme: including Venice, Cannes, Sundance, SXSW and Tribeca, and in the Netherland of course IDFA, NFF and IFFR.
Then there are the smaller festivals such as Cinekid, Imagine and STRP in the Netherlands, CPH:DOX, NewImages, Sheffield DocFest, DOK Leipzig, and for animation for example Annecy, and Kaboom and GoShort in the Netherlands, and for games A MAZE, and Indigo and The Overkill in the Netherlands.
There are also many small festivals, both in the Netherlands and abroad.

The first go to for VR works, for their premières and for a first profile-raising round, it is worthwhile for makers/producers to work towards an exceptional physical experience that lasts longer than a potential online version. This can be done using exceptional on-boarding and off-boarding, good backdrops and an extra introduction or soundscape. The VR sector is increasingly talking about the **festival version** of a production, aimed at generating as much buzz as possible by using added extras as mentioned above.

In the ideal situation, festivals would be the first in a series of steps. At present, however, it is almost always the first and also the last step in the distribution phase.

> ***There are a handful of locations in the Netherlands where digital cultural projects can be seen, including immersive works. From there, [as a maker] you of course hope that [your title] will be picked up internationally and that it can then grow further.***
>
> ***The sector should organise itself as a pyramid, with a broad base where a lot of experimentation takes place: the 'humus layer' that feeds everything on top of it. This layer has to be seen in the Netherlands and can act as inspiration and a network for the entire field, and beyond. In addition, it can serve as a springboard from where a number of productions or works can also break through internationally.***
>
> ***The finance of this whole chain (development/experiment – production – distribution/ exhibition) ensures a healthy, resilient sector.***
>
> *Paulien Dresscher (curator and researcher)*

It gives a project traction if the makers can show that they were selected for a renowned festival. A laurel on a poster can open certain doors to smaller festivals and events.
In the present climate, festival exhibitions by makers/producers are used as a major marketing tool to generate visibility, with the ultimate aim of obtaining extra finance.
If a maker then also wins an award for a work, doors both in and outside of the Netherlands open more easily, although this of course is not a model that can be standardised.
Incidentally, **Ido Abram (SEE NL)** states that selection for Venice doesn't always have a direct effect in relation to audience behaviour in the Netherlands. Nevertheless, it is of course the case that such a selection brings attention: the work is written about, and this always helps, albeit indirectly.

During the pandemic, experiments took place worldwide with online festival programming. This remains difficult, as VR festival versions in particular are difficult to translate for an online experience. And, of course, the audience have to have their own headsets.

4.5.3 VR Online model: Vimeo or YouTube

A number of online models exist for 360° video. In the case of publication through Vimeo, this is concerned purely with increasing visibility – there is no revenue model. The published title can then be viewed using a desktop computer or mobile devices.

In addition, it is possible to publish videos on YouTube, where a revenue model is present, and the maker receives a small percentage on each stream viewed. This content can be viewed both on desktop or mobile devices and using a VR headset.

Content can also be published on Facebook 360 – once again this does not offer a revenue model.

4.5.4 VR Online model: VeeR

VeeR is a recent Asian platform that deserves special attention, for a number of reasons. It focuses specifically on 360° video.

Firstly, the company is a mix between LBE and online distribution: VeeR is the operator of fifty successful VR Cinemas in China. In addition, VeeR is an online content platform and an app through which makers/producers can publish their titles. The app is available for most headsets.

The exceptional thing about this platform is that makers/producers can set their own pricing. Additionally, VeeR helps the content-makers obtain licensing deals with third parties, such as telecoms.

They also have a 'studio branch', and a fund: VeeR Immersive Fund.

Visitors to VeeR can watch all the content on various devices: online on their computer, on a mobile device, or on various different headset models. As a consumer, you never need worry that a title may not be compatible with your devices. VeeR ensures that the title can be viewed on all platforms.
The down side for makers/producers is that they no longer have any influence over the audio-visual quality of their project.

Jingshu Chen (VeeR VR) notes that since its foundation in 2016 VeeR has seen an enormous increase in film-related investors investing in 360° video content.

It would not make sense for the Netherlands to attempt to emulate VeeR as a platform. Steam and other big game store fronts will always lead the field in the area of promotion. Furthermore, the construction of such a platform is hugely complex if you want to build in compatibility with as many models of headsets and controllers as possible.

4.5.5 VR Online model: Oculus

If a maker/producer has chosen to develop for the Oculus headset, it is then in theory possible to publish the work through the Oculus Store and/or Oculus Mobile. This concerns 360° video, and especially 6DoF content.

To be eligible for publication through Oculus store fronts, a title has to pass through the Oculus QA[14] rounds. This is not only challenging in itself, but costs money. The maker/producer have to pay up, even if they are unsuccessful.

If a title ends up on the Oculus store fronts through curation by Oculus, then the title is pushed forward in offers and sales. This is what Oculus offers the works it selects. They will then invest in the marketing, and finally take 30% of the profits. For a title, this is an ideal situation as this immediately means a lot more eyes focused on the product. The maker/producer can then focus more on social media and the press.

Oculus also has an experimental platform without QA: the Oculus AppLab. This does not however offer a revenue model.

An alternative platform to Oculus is SideQuest, where makers/producers can publish their titles without QA, and can choose to charge for this.

4.5.6 VR Online model: Steam

The Steam platform is the largest online store front for games and related interactive content. For VR, it is possible to publish 6DoF projects here. Steam does not implement a strict QA, and the maker/producer can set their own price for productions. All data hosting of the title is arranged by Steam. Steam makes content bundles and provides a whole host of campaigns, sales and special offers on their titles. Ultimately, Steam takes 30% of the revenue.

This relates only to tethered VR – that is, 6DoF projects that can be viewed using a headset linked to a computer. Steam supports most headsets and controllers. With an Oculus Quest, it is only possible to install Steam titles by linking the Quest to a computer using a link cable.

Although Steam has traditionally been a gaming platform, today's gaming audience is so broad and so diverse that narrative VR certainly has a (niche) place on this platform. The biggest challenge here is: how can a title achieve visibility on Steam or on the Oculus Store?

And vice versa, how can users find the content they want, if they don't know what they are looking for? There is therefore a huge challenge here in relation to marketing and communication for the sector as a whole.

> ***We heard back from people, who said: 'I went to this exhibition, and I found it absolutely genius, this VR, and I decided to give myself a VR headset'. And most of the time it is the Quest 2, [which is] well packaged, the cheapest and it is stand-alone. You think you will recreate this overwhelming feeling that you had during the exhibition. And then people come to us saying: 'Well, it's great. I have my Quest 2, but I have a little bit of a deception, because I can't find the stuff that I like. I don't know how to find it.***
>
> *Camille Lopato (Diversion Cinema)*

All things considered, this is a model that leans on the game distribution model, from which the artistic VR sector can learn a lot.

[14]Quality Assessment, generally carried out by companies accredited by Oculus, where professional game testers fill out checklists.

> *A number of the VR game studios are receiving significant revenues from publishing on storefronts. For example at Connect 2022, Meta announced that the Quest content store has surpassed $1.5 billion in purchased VR content since its launch in 2019, with over 400 apps in the Quest Store. Roughly 1 in 3 are making revenue in the millions.*
>
> *We can learn from the online publishing model of the gaming industry, particularly from studios who are publishing narrative games, who are creating significant IPs with several hours of gameplay or replayable content charging around $30 per title.*
>
> *Liz Rosenthal (Curator Venice Immersive)*

4.5.7 VR LBE outside of festivals

> *We heard back from people, who said: 'I went to this exhibition, and I found it absolutely genius, this VR, and I decided to give myself a VR headset'. And most of the time it is the Quest 2, [which is] well packaged, the cheapest and it is stand-alone. You think you will recreate this overwhelming feeling that you had during the exhibition. And then people come to us saying: 'Well, it's great. I have my Quest 2, but I have a little bit of a deception, because I can't find the stuff that I like. I don't know how to find it.*
>
> *Camille Lopato (Diversion Cinema)*

In Asia, VR Cinemas are extremely popular. They generally programme less narrative VR content, and focus more on the entertainment value or the 'wow factor'. The company VeeR, for example, runs more than a hundred gigantic VR Cinemas in China.

In the Netherlands, there is no VR cinema as yet. A pilot is scheduled to start soon with three cinemas[15]. If this pilot is successful, the plan is to initiate further rollout to other cinemas. The focus of this programme is on 360° video, with a number of stations in each cinema for 6DoF titles.

VR works sometimes find their way into museums, often if a single work fits within the context of a larger exhibition. Longer runs also sometimes take place in cinemas, theatres or other exhibition spaces, such as NXT Museum, MU Hybrid Art House, The Grey Space In The Middle, Filmhuis Den Haag, Forum Groningen or Tetem.

EYE Xtended is an XR programme run every four years in Eye, which included a showing of *Carne y Arena*[16]: the biggest show of VR work in the Netherlands ever. This exhibition is not entirely relevant as an example, as such a large-scale even could not be replicated by most potential exhibition locations. Nevertheless, this show was amazing and important for the promotion and name-recognition of immersive content in general. This is also an important lesson for makers/producers, to not create works for LBE on such a scale, as it is impossible to widely distribute such titles. They are too costly, take up too much space, and are too labour-intensive to run.

Globally, the Phi Centre in Montreal is the only other institute, alongside Eye, to focus on such LBE projects – of course they too have the space and the resources to do so.

[15] VRiations, a project initiated by Cassette and Diversion, in collaboration with LUX, LV and De Schuur. The pilot is being financed by the DigitALL Culture Counter.
[16] Carne Y Arena – Alejandro González Iñárritu (2017, US)

4.5.8 VR Mobile

Recent years have seen the rise of a number of platforms affiliated to telecoms companies all over the world. They are looking for content with which to promote 5G and are buying licences for 360° video, from businesses such as **Sandman Studios (Jimmy Cheng).** When purchasing a 5G subscription, the customer can then for example also receive a headset on which to view the content. 5G makes it possible to stream 360° video in very high quality.

