



**Dimitris Delinikolas**  <https://orcid.org/0000-0002-4681-0776>

National and Kapodistrian University of Athens  
info@emptyfilm.com

**Monika Hapek**  <https://orcid.org/0000-0003-2962-8232>

Jagiellonian University  
monika.hapek@uj.edu.pl

**Michał Wójciak**  <https://orcid.org/0000-0002-4548-5967>

Jagiellonian University  
michal.wojciak@uj.edu.pl

## THE SPECTRUM OF XR MARKETING – COLLECTIVE CASE STUDY\*

### Abstract

The main aim of the article is to discuss XR in marketing in the context of phygital category. Five examples from 2016–2022 have been selected to find the answers for proposed research questions: Q1. What is the impact of XR on marketing? Q2. What are the similarities and differences between the analyzed XR marketing projects? Q3. What is the importance of XR in the context of phygital? Q4. Is the combination of physical and digital elements crucial in helping the audience to get accustomed to immersive media? According to Stake this case study has collective character. Selected cases rep-

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resent different sectors (sport, tourism and fashion) and approaches to XR in marketing. This collective case study was based on desk research, as well as ethnography and autoethnography elements.

**Keywords:** immersion technologies, virtual reality, augmented reality, phygital, XR marketing

**JEL:** D83, L82, M31, M37

## Introduction

Digital technologies have been supporting communication processes for years, and during the pandemic, they have proven to be the basic tool for carrying out activities and processes under conditions of social distancing. The use of the Internet, the use of various interfaces, such as computer screens, smartphones or VR headsets, allowed one to compensate to some extent for the significant difficulties, and sometimes the complete lack of possibilities, to contact in real space. The observed digital acceleration has left its mark on many practices in both the public and private spheres, e.g., healthcare, education, culture sector, entertainment.

Our reality is more and more digitalized and virtualized, but there is still the huge lack between our imagination represented by sci-fi movies and our daily life. It doesn't look like so fancy, sophisticated and stylish like in the popular movies and series, e.g., "Westworld" (USA, movie dir. by Michael Crichton, 1973; HBO series created by Jonathan Nolan and Lisa Joy, 2016–2022), "Matrix" (USA, Australia, 1999, dir. by Lilly and Lana Wachowski), "The Thirteenth Floor" (Germany, USA, 1999, dir. by Josef Rusnak), or "Anon" (Germany, 2018, dir. by Andrew Niccol). In this context, the term *phygital* as a combination of physical and digital elements comes up more and more often. Although it seems to be associated primarily with the world known from sci-fi movies, we commonly use the benefits of phygital in our daily life, e.g. comparing the prices in online stores during physical shopping, using QR codes or smartphone applications.

The widespread availability of smartphones plays a key role in the development of phygital. In 2023, the current number of smartphone users is 6.92 billion, meaning 86.29% of the world's population owns a smartphone. This figure is up considerably from 2016, when only 3.668 billion users were 49.40% of that year's global population (Turner, 2023). However, it is the development of XR that may offer the opportunity to elevate the user experience to the next level. Various companies have been working on the hardware since 2010. AR HoloLens goggles or AR Glass Explore Edition from Google were representing AR. In 2012 start-up Oculus presented prototype VR goggles. The company was bought by Mark Zuckerberg two years later, with intention to develop the idea of the metaverse. Launched in 2016, the Oculus Rift goggles set the direction for the development of VR. Since then, just under 42 million devices from the VR/AR category have been launched on the market, of which over 20 million are for Meta Quest 2. Also other brands

are available on the market like HTC, Pico, Samsung, Sony, Valve. In 2023 Sony launched PlayStation VR2, which offers higher resolution and wider viewing angle (Szewczyk, 2023). The year 2023 could be a breakthrough for XR, also because Apple has been working on a headset that combines AR and VR for several years, and their premiere has been announced for several months (Blake, 2023).

In 2021, the number of augmented reality (AR) and virtual reality (VR) devices shipped worldwide reached 9.86 million units (Alsop, 2022). The main VR adoption barriers are: lack of content offerings – 27%, unsatisfactory user experience – 19%, business and consumer reluctance – 19%, regulation and legal risks – 12%, cost to consumers – 11% (Gilbert, 2023). VR is perceived as most useful in industries like gaming – 61%, healthcare and medical devices – 41% and education – 41%. On the next places are: manufacturing and automotive – 23%, movies and television – 21%, workforce development – 20%, marketing and advertising – 16% (Gilbert, 2023). According to the report by PwC, AR will continue to provide the bigger boost to GDP through to 2030, compared to VR – 1,092.4bn vs. 450.5bn (PwC, 2019). AR has better prospects for development than VR, also because smartphones, which can use AR are commonly available. Table 1 presents advantages and disadvantages of XR.