Sandman Studios acts as a sales agent and distributor, and is also developing the VR platforms and VR apps for telecoms companies. **Jimmy Cheng (Sandman Studios)** explained his strategy to us in detail in his interview: how he is compiling a catalogue of titles, what deals he is making on the producers' side and on the telecoms companies side, as well as the future he sees in this.

5 Current bottlenecks in the distribution phase

What obstacles are makers/producers currently coming up against once they have completed the production phase? Several points have already been discussed. In this section, we will examine each of these, one by one.

5.1 Limited distribution opportunities and infrastructure

In **4.5 Current models in VR** we gave a summary of what the current models for distribution are. These are still very below par and too few, meaning that most works are happy during their lifecycles with just a few Dutch festivals outings and at least one festival outside of the Netherlands. In the hope that the title is then picked up for small LBEs. A very small percentage then also go for further development, always of course depending on extra financing.

It would be good if there more collaboration between festivals could take place, so that works can tour, as happens in the theatre world. At present, the big festivals still too often make demands in terms of only wanting to show premières.

For makers/producers, it is important to evaluate during the festival phase whether the title does in fact have greater potential, or whether it proves suitable only for a brief exhibition phase during festivals. As explained in **4.2 Distribution strategy: points for analysis**, these are select points for further research where a distributor can help, but which for preference should be looked at much earlier in the chain. VR productions should have a person in their team who is involved with making this analysis and drawing up a strategy, and who will then continue after the release to actively look for exhibition opportunities.

All in all, audience reach currently remains below par, while many VR titles are suitable for a wide audience.

5.2 Lack of (technical) knowledge and resources at the physical locations

At the (potential) exhibition locations, there is a huge lack of knowledge and resources in relation to the VR medium. There are a lot of requirements for the exhibition of VR work: there is a need for technology and equipment, for competent people to install this, setting up and taking down, hosts are needed with a minimum technical knowledge of VR, and visitors have to be helped with the on-boarding and off-boarding, including with the headset and starting up the experience. All of which makes this a highly laborious business, even for venues that already have the requisite knowledge in house.

The vast majority of (potential) exhibition locations do not have this knowledge in house, nor do they have the equipment. This makes the threshold for and investments required to place a VR work extremely high, as does the cost of hiring and maintaining equipment and personnel for the duration of the exhibition period.

> *[I think] that [the locations] do want to present VR experiences, but they don't dare to on technical and financial grounds. You need really specific technology and there always has to be a host present at the experience. That host has to know how it works and be able to resolve problems. So you can't just put just any volunteer there.*
> *I think that these actually are the most significant factors – the VR host, the technology and then the square metres. If there were financial support for this, I'm sure that more locations would get on board.*
>
> *Anna Abrahams (Eye Xtended)*

> *You want to take these projects further and preferably also get them into some form of distribution. But for makers it's often difficult to understand how that works, and it also demands in practical terms that there's always someone there at the exhibition.*
> *So, you might think: I'll distribute it in theatres or in libraries, but then you still always need someone there who has the knowledge, technically, and also has a sense of the medium. Simply because these works are very fragile, they can break, or freeze. This knowledge and expertise is not usually there and you have to supply it yourself. Cinekid also does this with the MediaLabs, throughout the Netherlands. It's a tailor-made business.*
>
> *Heleen Rouw (Cinekid)*

In recent years, Cinekid has placed a number of VR works in cinemas throughout the country. **Heleen Rouw (Cinekid)** states that this in fact only goes well with titles that are not new and that Cinekid has been able to try out as festival in terms of exhibition at the festival, at the main festival location in Amsterdam or at other locations curated by Cinekid. This year, Cinekid worked with a catalogue with a number of new and a number of existing installations, and this went very well. But she points out that it is still a costly exercise: one that can't in fact be done without a producer on site.

It helps if the maker/producer/distributor has already thought about how a title can be presented, i.e. what they else they can offer to a curator or programmer. Is there a context, a sidebar programme, is the topic suitable for talks? What through-put does the title have: how many people can pass through it at once? Does it not last too long? Is the physical presentation not too complex?

As VR as a medium is already so costly and demanding, it is all the more important to ensure that the additional extras for LBE are as attractive as possible.

> *So if we are going to do this, I want us to do it right. Then it really has to be part of the whole, it has to be supported by all the people, from the person in the box office to the technical staff, the programmers, marketing. Whatever their role, just as long as they are convinced that it's a really important element in what we have to offer.*
>
> *There are always people who prefer the traditional forms, but here I also have a lot of people who are really in favour of innovation. What I need is advice. What would really suit us, as a cinema, but also as a debating centre, as a cinema, for our educational branch, up to say even thinking about contributing to the development of the VR product.*
>
> *These are all existing possibilities, but you have to start somewhere, you have to have a good plan and you have to be able to take this further. You have to start with a plan about what then, and how, and then I need input here and here. This expertise I don't have within my organisation.*
>
> *Pien Houthoff (LUX)*

> *What is stopping us showing VR? Knowledge and money. You really have to think hard about how you will tackle it in practical terms, what you will show and how you will market and position it.*
>
> *Roderik Lentz (LantarenVenster)*

> *If you want to take digital culture to the next level, you really have to separate it from film. Don't put the two together, because it's a very different format, the business models, the scalability and the concept of further development are very different from film.*
>
> *Heleen Rouw (Cinekid)*

> *Absolutely there is audience potential, but we are still noticing that the audience needs help as a lot of these works are not stable enough. Often, they don't yet work that intuitively – in any event not yet enough for our audience.*
>
> *Anna Abrahams (Eye Xtended)*

5.3 Lack of formats for the development of a suitable distribution strategy

In a not yet mature sector where experiments are still common, there are not yet any formats for suitable distribution strategies that makers/producers could use to put their works across. **Camille Lopato (Diversion Cinema)** states that they advise producers with logistical and technical expertise in relation to exhibition at an early phase in the making process. Which form of VR is the best choice for them? How does the chosen headset or form work, with the laptops Diversion Cinema uses for to exhibit them? What's more, every location is different. So makers/producers have to be flexible and be able to make compromises in relation to the preconditions for exhibition.

In this respect, Diversion Cinema works very closely with the maker/producer and – as stated above – this means that distribution of these works more resembles that of a unique piece of theatre.

[17]In 2020, Steam had more than 120 million active users, in 2022 Oculus Store had almost three million active users.
[18]There are various extensive annual target group analyses of the audience for games (including Newzoo), and in recent years it has been striking that we can no longer talk about "the gamer": everyone games, with a striking increase in the group women aged 25-45.

5.4 Findability online, in the 'store fronts'

The participants interviewed are convinced that there is an audience[17] already within the online store fronts that is interested in narrative/artistic VR titles[18]. However, it is extremely difficult for the VR productions to create visibility for themselves among literally tens of thousands of games titles on the digital platforms Steam and Oculus Store.

How will these platform users find your title? Can a way be found to allow these people to find what's on offer?

The interviewees stated that even they, as experts, had difficulty finding titles. How can this be resolved in the future? To date, the chances of Steam promoting artistic VR remain small.

> ***The findability of these is already very difficult and there's very little in terms of artistic VR, but if they were more findable on Steam, if this could be a more easily accessible platform, or could have a place where you could see a lot of content that you can then just experience at home, then it would become much clearer and easier to experience artistic VR for a general audience.***
>
> *Nikki van Sprundel (Immersive Media & VRAcademy)*

5.5 Cost-benefit picture: licensing strategy

In the current situation, makers/producers can't really afford to take account in their production budgets of all the potential costs involved in exhibition and/or publication. Sometimes this is down to a lack of insight and knowledge, but often it's simply a lack of budget: everything has to be dedicated to actually creating the work.

> ***Unfortunately at present too many costs are not covered (or even budgeted for), such as the cost of modifying a work for several locations, or of updating software. Which results in a hell of a lot being done with very little in the field, but sometimes the boundaries are also stretched too far. If you look at the amounts spent in absolute terms compared to existing media, the conclusion is soon reached: there needs to be money. As soon as extra investments are made in VR, straight away you see the whole sector flourish with new artistic impulses. Just look at how the field has grown in England in recent years, or how much impact a scheme such as Immerse\Interact has had.***
>
> ***Another effect is that some projects can no longer be seen after just a few years. Almost no one includes budget for translating a project technically after a while for the latest devices and infrastructure. Which means that new talent doesn't get the chance to learn from (the mistakes of) their predecessors, and that classics can no longer be distributed. And it's not the case that institutes don't want to show this work, or that audiences don't want to see it – it's just that a lot of works simply end up gathering dust in outdated VR headsets***
>
> *Caspar Sonnen (New Media IDFA)*

LBE venues often currently cannot cover the cost of programming VR installations. A fact reflected in **5.2 Lack of knowledge and resources.** Ticket sales alone are often not enough to cover the cost of such programming for a venue, let alone make a profit.

> *Everything we've organised to date in terms of VR experiences has sold out. The problem is that it simply costs much more to present VR experiences than what we recoup from ticket sales. You could make the tickets a lot more expensive, but I think this would alienate a considerable section of the public. We want this work to be accessible to everyone with an interest in VR, irrespective of how deep their pockets are."*
>
> *Anna Abrahams (Eye Xtended)*

When makers/producers present their cost/benefits analysis to presentation venues, it regularly turns out that expectations are not met, and the locations turn down the offer. And not only owing to the **5.2 Lack of knowledge and resources** – also in the case of international presentations of VR installations at festivals. Festivals such as Sundance often ask for a contribution towards the cost of the presentation from the makers. **Ido Abram (SEE NL)** doesn't think this will change any time soon, and believes that the international presentation of Dutch narrative/artistic VR works needs additional financial support for this.