**Table 1. Advantages and disadvantages of XR**

XR advantages	XR disadvantages
<ul style="list-style-type: none"> <li>• Interactions with famous people;</li> <li>• Playing-field experiences with prominent athletes;</li> <li>• Travel to exotic and fun locations (e.g., archeological digs, mountaintops, historic scenes and other-worldly places);</li> <li>• Deeply enriching learning experiences;</li> <li>• Remote medical procedures;</li> <li>• Disaster-response flexibility;</li> <li>• The creation of new kinds of communities, expanded venues for commercial exchanges;</li> <li>• A flowering of creativity in the arts and fashion;</li> <li>• Fully automated encounters with smart agents handling such things as accounting, professional training and mental-health counseling.</li> </ul>	<ul style="list-style-type: none"> <li>• Reductions in personal autonomy and people's ability to control their lives;</li> <li>• Worsening digital divides;</li> <li>• Amplified discrimination;</li> <li>• New forms of harassment, bullying and hate;</li> <li>• New menaces to public safety, especially around sexual violence and exploitation;</li> <li>• More avenues for misinformation (especially tied to clever fakes);</li> <li>• Addiction to metaverse activities;</li> <li>• Distractions that dissociate people from real life and induce loneliness (or worse);</li> <li>• New threats to users' personal data;</li> <li>• The further monetization of many human activities.</li> </ul>

Source: own elaboration based on: Pew Research Center (2020), *The Metaverse in 2040*, pp. 167–188.

Despite many disadvantages, XR has great potential both in terms of the external environment of the organization and internal processes (Table 2). XR provides marketing support through, e.g. stationary holographic presentation during events, conferences and seminars, brand promotion through public events using

XR, virtual interactive XR catalogs, shortening the time of making arrangements with the customer (Kosek, 2022). One of the iconic examples of XR marketing is a two minute VR video to take viewers to the Glen Ord distillery to experience the flavors of The Singleton. One in five people who tried a virtual reality experience bought a bottle of whiskey (McEleny, 2017).

**Table 2. XR for company use in internal and external environment**

Internal environment	External environment
<ul style="list-style-type: none"> <li>• Shortening the execution time of the selected production process (without compromising their quality);</li> <li>• Optimizing the system of valuable human resources (virtual assistance of an experienced employee in the operation of the place during seconds);</li> <li>• Support for the quality control process, standardization of teaching scenarios;</li> <li>• Efficiency of devices while ensuring its level increase.</li> </ul>	<ul style="list-style-type: none"> <li>• Shortening the waiting time for development and standard;</li> <li>• The use of effective production methods;</li> <li>• Sales process;</li> <li>• Promotion of the company itself (associating the brand with modernity).</li> </ul>

Source: own elaboration based on: P. Kosek (2022). *Specyfika rozwiązań Rozszerzonej Rzeczywistości (XR) w zastosowaniach przemysłowych związanych ze sprzedażą oraz marketingiem*, <https://elearning.przemyslprzyszlosci.gov.pl/specyfika-rozwiazan-rozszerzonej-rzeczywistosci-xr-w-zastosowaniach-przemyslowych-zwiazanych-ze-sprzedaza-oraz-marketingiem/> (accessed: 6.05.2023).

The main aim of the article is to present four selected examples of XR marketing from 2016 and 2022 as a starting point to discussion about the category of phygital. Authors proposed four research questions:

1. What is the XR impact of on marketing?
2. What are the similarities and differences between the analyzed XR marketing projects?
3. What is the importance of XR in the context of phygital?
4. Is the combination of physical and digital elements crucial in helping the audience to get accustomed to immersive media?

The first part of the article presents the transition from the physical to the phygital in the context of the Philip Kotler's marketing concept. The next part is the characteristics and analysis of selected XR marketing examples. The conclusion contains answers to the formulated research questions.

## From the physical to the phygital in marketing

Social changes and technological advances also determine the need for changes in the approach to marketing. By analogy with the stages of development of the global Internet beginning with Web 1.0, Philip Kotler presents his concept of the stages of marketing development, starting with Marketing 1.0 and ending with Marketing 5.0 (Kotler et al., 2021). According to the proposed classification, Marketing 1.0 focuses on the product. This concept was primarily used in the first half of the 20<sup>th</sup> century, when the market offered a relatively small number of products to a large number of consumers (Kotler et al., 2010).

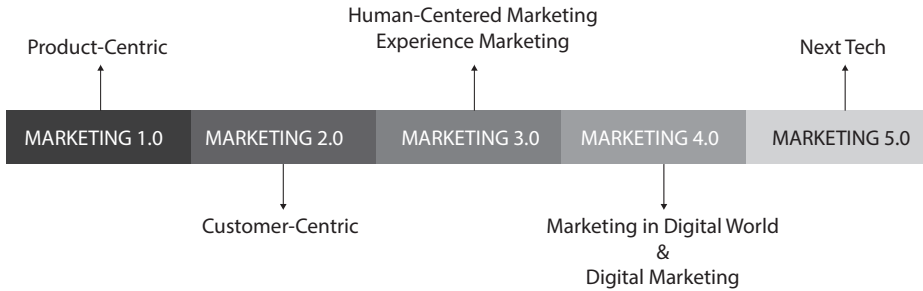
The next milestone in the development of the concept of marketing was the turn to the consumer, referred to as Marketing 2.0 (Fuciu, Dumitrescu, 2018). The development of information technology gave consumers the opportunity to compare multiple offers with each other and thus choose the best one, guided by subjective opinion. Therefore, to stand out on the market, it became necessary to take into account the preferences reported by consumers that had to be satisfied. Over time, satisfying functional (Marketing 1.0) and emotional (Marketing 2.0) needs was no longer enough, spiritual fulfilment became important.

The next stage in the concept of marketing is Marketing 3.0, which Philip Kotler calls human-centric marketing (Kotler et al., 2021). This is the period when an important element of the company's strategy has become building their own identity and image thanks to their values and also co-creating value by participants in market transactions (Brzustewicz, 2014). During this time, the development of *experience marketing* can be observed. According to the definition, it is a process creating, maintaining, enriching, and deepening the interaction of the company with the customer by providing memorable experiences that will engage and emotionally connect customers with the brand (Boguszewicz-Kreft, 2013).

The development of digital technologies and the resulting social changes have contributed to the introduction of changes in business models by companies. As Philip Kotler points out, fourth generation Marketing (4.0) is divided into two concepts: marketing in the digital world and digital marketing (Kotler et al., 2021). The growing phenomenon of digitization has opened a new channel to reach consumers. Thus, in the digital world, it is necessary to take action online and offline. This enabled hybrid customer service along the entire purchasing journey. It is also the effect of the progressive virtualisation of consumption, one of the stages of which is the creation of *participatory consumption* (Kacprzak, 2017). Technological development has opened the way to the widespread exchange of information on goods and services, and at the same time, the sharing of experiences resulting from contact with them.

However, Marketing 4.0 does not take into account next-tech technologies, such as Artificial Intelligence (AI), Natural Language Processing (NLP), the Internet of Things, and augmented and virtual reality (XR marketing). In Marketing 5.0,

one can observe elements of humanocentrism characteristic of Marketing 3.0 and activities leading to the fullest possible use of advanced technologies, which is not the case in the previous stage, i.e. Marketing 4.0.



**Figure 1. From Marketing 1.0 to Marketing 5.0**

Source: own elaboration based on P. Kotler, H. Kartajaya, I. Setiawan (2021). *Marketing 5.0: Technology for Humanity*. Hoboken, NJ: Wiley.

Using artificial intelligence, marketers are able, a.o. to create a buyer persona profile and apply *segment-of-one marketing*, i.e. personalize strategy for each consumer (Dibb, 2001), and thus reach for cross-selling and upselling. Also, currently popular chatbots could not work without even NLP. More and more companies also decide to implement immersive technologies in their activities, i.e. augmented and virtual reality, giving the opportunity to try the product before buying through dedicated applications.

The first mention of virtual reality (VR) dates back to the 1960s, when Ivan Sutherland proposed the concept of building an artificial world that included interactive graphics, force feedback, sound, smell, and taste (Mandal, 2013). He created a Head Mounted Display (HMD) called “The Sword of Damocles”, considered by many to be the first to experience virtual and augmented reality. It supported a stereo view that was updated depending on the position of the user’s head. Although the device was so heavy that you had to attach it to the ceiling in order to use it, it visually resembled modern headsets. It was not until the end of the 1980s of the 20<sup>th</sup> century that Jaron Lanier introduced the term “virtual reality”, thus arousing the interest of public opinion (Conn et al., 1989). VR has been separated as an independent field of computer science. It has been used, for example, in the design of cars and robots, in biology, chemistry, medicine, and even in the design of buildings (Whyte et al., 1999).

Despite many years of research on virtual reality, one of the most important milestones affecting the dissemination among users was the launch of modern headsets such as Oculus Quest (Hillmann, 2021). This device has gained the recognition of users for its friendly interface. In addition, it fully exploited the potential of six degrees of freedom (6DOF) of motion tracking and did not require a connection to a computer.