> *Makers are quick to think of Carne y Arena – that they could also make something like that. While for me as a programmer it's very clear: that's just not feasible. It took six people working to give one person an experience. The physical space needed, the container full of technology... that scale is too expensive and too complicated. That is not the future. Don't get me wrong: I'm very happy and proud that we were able to present that moment in the history of VR, at the intersection of film and art. Artistically and in terms of the content, Carne y Arena was really good. And the presentation of a ground-breaking work by a major filmmaker like Alejandro G. Iñárritu perfectly suits Eye's role as a museum that alongside the history of film also seeks to show the potential future of the medium.*
>
> *It would be good if a distributor were to say to these makers: be realistic, because you could spend a few years on a work like this, but ultimately just a few hundred people could see it, because it simply can't be distributed. You're better off working with the space inside the headset, than the space outside of it.*
>
> *Anna Abrahams (Eye Xtended)*

It is important to invest time and work in the licensing strategy for projects right from the start of the chain. These could be more like the deals that are common in the music industry, in the chain leading up to concerts and performances.

> *In relation to individual bookings, we are trying to keep things easy with a flat fee if we do the distribution with a partner, where localisation has to be an investment by the partner. Then we have to recoup pre- and post-investment as a revenue share. This has nothing to do with the license fee. Every time they book a new location or festival, they have to have our approval, especially if, for example, they want to offer it for free.*
>
> *Doede Holtkamp (ARVORE Immersive*

5.6 No attention from the press

To date, it has proved difficult to stimulate press enthusiasm for artistic VR. They write very little or nothing on the subject – in part because few journalists get and take the opportunity to see works. Here too, there is a major role for good support for and on-boarding of journalists – once they've had a bad first experience of VR, it is difficult to rekindle their enthusiasm.

So it's a chicken and egg story: the press will only devote more attention to this once it's more widely available, but the sector can only expand with the help of attention from the press.

> *We need to encourage and cultivate cultural and social commentators to write about this medium. Apart from the invaluable work of Kent Bye, who has created a huge archive of interviews and thought pieces in his 'Voices of VR' podcast, and journalists like Mathieu Gayet at XR Must, there are no dedicated critics and publications covering immersive arts and entertainment. It is an essential part of the ecosystem that is missing. Until 'Immersive' is documented as an art form, it will be considered as R&D or as a technical demo.*
> *We held a special event 'The Art of Reviewing VR' during Venice Immersive in 2019 and a follow up in this year's edition where we discussed the challenges of reviewing and publishing about the immersive arts and entertainment in mainstream cultural and entertainment media outlets. It's a chicken and egg situation. Until there is significant distribution and attractive reasons for editors to publish media segments, there will be limited space assigned to the sector.*
>
> *Liz Rosenthal (Curator Venice Immersive)*

In 2022, the situation has improved in the Netherlands and internationally, thanks also to the efforts of **Liz Rosenthal (Curator Venice Immersive)** and Michel Reilhac, and general attention and interest in immersive media from cultural media. Here, opportunities can be found.

For makers/producers, this means that they have to implement very active marketing and communications activities themselves. See **4.2.4 Marketing and communications.**

5.7 No data available on audiences and their experiences

We lack data on the audience and makers/producers lack data on audiences' experiences. This means they lack crucial information that could help them take certain strategic decisions, also earlier in the chain. Here too we face a chicken and egg situation: more people need to experience VR so we can collate more information.

> *We can theorise about many things, but in the end you are always surprised to discover, when you are in these festivals or venues, who is actually coming. It's difficult to, again, have 'a priori' – you can have 'a priori', but you have to test it in real life to see what works and doesn't work.*
>
> *Camille Lopato (Diversion Cinema)*

The LBE market is still small enough that it's hard to predict who will be attracted and what their experience will be. It would therefore be good to share audience research results with one another, in cooperation with festivals and other LBEs. **Jingshu Chen (VeeR VR)** states that with their platform VeeR in China they are planning to share their audience data and information with the makers, as they believe that this will help the makers think about their target group.

> *I am interested in audiences' motivations for visiting or not visiting, more than in 'who are they exactly', as this gives greater insight and can help you with how to experiment with the presentation.*
>
> *Jonne ter Braak (Programmer Amerpodia)*

> *You won't be keen to go back again if it made you feel sick or the experience wasn't good because of a technical hitch. It's so important that everything works well, that there is good support: one host for each experience who knows what he or she has to do, with a dedicated team of people.*
>
> *Jolinde den Haas (IFFR Pro Immersive)*

For the online platforms, Steam is reasonably transparent about how many users they have, how many people have bought which titles, and what hardware people use. With Steam, it is possible to find out this kind of data. For Oculus, this is unfortunately not the case.

5.8 Marketing and communication

The project teams on artistic VR projects are small, and work with minimal budgets. Generally speaking, there is no dedicated personnel within the team for drawing up a distribution plan, carrying out marketing, communication and sales activities, and for the implementation of the production presentation.

Additionally, as stated above, organising an LBE requires a tailor-made approach for each location. Huge investments of time have to be made, firstly to persuade a (large) location and then secondly to produce the presentation. It is therefore important that there is a dedicated person in the team who is able to take care of marketing and communication. A producer will know a lot of people in the VR world, but they are all makers. What's important is to reach the general audience for culture.

If a film about mindfulness is successfully released in cinemas, it's not really important whether it's a film on the cinema screen or on Netflix. It appeals to a clearly defined target group who are very interested in the subject matter, regardless of the medium. Irrespective of whether it's film or VR. With a good campaign this is irrelevant, and this means there are opportunities for VR.

To date, no immersive project has received the same marketing and publicity attention as for the launch of a book or a film. This has to become a priority.

> *We have actual marketing campaigns [when we release or publish a project], and we are actually trying to bring in some practices from the film industry. Like when the film launches we have a trailer or other material to [help] bring people awareness or expectations for this film.*
>
> *So we are trying to bring that into the distribution and marketing campaign for our VR content. And one challenge we find is that, for VR, it's very hard to do the marketing communication because immersive media, it's so special – VR is the type of media that you don't really understand until you experience it.*
>
> *Jonne ter Braak (Programmer Amerpodia)*

> *Actually when we are doing the marketing campaign, we put less emphasis on 'oh try VR or this is VR', we [actually] put more emphasis on the content itself. So that we can drive more people who are interested in the topic or the theme, the genre and ... by the way, it's VR, it's a new experience.*
>
> *Jingshu Chen (VeeR VR)*

5.9 Lack of curation

There are currently not enough programmers working at cultural bodies who dare take the step to VR. And then there are programmers who want to, but have absolutely no idea where to start, or where titles can be found. There is a missing link between distribution and programming: and that is curation. At present, no structured role has been incorporated into the chain to do this; to act as an intermediary between the productions that are being released and the potential venues for these.

> *We need curators for VR. [Someone who] can create that cross-pollination, who can think about the type of audience, how can we create cross-pollination with a different programme, because sometimes it's also the case that a ten-minute VR on a particular subject can dovetail with a discussion programme on that topic. Sometimes these can really strengthen one another, for example in the more documentary field, and it doesn't have to be really complicated, but it does have to be someone who can think in that way.*
>
> *Jonne ter Braak (Programmer Amerpodia)*

5.10 Festivals only want premières

Many large, renowned festivals make it a precondition for selection that all works presented must be premières. This is the case internationally, which makes it impossible for a title to be able to tour the major festivals. Makers/producers are therefore forced to make a choice in terms of at which festival they want their work to première.

They then also have to adhere to a production planning schedule to ensure that their work is ready for the date of the festival they have chosen. In practice, it happens that the work may then not finally be selected for the festival concerned. This is a huge risk for makers, as in some cases they may have waited up to a year to première their work, with all the budgetary complications this causes.

6 Potential solutions to current problems

In this section, we examine the bottlenecks summed up in **3.6 Bottlenecks in the VR production process** and in **5. Current bottlenecks in the distribution phase** and present a summary of potential solutions to these problems. It is striking that the interviewees frequently came up with the same solutions.

6.1 Knowledge transfer: counter and/or roadmap

It is a broadly shared view that there is a need for a general counter to which both (new) makers and producers and potential LBE locations can turn. This counter could share basic knowledge, and refer people on to other relevant organisations, bodies and people.

Such a counter or roadmap could help with basic knowledge of technical aspects, the VR production pipeline, or opportunities for subsidy.
Locations could use the counter for enquiries about what an LBE production means in terms of technology, physical and human resources, as well as any opportunities for subsidy.
The counter could facilitate this transfer of information through a surgery, or through active labs, workshops or hubs where the various parties can obtain information.

The counter would have to have a low threshold and access to a broad range of organisations and locations, as well as a good geographical spread, to ensure it is findable by everyone and that it is D&I-friendly.