As Philip Kotler points out, there are currently five generations of consumers on the market, from baby boomers to alpha generation (born since 2010), with different preferences, behaviors, and different levels of digital competence (Kotler et al., 2021). Therefore, marketing specialists face the great challenge of adapting to the expectations and level of digital competence of recipients. In their activities, they implement the technologies of the new generations, whose main assumption is to attractively imitate human behavior, and increase engagement as well as the number of recipients in order to intensify the customer experience on the shopping path even more.

Adams (2004) distinguishes three aspects of immersion:

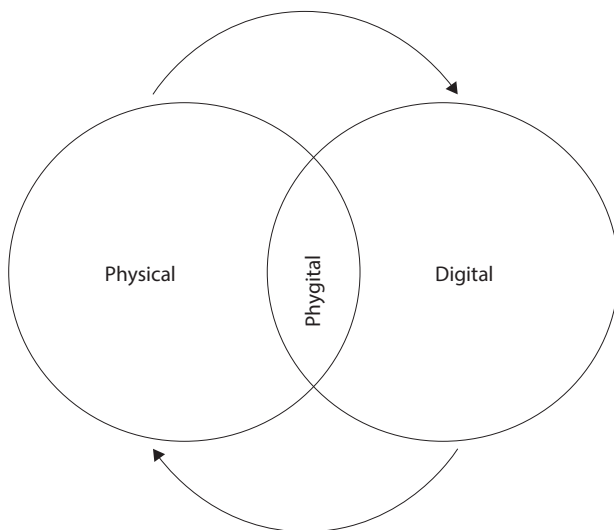
1. Tactical immersion – experienced during touch operations and requires certain skills from the user;
2. Strategic immersion – experience at the mental level, the need to make the right choice among many possibilities;
3. Narrative immersion – involvement in the story, embodying the role of the protagonist.

According to this concept, the use of XR provides the possibility of physical, intellectual, and emotional involvement of the user. This makes it much easier to establish a dynamic relationship with the user (Mazurek, 2011). Therefore, XR aroused interest among marketers who, through the use of XR in their marketing strategy, saw an opportunity to effectively deliver content directly to each consumer.

According to the concept of third-generation marketing (Marketing 3.0), when making buying decisions, consumers are motivated not only by the desire to own a particular good and its physical characteristics to satisfy their needs. Even more important is the experience of the buying process and interacting with the acquired good (Kotler et al., 2010). The consumption experience, Jaworski argues, is the sum total of the consumer's, producer's, and brand's involvement in a specific situation (Jaworski, 2018). Thus, the sum of positive experiences is an argument for gaining market advantage in a situation of (hyper)market competition. Purchase experience is a certain process that combines several phases (Price et al., 1995) and consists of four dimensions: rhetorical, hedonic-sensory, praxeological, and temporal (Roederer, 2012). Thus, they concern:

1. Actions and interactions with the consumed product, and interactions with those present during the experience;
2. Feeling the physical and sensory aspects of the experiential context, both in positive or negative polarities (pleasure, unpleasantness);
3. Symbolic value;
4. Any aspects related to time, e.g., space.

Phygital could be perceived as a combination of physical and digital elements, which is created by applying digital elements in the real world or by the transfer of real elements into the digital world. It could also be a combination of both processes. This term also refers to the behaviors.



**Figure 2. Phygital as a combination of physical and digital elements**

Source: own elaboration.

The concept of phygital experiences is closely related to *next-tech*, through which physical and digital experiences are seamlessly integrated, creating completely new experiences that are unattainable without new technologies (Hollebeek et al., 2019). By using phygital marketing solutions, it is possible to offer consumers experiences beyond those offered through digital means alone. In addition to this, an important argument for entrepreneurs encouraging the implementation of new technologies is the reduction of costs, improved efficiency of inventory management, and the possibility of collecting buyer data (Johnson, Barlow, 2021). It is also possible to increase customer satisfaction by reducing waiting times.

Innovative solutions of phygital marketing include, for example, artificial intelligence, automated sensing technologies (AST), and also the use of augmented and virtual reality. AR and VR technology allows artefacts from the physical world to be placed in a digitally generated environment. This allows the consumer to interact with the product before making a purchase. This type of experience is called *simulated in-person experiences*, “SIPs” (Johnson, Barlow, 2021).

According to a NielsenIQ survey, AR and VR are in high demand from consumers who want to improve their shopping experience (*Augmented Retail*, 2019). Additionally, advertising campaigns that apply augmented reality are attracting more attention from consumers, who say that they are more willing to buy from stores that offer dedicated apps using AR technology (Hackl, Wolfe, 2017). According to the report published by Morgan Stanley, the value of the global market for VR products and services in 2021 was more than \$4 billion. On average, the value



is estimated to grow by 43% per year and will reach \$35 billion in 2026. The VR video entertainment and media segment accounted for more than 9 percent of the total market and was worth \$375 million in 2021. It is estimated to be more than \$2 billion in 2026 (Jagiełło, 2022).

## Collective case study of XR marketing

The authors selected four XR projects that were implemented between 2016 and 2022 (Table 3). Two of them were produced by Dimitris Delinikolas as a co-author, allowing him to share his own practice as a research source. That XR projects represent cinematic VR in marketing in sport and tourism sectors: *The Team Bus of a Champion Basketball Team* (2016) and *Art of Living Odyssey* (2019). The other two examples represent fashion sector, but different segments: luxury market – *Balenciaga Afterworld: The Age of Tomorrow* (2020) and mass market – *H&M Innovation Metaverse Design Story* (2022). They were proposed by Michał Wójciak as a co-author involved in digital fashion research, and the information about them was collected using the desk research method by visiting the websites of brands, fashion media and various organizations involved in the production processes. Adopted time perspective also helped to catch the progress of XR use in marketing.

**Table 3. Collective case study of selected XR marketing projects – key content and methodology**

No.	Name	Date	Type	Key content	Methodology
1.	<i>The Team Bus of a Champion Basketball Team</i>	2016	Cinematic VR commercial for Betting Company	Monoscopic 360 VR video combined with installation event	Practice-based research
2.	<i>Art of Living Odyssey</i>	2019	Transmedia for tourism	Geolocated and gamified 180 VR videos	Practice-based research
3.	<i>Balenciaga Afterworld: The Age of Tomorrow</i>	2020	Presentation of clothing collection	Immersive video game experience with 50 digital humans	Desk research
4.	<i>H&amp;M Innovation Metaverse Design Story</i>	2022	Clothing and accessories collection	Physical collection in combination with AR filters and Metaverse experience	Desk research

Source: own elaboration.

According to Stake this type of case study is defined as collective. The main aim of the collective case study is to investigate of a certain number of cases in order to find out about general phenomenon or to develop a theory about it (2009). For

Nierenberg, case study is a reality scrap analysis (2014, pp. 12-13) which gains additional meaning in the context of XR. For the authors the main goal was to find diversified XR marketing projects as the combination of physical and digital elements from different sectors.

## Case study no. 1: *The Team Bus of a Champion Basketball Team* (2016)

OPAP is the biggest betting company in Greece. Sponsor of many teams and world renowned athletes who are in exchange making media appearances for marketing purposes. The specific campaign was designed and produced in 2016 featuring the basketball team Panathinaikos who have been European Champions in the past. 2016 was a critical year for VR as PlayStation VR headset had opened the market for VR gaming with an easy to use device and also Samsung with Gear VR and the first affordable simple cameras were using mobile phones as headset devices for Cinematic VR. This environment inspired advertising agencies to experiment with this medium.

At first, the campaign was aimed to give the viewers the experience of being with the team in moments that the public does not usually have access. The first idea was to do a backstage shoot in the dressing rooms.

After a proposal from the author we decided that the dressing rooms were a very static environment and instead we chose to create an experience around the team bus. There were two main requests. As the team of 20+ athletes would only be available for a couple of hours, we would have to create a script that would be enjoyable as an installation piece to be displayed in the stadiums before a game but also it would have enough replayability as a 360 video on social media to attract secondary engagement. This was essential in order to justify the expense of the VR production, at a time when it would reach a very limited audience. We designed a one-minute long story consisting of three shots. Waiting outside the stadium where the team bus stops and the coach invites you to enter, a shot when you just enter the bus and see all the stars and they invite you to sit and finally a shot where you are sitting next to the team leader and he speaks to you about the team as the bus is driving.

Using the seat of the bus was essential as the viewer would not feel the restriction of the unmoving camera that usually plagues VR productions. In order to make the experience richer we created a phygital ending. One of the most famous players holds a polaroid camera and wants to take a team photo. Everybody is asked to pose, including the viewer. At the end of the clip the player gives you the polaroid. For the people that saw the experience as an installation, we had photographed them in advance on the green screen and while they were watching, we composited and printed a polaroid in which they appeared inside the bus. When the headset

was removed the viewer was offered an actual polaroid as if the player in the VR experience had actually shot it. This phygital experience became much stronger as the audience not only experienced VR but actually left with the polaroid of themselves with the team. This element made the audience extremely intrigued as they had a custom made artefact, which was actually produced through their interaction with the cinematic VR piece.

In order to achieve the replayability in the social media version we added two mini games to the cinematic VR. In all three shots of the film we hid one of the most famous players. In one shot he was sitting in the bus window, in the second one he was outside the bus while the viewer had just entered and in the third shot he was in the staircase of the bus' secondary door. We asked the audience to locate the player for which one had to see the 360 video and rotate the camera in areas that was no primary action to find the hidden player. We asked them to send us screenshots of the player. The second mini game had to do with a ball which the players had inside the bus. During the third shot and as the action with the polaroid was taking place in the front of the bus, the players were exchanging passes in the back. We asked the viewers to count the passes and send us the number.