> ***You organise something for all the Dutch cultural institutions, a kind of sign-up day, then you show all the figures, to show them it can be profitable. For example, that EYE is constantly sold out. And you share, that if it runs for such-and-such a time, what the license fee is, what your fixed costs are, et cetera.***
> ***That bit of education for the museums and cultural institutes has never taken place, in any event not in the Netherlands.***
>
> *Doede Holtkamp (ARVORE Immersive)*

> ***I think that, alongside finance, every fund should have a counter that can easily be approached with questions. It would make life considerably easier if you're not just referred to a website, and can actually be told: this is possible, and that is not possible. We have to give opportunities to Dutch makers who want to try things in the field of immersive media. It's a kind of talent development.***
>
> *Ido Abram (SEE NL)*

> ***You could also call it a match-making place; you want to make that connection, a networking role, a hub function. Not everyone is an expert, so there has to be a place somewhere where the knowledge and a network is. They too might not have all the knowledge in house, but they can say: 'you need to call so-and-so.***
>
> *Pien Houthoff (LUX)*

> *If there are other parties who want to take on certain roles, like in well-organised distribution, good collective marketing, this is a positive development. I do think it could take a few more years before these kinds of organisations can really operate well independently. And in the meantime I'd really like it if there was just a kitty from which, from my point of view, personnel could be financed to help get this knowledge into these kinds of organisations. Until now, we've been working to support the sector at our own expense.*
>
> *Avinash Changa (WeMakeVR)*

> *We need more information to remove the fear of technology. Just imagine, if there were a VR distributor who has a space in Amsterdam and you can invite the cinemas or programmers who are more open to this. I think all the fear of the technology and of the difficult, complicated process could be got rid of by a good introduction.*
>
> *Jolinde den Haas (IFFR Pro Immersive)*

6.2 Knowledge transfer: VR Academy and other training, knowledge exchange

Alongside a kind of counter, it is of course important to embed knowledge exchange and transfer into the existing structures. To start with, so that existing bodies involved in immersive new media aren't constantly having to reinvent the wheel. **Caspar Sonnen (New Media IDFA)** states that the exchange of knowledge between IDFA and the Film Fund through the existence of the Immerse\Interact scheme is extremely positive.

In addition, such embedding is of course also necessary in education and training. The VRAcademy, part of Amsterdam University of Applied Sciences, has started with an Immersive Media branch within the Film Academy, where they want to take on 6 students each year. But is it also possible for such initiatives, minors or workshops to take place on other courses?

> *The aim is for these students to become the people who can also work with [people] from a different background who might be working with VR for the first time. This student would then have sufficient concrete knowledge to show that person the way through the whole thing. To think together about the content, from the point of view of the medium itself. Naturally the VR domain is a lot bigger and broader than artistic VR. What is happening in the commercial, scientific, medical and teaching areas? How are networking and knowledge sharing taking place there? Can we in the cultural sector learn from this?*
>
> *The Immersive Media domain should also be in conversation with the music industry, in view of the huge shift that has taken place there since the arrival of the internet and social media.*
>
> *Nikki van Sprundel (Immersive Media & VRAcademy)*

> *Cinema and also immersive media should be in a close relationship with the music industry to understand what happened to them. Have a conversation with them, understand what is at stake there, how did they transform, how did they preserve, how did they manage to preserve their content?*
>
> *Camille Lopato (Diversion Cinema)*

6.3 Subsidy option for distribution-wide

Alongside the Immerse\Interact scheme, an extra or supplementary scheme should be set up whereby makers/producers can apply for structural finance for (international) distribution-wide matters. At present, the XL scheme from Immerse\Interact is open, but this is for the time being a temporary scheme linked to coronavirus support funding.

Ido Abram (SEE NL) states that there's no point redistributing the budget currently available for international promotion, as what's left over for all forms of international promotion will then automatically be downsized accordingly. He is of the opinion that more budget is needed in general.

Such a subsidy scheme could be used to support the following:

For makers/producers/distributors:

1. **Hiring in dedicated team members** in the fields of marketing, communication, sales and event production.

> *I have learned in my projects that you can't have a detailed understanding of everything. So you have to ensure that you get people involved who can take a deep dive into this, and who want to learn and develop. Research simply takes a lot of time. The same applies to the technology [used] in my projects. I make sure that I build a good team around me.*
> *At a later phase it could be interesting if, at the moment you are already fairly far advanced in your production phase, and there were opportunities for additional finance. What I want to say with this is that, in these projects, you sometimes have to start with producing and making, even if not everything is yet clear throughout the whole process. You develop, you evaluate, develop further, evaluate again, and so on. A film project is normally speaking fully financed before you are allowed to produce. In the case of an immersive project, a basis for the finance should be sufficient as a platform from which you can start.*
>
> *You have to continue to develop to get to grips with what the project can or has to become. You can expand your ambitions along the way and try to find additional finance. The risk if you make it too big from the start is that you will never get it completely financed, and that this will 'hamstring' the project. An R&D project has above all else to be able to start in order to prove itself.*
>
> *Now there is some money for distribution, but for a long time it wasn't entirely clear what this should be used for, what it involves, what is needed for this, and whether you could only apply for this during the production phase. It should be possible to also apply for it at a later phase. I sometimes had lots of ideas already, good partners, and a great strategy – it just wasn't always understood... Luckily, this has got quite a bit better now and we in the Netherlands have all come a bit further.*
>
> *Corine Meijers (Studio Biarritz)*

> *It would be good if, for people like me who work on a particular topic in a very regular way, for many years, and who only get paid on a project basis, if I could hire people in. And this is a point where established companies have an advantage. They can just take on a VR project alongside their regular practice. As I can only get funding for each project, I can never hire anyone. So the time and knowledge I invest eventually goes to these established businesses.*
> *A regular subsidy would be a great help in professionalising your practice, towards building a studio specifically geared to VR. I'd love to be able to do this. This would allow me to work in a much more sustainable way.*
>
> *Daniël Ernst (VR director)*

2. Budget for marketing tools, such as trailers, socials, publicity materials, press releases, et cetera.

> *All projects that receive resources through Immerse\Interact] should also be able to apply for resources for promotion and marketing. Maybe there could be, [upon granting], money provided as standard for promotion and marketing purposes?*
>
> *Renée van der Grinten (Industry consultant)*

3. Budget for international exhibition at festivals: travelling and accommodation expenses for a complete event production team, transport costs for installations.

> *We have travel grants, for makers. Within Europe, we contribute a maximum of 200 Euros, outside of Europe a maximum of 600 Euros.*
>
> *In addition, depending on selection for which festival, we make a contribution for promotion. This is for the big festivals. So if your film is in competition in Cannes, through SEE NL – which is EYE and the Film Fund jointly – you can be allocated between 500 and 2,000 Euros towards a promotion budget.*
>
> *Ido Abram (SEE NL)*

> *The travel subsidy from the Creative Industries Fund NL is 2,000 to 3,000 Euros. This is really great if you're giving a lecture, but not if you're taking a whole installation. You should really have a pool of funding like this for [the presentation of] larger projects.*
>
> *Marcel van Brakel (Polymorf)*

4. Budget for curation and exhibition
This should also be available in a form whereby festivals can get a fixed amount every year to support immersive, new media. For example, with awards.

> *I think that this is something that fits the Film Fund's remit, subsidy for distribution or a route map. I mean, at the end of the day, VR falls under film experience.*
>
> *Jolinde den Haas (IFFR Pro Immersive)*

> *I went to a Dutch opera. Well, that was just about the best experience I ever had, and I still look back on it, very often. This opera is very highly subsidised. It could actually be compared to the Alice in Wonderland[19] [VR project]. That too I thought was such an exceptional experience. For me, it opened up a new dimension, [it was] something that I'd never seen before.*
> *For the distribution and exhibition of works of this quality, there just has to be money on the table. In the form of subsidies, I mean. But this should really be a kind of research & development funding, because [with these kinds of projects] you show people, and also makers, what kinds of steps can also be taken.*
>
> *Dorien van de Pas (Creative consultant)*

[19] Alice, the Virtual Reality Plat – Mathias Chelebourg, Marie Jourdren (2017, FR)

6.4 Involving other funds

In this document, we talk a lot about the Film Fund as the overall coordinator of the Immerse\Interact scheme. However, there are untapped opportunities with other government funds, principally the Performing Arts Fund NL and the Mondriaan Fund. Many 6DoF VR installations cannot easily be categorised. As stated a number of times above, exhibition of these is more like theatre or music performances. We should be able to say that, in this respect, these fall more under the performing arts.

Perhaps more space can be created for new media works at the Mondriaan Fund. The prevailing definition of what is considered visual art today, and what forms are covered by this, should be recalibrated with makers/producers, and with the Film Fund and Creative Industries Fund NL. They can play a major role in supporting the undefined in the art world, without this immediately being covered by the prevailing definition of Visual Art.

In addition, this year has seen the launch of cultural counter Cultuurloket DigitALL on the basis of a public-private partnership backed by a consortium of private funds[20]. This counter supports innovative projects within the cultural sector, and could also play a role in providing a financial impulse. The counter has been set up for a period of period 3 years, with a possibility that it may be made permanent.

> **“**
>
> ***You have to take a broader view, from immersive and interactive media to what has happened digitally.***
>
> ***In Canada, they made a choice. They got an infrastructure, within which the telecoms had to pay money that then went to institutes such as NFB Canada, which not only stimulate existing media but also new media.***
>
> ***They have his in France too; there, for a long time there was a strong drive to encourage pioneering with the internet as a medium for new art and new narrative forms. In England there is a rich, immersive theatre tradition and money for VR goes to places like the National Theatre and the Royal Shakespeare Company. In recent years, initiatives such as Creative XR and Audience of the Future have given a huge impulse to the sector as a whole. So the lesson seems to be: create the funds and the makers will be happy to experiment. With an interdisciplinary medium that is still in development like VR, it's not logical for the Film Fund and the Creative Industries Fund to be the only ones bearing responsibility for a scheme like Immerse\Interact. All kinds of different arts disciplines are currently coming together in VR – including visual art, photography, literature and the performing arts. So it wouldn't be crazy for funding for new media art in the broadest sense to be created from all the art forms together.***
>
> *Caspar Sonnen (New Media IDFA)*

> **“**
>
> ***I support a hybrid combination with the funds. We need to continue to search for new forms, also within the traditional media. And, of course, there is always a need for an additional fund.***
>
> ***From the point of view of the makers/producers/distributors, it is important that they keep the funds informed of the obstacles they face and the production and distribution process.***
>
> *Marcel van Brakel (Polymorf)*

[20] Prins Bernhard Cultuurfonds, Fonds 21, VSB Fonds, Vriendenloterij, Joop van den Ende Foundation

6.5 Involving the press

In **5.6 No press attention**, we explain that the press is not yet sufficiently informed about the VR domain, or has poor experiences of it. All in all, very little is written about this in the general cultural media. Interest is certainly being shown from de Filmkrant (for example the current reporting from Venice or NRC film journalist Dana Linssen). From the point of view of the sector, it would be a good idea to organise more press screenings. This could be done through festivals, but mainly through makers/producers and possibly distributors supported by, for example, the Immerse\Interact scheme or other funds.

Nick van Breda (Consultant XR – AI and IoT) suggests that this is also really a job for the makers/producers, who can actively approach the press.

> ***If you don't open the channel, then you just miss a lot of media opportunities.***
> ***The first thing you can do is search on LinkedIn for 'Immersed', for 'Bright', for all the tech-minded channels. You send the chief editors a LinkedIn request and say: 'I've got such a great new VR film, would you like to try it?'***
>
> ***Send them a headset, give them the film, let the boss experience it. If [he or she] likes it, then [he or she] will probably do an item on it. And then you've got a foot in the door with your media.***
>
> *Nick van Breda (Consultant XR – AI and IoT)*

6.6 Talent development processes for Dutch makers

Various different talent development processes can be initiated from funds, but also from other institutes such as EYE, Het Nieuwe Instituut, or the festivals.
Ido Abram (SEE NL) suggests a programme in which each year two or three makers are given a commission to create an immersive work.
He also sees scope for collaboration between SEE NL and, for example, Het Nieuwe Instituut (the Dutch national museum for architecture, design and digital culture), the Netherlands Film Festival and IDFA.

This would allow several institutes and organisations to show that they take the immersive sector seriously and consider this to be a fully-fledged medium; a medium that is worth introducing and continuing to present to the public.

> ***Because [Het Nieuwe Instituut] is also involved [with new media], but from a different perspective. And then you can bring, for example, design and architecture into contact with film, which could result in really interesting things. It's talent development and ongoing development for the makers at the same time.***
>
> *Ido Abram (SEE NL)*

7 Ideas for future models

To bring our analysis of what is needed to ensure that artistic VR reaches the largest, widest possible audience in the Netherlands to a close, we will set out the potential distribution models we see below.

It is important for the VR sector that we really try out these models in practice, rather than allowing them to exist in theory only. For the makers/producers within the domain, this also means letting go of particular tasks, and of control, and not continuing to do everything yourself. In consultation with one another and with other parties, it may be possible to select certain projects in which others can be involved, and so test out the various models.

> ***First of all, we are at this moment, which happens maybe once or twice in a century, when you have a new medium. Artists can have this magnificent tool to create new stuff, new emotion, new ways of conveying their thoughts. That is absolutely marvellous; I think we are super lucky. I'm not surprised that institutions have difficulties understanding where they should act. To tell you the truth, I don't really know where they should act. I don't really know where we are going. You could have asked me five years ago, and I would have said to you: 'In 2021, 360° video is dead, that's for sure.' Five years ago I would have said that, and it's not the case. You ask me now, I tell you: '360° videos are the future of VR. There will be no VR without 360° videos.***
>
> *Camille Lopato (Diversion Cinema)*

7.1 Combining forces: makers, producers and distributors both locally and internationally

Makers/producers and potential distributors should combine forces, preferably at European level. There is not currently any organisational structure within which this is happening. Together they are strong, they can share knowledge and jointly come up with strategies and present these to the world around them: to government bodies, potential customers and funds.

In this regard, we should look more at how the games community in the Netherlands combined to form the DGA (Dutch Game Association), which represents the interests of people working throughout the games chain. This association runs a communal *Slack*[21] channel with more than 1,200 members, making internal communication extremely direct and low-threshold. As a communications tool, Slack is perfect: people involved in software development in the broadest sense all over the world are familiar with the use of Slack as part of their everyday work.

In a similar way, Dutch content bundles could be created collectively, and then presented periodically on Steam. Dealing with a consortium of makers from the sector, Steam would be more willing to promote such a bundle, as opposed to when they are dealing with the voice of just one individual maker.

[21] Slack is a low-threshold communication tool in which chats can be divided among self-selected topics, as in WhatsApp.

> *We make a 'best of' with the ten or twenty best Dutch immersive works. And this is a bundle that gets promoted for two weeks at 40% discount on the platforms. In exchange this bundle will be on the front page for two weeks, so that all – for example – Steam users worldwide will see it straight away. Then the conversion ratio from click to purchase will of course shoot up.*
>
> *Avinash Changa (WeMakeVR)*

The same type of model can be applied for visibility at international festivals and markets: the attention of Steam and Oculus can be more easily attracted through group framing. **See also 7.5 Combining forces.**

> *As a collective or association, an ongoing pool of students could be trained to work as VR hosts, with knowledge of several VR systems. These students could be used for presentations at (smaller) festivals and other LBE, but also for educational presentations to potential customers (museums, theatres, cinemas) and for press screenings and events.*
>
> *Avinash Changa (WeMakeVR)*

Doede Holtkamp (ARVORE Immersive) goes even further. He envisages a kind of black box being developed jointly by parties such as Diversion Cinema, Cassette and others for 360° video, which could in principle be taken everywhere and always be the same. Supported by a set educational package for potential LBE customers.

7.2 VR Cinema

There is currently no VR Cinema in the Netherlands. This year, a pilot[22] will start between the arthouse cinemas LUX, LV and De Schuur, in cooperation with Diversion Cinema and Cassette, to get mainly 360° video into the cinemas. These types of initiative can ensure that VR as a medium becomes more widely accepted in the future, and can pave the way to the general public.

The challenge involved in this model is the operational cost: well-trained hosts, purchase or rental of equipment, the choice of equipment and the use and installation of this; constant curation of good content in the appropriate VR form, as well as the licensing of content.

Jingshu Chen (VeeR VR) believes that it must be possible to have VR Cinemas in multiple locations, as long know who your audience is.

> *First figure out who is [your] target audience and then what the scenarios or locations [there are where they go] that match this target audience. Maybe it is an art gallery or maybe it is like a museum... And then collaborate with them. And set up maybe a pop-up VR cinema or VR exhibition to try out, and start from that, and once you find there might be a first batch of early adapters to [experience] the content [you] will have a better understanding of who the audience are.*
> *Then you can look into [more audience info:] where do they [find out about] this kind of new experience? What are the medias or social medias they follow or what are some of the newspapers or social media channels they are looking at. So where do they get this information to look for this type of new content or new experience. And then you can go and pitch to those marketing channels or social media or influencers and partner with them.*
>
> *Jingshu Chen (VeeR VR)*

[22] Nu:Reality

Such initiatives can also be put out to the libraries. There are some 800 library sites in the Netherlands. **Nina Nannini of NBD Biblion**, the umbrella organisation supplying all libraries in the Netherlands with content, for example is interested in VR but would like to first look together with libraries at what content is interesting for them. Libraries have now in any event become multifunctional buildings where visitors can also go to the cinema, where there are museums, makers' labs and FabLabs[23]. **NBD Biblion** is currently carrying out research into the rollout of a streaming platform for libraries, on which films that are not on the big platforms like Netflix and Prime can be rented.
Nannini is also seeing more and more networks of libraries wanting to take initiatives and looking for ways of attracting the general public.

Here too we face challenges in the operational area, and in terms of curation.

> ***What examples are known, because they (libraries) will always assess it on the content; so to what extent does it intersect with the programming or the collection they already have? Can match-ups be found with things they consider interesting for their audience? And then I'd interview five or ten libraries about this, with the question of whether it is interesting in terms of their programming, and on the basis of this I'd draw up a plan of approach.***
>
> ***Then a VR package could be included in our weekly schedule. This will reach the people who decide on the acquisitions for the programming or the collection at the libraries. And maybe they will then think, 'oh that's interesting'. But then then you have to have thought out the distribution and logistics.***
>
> *Nina Nannini (NBD Biblion)*

> ***Maybe first as a trial to select the top 20-30 [highest] traffic libraries, and then [see] what kind of space they have, what types of things [they would] want to showcase. Does it have to be educational or documentary? Can it be entertainment, travel, wildlife? What kind of model are they looking for?***
>
> ***Depending on if you are promoting new media (content), or you are asking people to pay for it. Define the distribution model first and then define the business model. What kind of licensing fee do they need to pay, how long can each title be showcased, maybe for one month? Licence fee can be one-off fee or by revenue share. If you are a distributor for a short period showcase (1-month to 3-month), then make sure to create a catalogue so your buyer can have enough content to swap.***
>
> *Jimmy Cheng (Sandman Studios / Sandbox Immersive festival)*

> ***If you want it to be lower-threshold, and the VR films of which I've not seen so many myself, but have mainly read about them, if you want to show these, then I think that a cinema is a really good place. Also because a lot of well-known filmmakers make VR films. For me, it's also important to also show here what we have in the Netherlands. In the same way we support the Dutch artistic film, I'd really like to bring what is being made in the Netherlands to the attention of the public.***
>
> *Roderik Lentz (LantarenVenster)*

[23] Including Rozet in Arnhem, Forum in Groningen, Nieuwe Veste in Breda, Huis73 in Den Bosch

> *We aren't yet doing anything with this ourselves as a cinema, and I really think we're missing out. This is because it's pretty high-threshold for people here internally, because it's unknown territory. So, let's find out what we need. Of course it's an investment, you have certain technologies – you have to have certain things in house to be able to offer it. But what's even more complex, is how do you ensure that this offer reaches the audience, that is how do you ensure that the audience pays to see a film or not, that they can make a choice about this, that we can very clearly present this to the audience, everything that is on offer.*
>
> *Pien Houthoff (LUX)*

6DoF VR content generally needs more space, and is therefore more likely to be found in, for example, a museum or theatre. The abovementioned operational challenges for 6DoF are even greater, but once VR becomes generally more widespread it will be very important to extrapolate the model to placing 6DoF in more venues. Naturally, there are also smaller projects in 6DoF, that can pave the way for the more complex productions.