With this trans-media design in which the same video could act as cinematic VR installation and simultaneously as a video on social media, the client was persuaded to proceed with the campaign and use their media time with the team for a VR project instead of a mainstream TV commercial.

However, even though the campaign was a success and attracted media attention and feedback, the amount of people that were actually able to see it was very limited to attract a serious follow up of more productions. VR was still a very niche medium for such a mainstream use. Regardless, the two elements that were proven to be essential to the successful design were the trans-media expansibility and the phygital design which were explored further in the following years.



**Figure 3. Frames from video *The Team Bus of a Champion Basketball Team (2016)***

Source: images courtesy of Emptyfilm.

## Case study no. 2: *Art of Living Odyssey* (2019)

Between 2009 and 2021 trans-media design and gamification were taking a leading spot in film production and marketing. *Art of Living* is a trans-media project developed during 2019, which aimed to promote culture, tourism and heritage. Building on previous experience pertaining to trans-media design, practice based research and gamification, *Art of Living* presented a novel approach in tourism applications. By adopting extended reality technologies infused with gamified elements, the project created a phygital hybrid experience, simultaneously unfolding within the physical and virtual space. The project started in Corfu and evolved locally as the *Ionian Experience* | *Art of Living* trans-media expansion. In 2022 it was expanded in Malta, using research from the discipline of Homeric Geography, creating the transmedia expansion *Art of Living Odyssey*.

The project consisted of 180 VR stereo videos, maps, VR art exhibitions, animations, artefacts, a social media campaign and a kiosk designed for tourism exhibitions. The project was designed and implemented by the author, the media company emptyfilm and the University of Athens, in collaboration with the Laboratory of Interactive Arts of the Ionian University (inArts), associate professor Yannis Deliyannis, the researcher Natassa Pandi, the travel company Corfu4All, the architectural company 2tropoi. It was promoted by the Hellenic Tourism Organization (GNTO). When the project expanded internationally the first partner to be included was the University of Malta and the researcher-filmmaker Adnan Hadziseimovic.

Corfu island was selected due to its natural, historical and touristic attractions, as well as due to the mythos identifying the location as the Phaeacians' island in the *Odyssey*. Inspiration was drawn from the location of the fountain of Kardaki, where, according to the myth, Nausicaa and Odysseus met.

*Art of Living Odyssey* began with the design of a gamified transmedia experience which included an interactive map of Corfu and a series of VR videos assigned with QR codes on the map. The VR videos contained hints for a password that unlocked a video that showed the way to the actual location of *The Hidden fountain Kardaki*. The idea of a map, as an object being found in both virtual and physical space, was selected in order to create a phygital experience. To this end, apart from the geolocated video mapping practices, a printed version of the map was designed, reminiscent of a treasure map. The printed map was enclosed in glass bottles, drawing on the pirate stories paradigm. In this manner, the audience can have multiple entry points to the narrative world, either from a physical object, from a tourist kiosk, or from a video found on YouTube. The audience is also engaged in a hybrid story that urges them to watch the videos and provides motivation to travel to different destinations within the islands (Emptyfilm Travel, 2019) motivating quality tourism. Also the solution of the riddle leads to the discovery of additional clues that lead the travellers to Malta's island Gozo, where the infamous Calypso cave is

situated. According to the epic, this was the place that Odysseus spent seven years before starting the journey of his return to Ithaca. In 2022, a similar map was created for the island of Malta, following new methods of gamification, as well as a physical exhibition of *Art of Living*. The riddle video of this map was a short film created in collaboration with the AI software Midjourney which narrates the story of the Calypso cave and Ulysses choice to choose return over immortality.

The aim of this project was to use new media technologies to motivate travel and help tourists discover links between heritage and contemporary culture in a ludic way. In July 2022 both the maps of Malta and Corfu were displayed in an exhibition in the Valletta Design Cluster in Malta. The visitors used mobile phones to see the VR videos with simple google cardboard glasses and a 3D scan of the Calypso cave was displayed through a VR headset.



**Figure 4. The gamified VR video maps of Corfu and Malta**

Source: image courtesy of Emptyfilm.

On a local level, on the island of Corfu, the interdisciplinary team implemented several expansions, all of which were aiming to enhance destination branding and contribute to the destination’s soft power by bridging classic and contemporary elements and revealing hidden clues of high cultural value. The underlying theme of all the subprojects of Ionian Experience as this transmedia expansion was named, derives from local artistic creativity and aims to form an efficient cultural hub for experimenting and expansion in digital cultural environments.