> *There used to be more resistance from museums wanting to show interactive stuff. But now for example, the Amsterdam Museum was telling me that they like our stuff, it was some of the first interactive stuff they presented. And then now of course there is the NXT museum which is all interactive.*
>
> *Tamara Shogaolu (Ado Ato Pictures)*

> *Symbiosis might be more for the festival audience, but we do want to also be able to show stuff in zoos like Artis, just because it fits with the theme. Places that are more on the science side.*
>
> *Marcel van Brakel (Polymorf)*

Jonne ter Braak (Programmer Amerpodia) from the Felix Meritis Cultural Centre states that as an events location they are also interested in VR Cinema or LBE. She is looking for a form of presentation that suits an events venue.

> *Because, the search I am on, is that we are event-oriented, so in principle it's get in and get out again. We're not a museum, [we don't have] ongoing programming.*
> *We are also not a theatre, and I see this as an opportunity because in this sense it's label-less, which means that the audience doesn't have such a fixed frame of expectations, like 'okay, you're going to see a film, you're going to an exhibition', that brings opportunities, also in the way we work, for example something with time-slots in a weekend is fine.*
>
> *It's just a matter of finding the communalities of the experience with VR, and a shorter time period which means you could see more things in an exhibition-like set-up. But how can I as a venue place something for one person that lasts 10 minutes? That would need a context, an activation, around it, or some kind of logic from a format or something like that. And this is where I am still looking at the moment.*
>
> *Jonne ter Braak (Programmer Amerpodia)*

7.3 Educational strategies

In **6.2 Knowledge transfer** we pointed out that knowledge exchange is one of the solutions for the present knowledge gap among potential customers and other stakeholders.

Educational processes could be set up from the sector, perhaps from the future association. For example with manuals covering both technical and operational aspects.
It would also be good to organise regular contact with programmers at locations, for example through speaking and organising workshops at festivals.

On the part of the funds, they could set up labs and workshops, in which current and future content-makers could learn how to make profitable content, how to market their productions, and how to make a good pitch. **Doede Holtkamp (ARVORE Immersive)** sees scope for a standardisation of pitch formats: what information and slides should be included as standard.

The funds could also think about an umbrella in-house person with an understanding of the distribution of immersive, new media. Naturally we have SEE NL, but there is a greater need, also on the part of SEE NL, for an 'industry person'.

> ***Someone who stands up for the industry, or someone who says: there is clearly a market for VR, we are seeing this internationally, it's growing. This person will then organise workshops and invite people from the industry, who can explain exactly how these kinds of projects are developed, why they are good for an LBE space. So that the potential locations, the funds can get better insight into how such a market works. So you lower the barrier to entry for locations, as it were.***
>
> ***This person can present solutions. S/he will have already talked to the content creators, their projects will already be fine-tuned for LBE, there might already be a business model. Such a person is the go-to market consultant, as it were.***
>
> *Doede Holtkamp (ARVORE Immersive*

Naturally, many opportunities can also be found in the educational line from an exhibition venue towards visitors. **Roderik Lentz (LantarenVenster)** states that LantarenVenster is already working with IFFR in the area of an extension of their own film education role. He sees the VR medium as an intrinsic part of media wisdom programmes, and of showing that storytelling goes further than films or games.

> ***It's about connecting, it's about bringing all the existing lines together, ensuring that the knowledge is disseminated, that the knowledge centralised, but that you also ensure that there is a regional base, and not with a single organisation in the country, but rather that there several places involved with this. And also ensuring that they play an important role at many levels. So I think, also in the form of education, or podcasts – we're all working on developing these now – the same should apply to VR. Where we look at how we can incorporate this into an educational package, or give training in this or set out learning lines.***
>
> *Pien Houthoff (LUX)*

7.4 VR to go

During the pandemic, Diversion Cinema in France experimented with the model VR to go, whereby people could rent a headset with a selection of 360° video on it for two days. The package was delivered to their home, and then collected again. PHI Centre in Montreal also offers VR to go packages. This model also ensures that the medium can be offered in a low-threshold way.

> *Because of that, for the first time, or thanks to that, we got a lot of [press]. Of course it was the pandemic, there were no cultural events so it was really talked about by the journalists. And they did not mention the technology. Of course they said it was VR and 360° films, but besides that they did not mention the [headset], they did not mention the brand of the [headset], they did not mention the quality of the [headset], the pixels, whatever. They were only talking about the content.*
>
> *Camille Lopato (Diversion Cinema)*

> *Of course, this is incredible. If you ensure that it can be brought to people at home in a low-threshold way, how great is it to be able to rent a headset with good content for a weekend.*
>
> *Jolinde den Haas (IFFR Pro Immersive)*

In the Netherlands during the pandemic there was an experiment by the theatre world, with plays being filmed with a 360° camera so they could be viewed at home.
This is a very useful, relatively cost-effective way to allow the consumer to get to know the medium. And it's also suitable for people who, for example, are less mobile.
Jonne ter Braak (Programmer Amarpodia) imagines a Cinetree-like curatorship, where you also incorporate a sense of urgency for the viewer, as content disappears at the end of the month, keeping it interesting for the viewers.

7.5 Combining forces: Dutch national and international exposure and incentives

7.5.1 Role of the funds

Following the example of international cooperations between funds in France[24], Taiwan[25], Luxemburg and Canada[26], the Netherlands could also join such consortia, and fulfil more of a diplomatic role within them, alongside SEE NL which has a specific focus on the medium of film.

Dutch funds could set up cooperations, network with other funds, see what other funds do, and establish joint programmes. In Taiwan and France, there are various residency programmes and workshop courses for content-makers, for example.

What can we as a sector learn from foreign producers who already have more experience? How can we enter into co-productions in a more focused way?

At the European level, there are also earmarked budgets for immersive. It could be investigated by the funds or other Dutch government bodies whether the Netherlands can also draw on these from the cultural-artistic sector.

CLICKNL is currently setting up an 'immersive incentive' programme on the basis of a public-private cooperation. They are focussing on a Dutch innovation agenda and on cooperations between research institutes and universities with businesses, but this indicates that there is a huge interest overlap between this innovative sector and science and academia, the business community and 'Economic Affairs'.

[24] CNC
[25] TAICCA
[26] KaleidoscopeXR

Is it possible to set up such an initiative at European level, in which the arts and culture sector takes the lead from the start?

> *The funds can play a significant role in international visibility, for example in representing the Netherlands at the really big festivals such as SXSW, et cetera. As at present it is simply too expensive for individual makers or producers to present their work there. If we want to present a really great installation we have made at SXSW, it would cost us €25,000 just to physically get it set up there. And we haven't even factored in the hotel and personnel costs yet.*
>
> *The international festivals are there for the more ambitious makers here in the Netherlands and to put these works there, there could really be a role here for the funds, particularly if the works are worth it.*
>
> *And visibility, through SEE NL. To show Dutch works bundled in this way, and with real showcases for the makers. I think it's good to get Dutch makers onto panels and to have Dutch stands at these big festivals.*
>
> Camille Lopato (Diversion Cinema)

Ido Abram of **SEE NL** also recognises the strength of such bundles. This is a kind of quality label that makes it easier to lobby. The Dutch Ministry of Education, Culture and Science already supports a lot of content from other sectors, including music, at SXSW. This should include immersive media too.

7.5.2 Role of SEE NL

SEE NL provides the lobbying and promotion of film productions abroad for the Dutch film sector. This remit could be expanded, through the inclusion of immersive media. **Het Nieuwe Instituut** could play a role in this, more from the digital culture and design perspective. But SEE NL can (and according to **Ido Abram**, would like to) also handle VR productions.

It is essential that producers approach SEE NL, as they are the rights holders for the productions. It is important that the existence of this counter is known to the whole of the VR sector. For SEE NL, it is essential that they receive additional budget for this expanded role.

> *[From] 2022, this will be one of our leading priorities, as this is an integral component of the film/AV industry. It can also build really great bridges between many different sectors: poetry, music, et cetera. This really needs to be brought more into the spotlight.*
> *At present we're doing it only on an incidental basis, and on the one hand this is because the makers still aren't easily finding their way to us. This is always through intermediaries, for example the Netherlands Film Festival and the Holland Film Meeting. This is how I come into contact with people, but as we within SEE NL still have too little experience in this area – and actually too little knowledge – we want to expand this. Two people will really specialise in immersive media. They will carry out much more research into this.*
>
> *The main reason is that really interesting things are happening in the Netherlands, [we are also hearing this from] our colleagues abroad. We are here to promote Dutch film internationally, in all its aspects. Immersive media is part of this, as far as I'm concerned. It's a no-brainer.*
>
> Ido Abram (SEE NL)

SEE NL can generate attention for Dutch productions at places outside of the Netherlands, through stands at events, festivals and fairs, a hosting role based around a Dutch delegation or Dutch-hosted network drinks. For example, through including VR works in the existing Dutch Pavilions at Cannes, or a new immersive Dutch Pavilion at SXSW.
Avinash Changa (WeMakeVR) can also imagine the Netherlands sponsoring a piece of physical VR floor at SWSX, featuring exclusively Dutch productions.
This could also help attract more attention from the press for Dutch works from the VR domain, which would of course be good for visibility and findability.