The projects carried out in chronological order were:

1. “Stay safe”, a campaign dedicated to the COVID Pandemic;

2. “Easter”, an animation based on local fine artists’ paintings inspired by the Corfu easter celebrations;
3. “Spring in Garden Gallery”, VR Fine Art exhibition proposed as an alternative method of exhibition during the pandemic;
4. “Unfolding Southern Corfu”, TikTok tourism campaign, a campaign with gamified elements and polls designed to attract younger audiences on TikTok.

The project attracted the interest of National Press and Media and the authors were invited to present it to the Greek National Tourism Organisation. The GNTTO expressed their specific interest in further applications of trans-media gamification methods in other destinations. The main outcomes of the first projects of *Art of Living* were:

1. Gamification motivates engagement with physical space and can be used in tourism and heritage with substantial outcomes.
2. Physical installations aid in the measuring of the impact of the experience and help audiences get accustomed to new technologies.
3. Trans-media strategy enables the development of viral behavior and allows for adaptability to the diverse needs of a tourism campaign.
4. Geolocated media allow for trans-media expansions without relying on linear narratives and plotlines.
5. A shared story, as the one of the Homeric geography, binds trans-media expansions and international locations and creates a hybrid storytelling experience based on the juxtaposition of fictional and actual locations.

*Art of Living Odyssey* continues to expand in more locations of the Odyssey such as Mount Parnassus where Odysseus was born and Sicily where Polyphemus was blinded and the infamous “I am nobody” quote is cited.

### Case study no. 3: *Balenciaga Afterworld: The Age of Tomorrow* (2020)

As a luxury brand, Balenciaga is well known for its experimentation with technology. In 2020, this French fashion house held a virtual reality runway show for its autumn/winter 2021 collection and also a video game “Afterworld: The Age of Tomorrow”, which could be described as an immersive video game experience with 50 digital humans (Figure 5). The work started in April 2020 from a conversation about needed resources to realize the idea between Berlin-based architecture studio Substance & Inhalt and design studio Yumebau Inc., which employs 3D artists, designers and software developers to build up the AR and VR solutions (Yumebau Inc.). Substance & Inhalt is well-known for their collaboration with Balenciaga. Creative director Niklas Bildstein Zaar and architect Andrea Faraguna are responsible for the Balenciaga fashion shows scenographies and the design of their flagship stores, i.a. in London and Milan (Richman, 2020).



**Figure 5. Promotional layout of *Balenciaga Afterworld: The Age of Tomorrow* (2020)**

Source: B. Samaha (2020). *Balenciaga Launches a Video Game for Its Fall 2021 Collection*, <https://www.harpersbazaar.com/fashion/fashion-week/a34892239/balenciaga-video-game-fall-2021-collection/> (accessed: 14.03.2023).

In the next step Streamline Media Group and Dimension Studio were involved. Streamline was founded in 2001 and, as mentioned on the company’s website, it is “[...] a global video games and metaverse development company servicing world renowned developers, publishers, and brands to bring their AAA titles and innovative immersive experiences to life” (Streamline Media Group). With the slogan “Shaping the future of entertainment” (Dimension Studio Linkin.bio Page) Dimension Studio is a company which main core is based on the virtual worlds and virtual humans creation for film, television, VR, AR and the Metaverse (@dimensionstudio). They were responsible, i.a., for virtual production of Ellie Goulding “Like a Saviour” video (*Ellie Goulding...*), film “Pinocchio” directed by Robert Zemeckis and released 8th September 2022 on Disney+ (*Pinocchio*) or process of creating virtual humans to “My Universe” video of Coldplay and Korean boys band BTS (*Coldplay x BTS...*) and also holograms of the BTS for the Coldplay stage performance on the finale of NBC’s *The Voice* (*The Volumetric Future...*, 2021).

The main task for the Streamline was to aggregate all the various components delivered by teams. CEO and Streamline co-founder Alexander Fernandez described that project in culinary terms: “[...] we were the chef working with great cooks from around the world to deliver a delicious meal for a highly discerning

patron” (*What’s Balenciaga...*, 2021). The entire immersive environment was built in Unreal Engine. The functionality of the game was set up with the engine’s Blueprint visual scripting system (Blueprints Visual Scripting). The world of the game was populating with photorealistic 3D scans from Quixel’s Megascan library (Quixel Megascans). Streamline also collaborated with other companies to complete the project. One of them was Builders Club, supplier of pre-rendered cinematics for in-game transitions. “We are a Creative Studio for 3D Motion, Design, Film and Interactive Storytelling. We work with brands and agencies internationally to create meaningful work with a team of like-minded individuals” – this is a statement from agency’s website (Builders Club). Another company was Ubitus who helped optimize and test the experience for deployment in the cloud. It is a Japanese brand with the head office in Tokyo, which is a cloud game technology leader (Ubitus).