> *It would be awesome if there was a person who did that, [who says] okay these projects are supported and they are going here and there or, if there are more than one of these projects at a film festival, host a little event! Having these social gatherings or events at big film festivals with all the Dutch makers present broadens their network and gives access to relevant people.*
>
> *Tamara Shogaolu (Ado Ato Pictures)*

A national promotional website or national catalogue for VR works could also be set up following the example of the **Institut français**, which has cultural attachés all over the world promoting French projects.
Immersive media has been a focus for them for some time now. In 2020, they published a catalogue of forty VR works[27], with a customers' guide on what is required to present these projects. In 2021, they published *FR//XR: A Handbook for Immersive Producers*[28] in cooperation with KaleidoscopeVR from Canada.
In cooperation with the NewImages festival, they organise the Focus programme, which invites foreign professionals to spend five or six days in France getting to know the French new media sector.
The **Institut français** has also purchased the rights to some thirty 360° videos, purely for promotional purposes.
The French government recently announced that it will be investing 200 million Euros over the coming years in innovative technologies, including VR.

> *In 2021 we launched the website IFdigital[29] for French digital creation.*
>
> *We try to represent all French digital creation: the best of French creation and the professionals within these sectors.*
>
> *The website addresses all professionals throughout the world who want to discover French creations, from programmers to those looking for a partner to work with.*
>
> *IFdigital presents three sections: the creations, professionals and what we call the selection, which showcases French productions according to specific themes or new topics.*
>
> *The key for us with this website is the distribution, to find an audience, to promote the works and to make it easy for the professionals and cultural venues (museums, theatres, et cetera) to find them.*
>
> *Anne-Sophie Braud (Institut français) on the promotional website*

[27] https://www.pro.institutfrancais.com/en/programmes-and-projects/vr-immersive-experiences-catalogue
[28] https://frenchculture.org/film-tv-and-new-media/12779-frxr-handbook-immersive-producers
[29] IFdigital: ifdigital.institutfrancais.com

7.5.3 National showcases

The funds can also play a role in the promotion of Dutch VR productions in the Netherlands, for example through the organisation of showcases, or a travelling exhibition through the country.

7.6 Curated platform

To help audiences in the Netherlands find good content, it might be a good idea to set up a platform with links and brief descriptions of good content from the Netherlands and abroad. During the 2010s, Cinekid developed an app, the **Cinekid AppLab,** that presented parents with a curated selection of titles from tablet apps for various ages that were considered good. For the last two years, Cinekid has had an online platform, **Cinekid Play**, where this curation continues online in the area of free (online) games and apps.

The VeeR app (**see also 4.5.4 Online model: VeeR**) is also an app pointing users to curated content.

The sector in the Netherlands would benefit from a curated Dutch platform (app, website or both) that doesn't offer its own content, but points the general public towards artistic, narrative content of high quality and/or from the Netherlands.
This is a different website from the one suggested in **7.5.2 Role of SEE NL**, as this platform would really focus on the end user, the consumer.

> *It is complicated for the audience to have easy access to great narrative projects on these platforms since there is so much available content, with a majority of gaming projects.*
>
> *Anne-Sophie Braud (Institut français) on Steam and the Oculus Store*

It may work well to carry out good promotional work towards such a curated platform at LBEs such as festivals.

> *What is needed is for the general public to become more familiar with good content. Good content [made] accessible on a normal platform.*
> *So at a festival you can see the high-end [titles] that you really need a whole installation for, but where you can also then get a kind of menu of [titles] and where you can find [titles yourself] online that you can then watch on your own headset.*
>
> *Nikki van Sprundel (Immersive Media & VRAcademy)*

It does not make sense to invest in a European Steam or Oculus Store. This would require an overly complex technological development phase, to then be faced with the question of how in terms of marketing you should take on the American big tech companies and the established games industry.

7.7 Incentives

In Taiwan, the government has set up incentive programmes that seek to stimulate young people to choose a creative career. This brings participants into contact with VR, and they are even invited to make VR. There is widespread support for VR there, and growing awareness of its potential.

VR is a highly productive domain with a self-oriented market with many festivals and exhibition spaces for Taiwanese work.
In addition, Taiwan is also trying to collaborate widely with other countries with a new media agenda – so through financial injections and training young people, they are putting themselves on the map as a VR country.
In cooperation with France, for example, they are setting up an artistic VR platform, with curated international content, which can be easily licenced to presentation partners such as museums. The idea is for them to also offer technical support to locations through the platform.

7.8 Diversification strategy: Scaling

> ***I still believe in traditional distribution: with nationwide publicity, creating a hype, and in this way attracting people to see a film.***
> ***What distributors do with publicity, collaboration partners, campaigns, et cetera, ensures that the media write about it, or that for example makers get onto talkshows; this helps ahead of a project's release and creates attention from different directions, and this stimulates the public.***
>
> ***[And also someone] who also curates. At festivals it's difficult for programmers to see everything because of the low capacity. Then it's good if there's a catalogue you can choose from, and that also works with reviews.***
>
> *Roderik Lentz (LantarenVenster)*

The best thing for the distribution of VR would be if projects could be seen in as many ways and on as many platforms as possible.
There have been initiatives from festivals, for example, to show VR at Dutch railway stations, which is a very low-threshold way of giving a lot of people their first experience of VR.

It's a good idea to think out of the box, outside of the festival circuit. Some titles, like *The Line* or *Gloomy Eyes*, could also become a 2D film, or a game. They will make the jump to other mediums.
But also for smaller projects, it's interesting and important to think at an early stage about the different versions for different platforms and locations, bearing in mind what the cost/benefits analysis might look like.

This **scaling** means that the target groups are expanded.
At the beginning of the chain, a maker/producer should already include at least budget for a 360° version for an Oculus Quest, or a Quest version for a 6DoF project.

But there are also other forms, examples of which include: podcast, (portable) dome project, trailers, audiobook, making-of, behind-the-scenes, follow-up documentary, website, educational programme, schools' programme, book.

Tamara Shogaolu (Ado Ato Pictures) for example produced a dome project that went on to become a VR project and a web installation.

Corine Meijers (Studio Biarritz) produced a documentary that is also going to be a play. For her VR project Angels of Amsterdam[30], **Anna Abrahams (EYE Xtended)** is making an art book, an e-book and a podcast.

There are more and more multidisciplinary, cross-media projects.

For some years now, the NFF Storyspace programme has been taking place in the city's central library on Utrecht's Neude square. This automatically leads to cross-pollination with a broad audience. Last year was the first time that a cross-pollination also took place with the library's programming.

Larger festivals are organising a conference programme with peripherals.
However, VR presentations could also be part of programmes (lectures, other conferences) where a VR title really has a 'supporting role' in relation to the programme, but may be a good fit in terms of themes or topic.

Scaling can also play a significant role in terms of accessibility.

> ***I tend to do work about marginalised communities and people.***
> ***I feel I have a responsibility to make sure that people in those communities can also access stories that represent them. So I always try to create a low-tech version and a more high-tech version of the experience while trying for the story to be equally strong in both.***
>
> ***When I start the design process with my team, we think about that, we want to do this cool thing but then right away we think about how and who will be able to access it and what can we do to make sure that as many people as possible can see the work in a way that is affordable for the public.***
>
> *Tamara Shogaolu (Ado Ato Pictures)*

Jonne ter Braak (Programmer with Amerpodia) sees opportunities in scaling for making an experience collective, like with a book club. This would allow the peripheral programme to be a collective experience, for example discussing this together.

7.9 Extending the duration of presentations

Festivals can play a major role in the run of presentations, in a variety of ways.
During the pandemic, festival programmes often ran longer online.
Festivals can try to set up partnerships with local authorities to have programmes run longer. Institutes such as libraries, municipal hotbeds or vacant buildings can also play a role in this. We see a potential active role here for the city marketing departments of various cities.

> ***At the moment you involve the whole city in a production, then you can also sell the project to hotels there. The public transport chip card, the Citysteps, all these mobility solutions, arrangements around it. So you're not just looking at the work bit also having meal and a speed-date with the makers.***
>
> *Nick van Breda (Consultant XR – AI and IoT)*

[30]Angels of Amsterdam – Anna Abrahams, Avinash Changa (2021, NL)

7.10 More content in the metaverse

There are now more than 250 VR Chat environments: online metaverse-style environments where users in can meet in VR. **Liz Rosenthal (Curator Venice Immersive)** stated that she has spent a lot of time in these online worlds, also for Venice Immersive. There are places for creation and exhibition, and there are marketplaces.

> ***We had to create a virtual Venice festival for our 2020 and 2021 editions, and our exploration to choose the most appropriate social VR platform to host Venice Immersive led us to VRChat and its extraordinary creative community. I ended up spending considerable amounts of time on the platform during the pandemic and experienced some of the most exciting VR work and some of my most memorable immersive experiences during the countless world-hopping explorations with VRChat friends and colleagues.***
>
> ***When it came to our Venice curation, we dedicated a whole new out-of-competition section, the Worlds Gallery, to VRChat worldbuilders. We selected 34 VRChat worlds in 2021 and 32 in 2022 and included five new worlds that launched at Venice for our Competition Section. In VRChat you can develop basically anything. The VRChat SDK (Software Development Kit) uses the Unity 3D Games Engine, enabling you to create and customise any type of avatar or interactive world. Unlike many of the social VR platforms which have their own very limited world builder tools and avatars, in VRChat any type of creation is possible. The creative communities work together to share tools, plugins and skillsets resulting in boundless examples of fantastical creations of any type of genre and purpose, from adventure worlds and escape room-type puzzle games, to spectacular cult rave clubs, to surreal otherworldly discovery worlds, to music videos and hangout spaces, to impossible architectural wonders and live immersive theatre and dance performances. Adventuring with others, on world hops, with the possibility of metamorphosing into the countless avatar creations, offers a totally new experiential entertainment form that made me appreciate VR as never before.***
>
> ***The platform offers incredible multiplayer tools that would be too costly for any small or medium studio to develop alone, offering an amazing tool to pilot multiplayer ideas with an estimated community of over seven million users.***
> ***However, at present there are no revenue generation possibilities on the platform.***
>
> *Liz Rosenthal (Curator Venice Immersive)*

Nick van Breda (Consultant XR – AI and IoT) has already experienced that a maker has screened a 360° film on more than twenty different platforms. The maker had posted a schedule on his own channels to attract an audience. This brought him into different communities: commercial, creative, younger and older.

7.11 Making use of the strength of communication and brands

Nick van Breda (Consultant XR – AI and IoT) gives a lot of examples of ways in which an artistic production can link to an existing platform, brand, or existing social media.
The project *Tree*[31], for example, has a touring schedule displayed on the website, as is frequently seen in the music world. It visits in theatres, museums, cinemas, schools and organisations. Naturally, the social theme is also very appealing.

[31] Tree – Milica Zec, Winslow Porter (2017, US)

Van Breda also believes that it is possible to make anime suitable for linking the target group primary school children to **Roblox**[32].

> *The moment you have a theme or a production then you go looking: where is my target group? For example, Wave VR was a really great platform for really good performances. If you released a number you could use Wave VR[33] to make your number, your clip so great, so brilliant, but also immediately live [so] everyone in VR could walk around it, that all the texts they sent in the chat became fireworks.*
> *That was VR-based, only the target group for music was on TikTok, Instagram, Facebook and YouTube.*
> *Then they made Wave VR a TikTok partner in the release of a new number by The Weeknd where they made a TikTok exclusive of it so everyone on TikTok got a push notification, 'a show's about to start with a new number that was recorded using Wave VR'.*
> *So they managed to get 15 million or more people to watch the launch of a new number whereby the interaction in TikTok, the chats in fireworks have become a part of it, a co-creation of the final clip that was eventually released on YouTube and Vimeo.*
> *That was really smart. Greenscreen recordings of musicians and that put on a platform, an arena around it and then in VR...*
>
> *In VR chat, for example, it's very cleverly done with musician Jean-Michel Jarre, who worked with a good production company (VRrOOm) to make the content that is dull as a live-stream, super interesting as a VR experience. This means everyone who doesn't yet have a VR headset gets a kind of fear of missing out. Because that's really great to have the physical feeling that you are invited to be there.*
>
> *Nick van Breda (Consultant XR – AI and IoT)*

7.12 Cooperating with sector organisations for libraries, museums and theatres

Partnerships with sector organisations can strengthen a distribution strategy.
These collaborations can be entered into by the funds, but also by a network organisation **(see 7.1 Combining forces).**

In **7.2 VR Cinema** we discussed at length the possibilities **Biblion** sees for rolling out VR in libraries in the Netherlands. There are sector organisations in many areas, also outside of the cultural sector, which could be interesting in relation to the distribution of VR. A closer look should be taken at this.

> *We are working with the online platform Bibendo and that could be very good for VR, but for example we also have Skills dojo, which is more about the 21st-century skills. For example: what is augmented reality and how does it work? The software is open source. They had already developed some things but the university is an organisation that is not upscaling. They approach projects from an academic point of view and not from a use ambition. We are trying to get ten libraries on board first. And the great thing about the Bibendo concept, for example: if you become a member of Bibendo, you can also play games from other people.*
>
> *Nina Nannini (NBD Biblion)*

[32] Roblox is the biggest online gaming platform for children in the world with more than 52 million users worldwide.
[33] Wave VR – TheWaveVR (2016-2021, US) - https://wavexr.com/past-waves/

7.13 (Co-)Commissioning by museums and large institutes

Makers/producers/distributors can look during the financing phase for a group of commissioners, for example among museums or large institutes. This means that a work can not only be financed by several parties, no single one of whom has to pay the total amount, but also the production can make a tour of the partners immediately after publication.
For example, in 2016 **Cinekid** (initiator) and **MU Hybrid Art House** were two of the co-commissioning partners in a group that financed the award-winning *Treehugger*[34], a project by *Marshmallow Laser Feast*.

> ***What is interesting to see right now is how museums and big institutions are becoming more interested in VR and are also becoming the producer of some experiences. For example, The Louvre co-produced a VR experience about the Mona Lisa. Also, the Museum of Natural History has a dedicated space for VR and co-produces some VR artworks.***
>
> ***The Musée d'Orsay and the Centre des Monuments Nationaux have also co-produced some VR artworks. They really see the interest in presenting immersive experiences to reach new audiences. This ensures that these VR productions will be seen and will be shown in a venue for several months.***
>
> *Anne-Sophie Braud (Institut français)*

[34]Treehugger: Wawona – Marshmallow Laser Feast (2016, GB)

8 Conclusion

The conversations with the participants in this survey resulted in a real treasure-trove of information. Thanks to these open, transparent and inspirational discussions, many points were raised and considered concerning how we can find a larger audience for artistic, creative immersive projects.
Although most of the conversations often discussed VR, in this conclusion we will continue to use the more inclusive term ‘immersive media’.

The interviews were conducted during two periods: May-June-July 2021 and December 2021. Although developments within the VR community are progressing at a great pace, the urgency and need for distribution models for immersive media has not lessened.

The pandemic of course also had a massive impact on the VR community. The sale of headsets for home use increased and LBEs naturally could not go ahead, but this did not have a great effect on the creation of content, as was demonstrated by the last Venice Immersive programme.

During the latest edition (September 2022) of the Venice film festival, the Venice Immersive programme consisted of no less than 44 projects, 30 of which in competition, as well as a selection/presentation of 30 virtual worlds. This confirms the growth and development of immersive media and that the quality and quantity of the projects is still growing and increasing.

During the interviews, it was striking how little the subject of the pandemic was raised. This is a positive sign. People are keen to look to the future.

This is not an academic survey, but a quantitative one. However, the information collected from the interviews provides enough material for at least four more surveys, academic or not. Without wishing to undermine the importance of further research – which is certainly needed – almost without exception it appeared that all the stakeholders are ready for action and business.

That is, for feasible plans, pilots and experiments that are concerned not only with distribution, but also many more factors on the road towards larger, wider audiences.
This also involves the transfer of knowledge, production capacity, locations and operation; it involves finance, collaboration and taking a broader, longer view; it concerns preconditions and regulations; it concerns creativity, marketing and communication.

In all of the above, initiatives for working together are key. A producer can’t always think up or carry out distribution alone; cinemas, museums and all other venues need help with exploring the infrastructure and curating the content; a maker cannot keep up to date on a daily basis with all the developments surrounding VR platforms, or have a network towards the international festivals. We could give more examples, but all of the interviews and other conversations that have taken place during the past two years clearly demonstrate the ambition, keenness and belief that exist in relation to wider, larger audiences for immersive media.

In drawing up the proposal for this survey, Cassette's ambition was to present three financial models for distribution. We have not been able to do this. We do however make concrete recommendations and formulate plans in this report. We also have complete confidence that these plans, and the ambitions and plans of other members of the immersive community both in the Netherlands and abroad, will ultimately lead to concrete business models.
The general public is ready to enjoy and embrace all the marvellous, creative, beautiful immersive projects that are being made.

> ***I think creating the business model for an industry that is immature or growing is very important, because we don't want to waste any money to produce something and then the project goes nowhere. Defining and creating the business model is supporting the entire industry (creator/investor/audience/buyer) to grow faster and remain stable.***
> ***[Find the right audience, to find the right profit]. I'm using this a lot for my presentations or talks because I believe if you want to be successful, or if you want to survive in a growing industry you must understand where your audience is so you can distribute your project better than other people.***
>
> *Jimmy Cheng (Sandman Studios / Sandbox Immersive festival)*

The conclusions in summary:

- Eventually, a transition has to be made towards the general public. Publicity and marketing, but also making use of brands and communication
- Increase visibility. This can be done by setting up a counter and/or roadmap that can be used by everyone who wants to know about or do something with immersive media. For both makers and physical locations, or the use of ambassadors for immersive media and organisation of (inter)national showcases
- Set up agencies/platforms where all immersive content can be bundled for potential customers
- Research, investment and experimentation with exhibitions on location
- Budget for research into distribution opportunities for each project should be made available outside of the Immerse\Interact scheme and other realisation funds. Sector-wide subsidy options for distribution
- More research into the possibility of operating Virtual Worlds within the Social VR domain. More content in the Metaverse
- Research into distribution and audiences should be included as standard by producers in their budgets/applications
- Knowledge exchange: a platform/lab/academy should be created with relevant stakeholders, possibly in cooperation with festivals, VRAcademy and other educational bodies
- (Co-)Commissioning of projects by large museums and institutes
- Subsidies for (online) distribution, marketing and promotion, exhibition and cooperations between artistic projects with all funds
- Collaboration with other sector organisations such as libraries, museums, cinemas and theatres
- Ongoing investment in talent, experimentation and innovation development/talent development and diversity strategies
- Development of educational strategies
- More launches of Dutch immersive projects at the international markets and festivals. Make this a standard component of the promotion of Dutch culture outside of the Netherlands / Role for SEE NL

> *My dream would be that the technology would disappear and it's really about the content, and that no one, from creators to exhibitors, would be afraid of what it means in terms of technology and that they would go for it. What we observe now is that there is a kind of defiance, it's kind of scary for creators, but for exhibitors as well because they say 'it doesn't work', and it's true. In a way, VR is very difficult to make because it's very unstable, it's a very young technology, and I hope that in five years this wouldn't be a limit, and that anyone who wants to exhibit an immersive or VR piece would be able to do it as easily as we screen films in the exhibition.*
>
> *Camille Lopato (Diversion Cinema)*

Cassette would like to express its heartfelt thanks to all participants and collaborators for their cooperation, time and patience.

And a big thanks to Cynthia Ophorst representing the Dutch Film Fund for making it possible.

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NL FILM FONDS

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