The most ambitious part of the project was realized with volumetric video technology, which enables to create visual representations of people and objects in three dimensions. Methods of capturing mixed reality assets were represented by Microsoft on a simple scheme (Figure 6). Dimension Studio team used Polymotion Stage Truck, the world’s first mobile multi-solution volumetric video studio to capture 50 models wearing pieces from Balenciaga autumn/winter 2021 collection. The Truck operated under safe-shoot conditions in Paris due to pandemic regime. This solution shows the advantages of Polymotion Stage Truck which allows the user to capture volumetric content anywhere (Polymotion Stage). This creation stage is the result of cooperation between Dimension Studios, Nikon, MRMC and Microsoft (*Balenciaga – Afterworld...*). Some pieces like footwear design and eyewear were virtually modeled and replaced in post-production, because reflective surfaces are difficult to capture in volumetric video. “The final results are impressive. With players able to view the looks in 360 degrees, the game acts as a true lookbook for the luxury fashion brand” (*What’s Balenciaga...*, 2021).



**Figure 6. Methods of capturing mixed reality assets**

Source: Microsoft (2022). *Case study – Representing humans in mixed reality*, <https://learn.microsoft.com/en-us/windows/mixed-reality/out-of-scope/case-study-representing-humans-in-mixed-reality> (accessed: 5.03.2023).

The game is set in New York in 2031 and begins in a Balenciaga store, which is one of five different levels (called “zones” in the game). After visiting the boutique,



the character walks out onto a street in the city and gets on a bus, which takes off and melts into thin air. Participant is transported to another outdoor environment and gets information about a T-Party, a secret rave in the forest. A white rabbit leads him through the forest. The last zone is a rocky cliff, where an avatar wearing knight's armor pulls a sword from a stone. This gesture opens the wall and reveals an outer rock path to the top, where the game ends at sunset. A blank screen with a pulsating circle in the center appears where the end credits are usually shown, with the words "breathe" and "hold", which is a kind of meditation-style breathing exercise. In every zone there are avatars dressed in clothes from the collection, e.g., oversized, tailored jersey suits that look worn and crumpled. "The brand also reimagined 400-year-old steel knight's armour in the form of thigh-high boots and stilettoes made from a lacquered material, designed to represent fashion as a type of armour worn to protect against the elements of judgment" (Hitti, 2020).

Video game was available on Balenciaga's website, but selected guests were initially invited to play via VR goggles, instead of watching the runway show. In 2020 due to pandemic regime fashion shows were canceled. French fashion house took unusual circumstances as a chance to create something new with the help of technology innovations. Balenciaga is not the first fashion house which created a video game. One year earlier in 2019 Louis Vuitton released a 1980s-style video game called "Endless Runner" (Hitti, 2020), but "Afterworld: The Age of Tomorrow" was definitely a more advanced and sophisticated production. According to *Vogue* it was a "quantum leap" for the fashion industry (Mower, 2020).

#### Case study no. 4: *H&M Innovation Metaverse Design Story*

The *H&M Innovation Metaverse Design Story* collection launched on 8<sup>th</sup> December 2022 was part of a brand concept Innovation Stories dedicated to sustainability in the context of materials, technologies and production processes (*High Fashion...*, 2022). On the website and in the selected stores 42 products for women and 17 for men were available – some of them, such as jewelry, were assigned to both categories (*HM.com/Ona...*, *HM.com/On...*).

Except for a physical collection, the customers had the possibility to use five augmented reality filters with the H&M app or on Snapchat and dive into an immersive Metaverse experience on *hm.com* (Figure 8). The collection explored three scenarios for the future of fashion: ready to wear, digital and rental (some pieces were available to rent at the stores located in Stockholm, Berlin, Amsterdam and London). Collection was inspired by the metaverse as a place where the laws of gravity and social expectations are suspended and by references to the natural world – satellite images of Earth, view of cells under a microscope, blooming flowers. Designers took advantage of vibrant colors, ruffles, beading, faux fur and recycled materials, e.g. REPREVE® Our Ocean™ recycled polyester made from ocean bound plastic

bottles or 100% recycled sequins made from plastic bottle waste (*High Fashion...*, 2022). In one of the pieces – shimmering chestnut-brown long bandeau dress – Irina Shayk appeared at the British Fashion Awards 2022 (*H&M at the...*, 2022). Jewelry line with chokers, bracelet cuffs and ear cuffs looked like solidified liquid metal (*A metaverse...*, 2022).



**Figure 7. 3D filters collection crafted by Institute of Digital Fashion for H&M Innovation Metaverse Design Story (2022)**

Source: H&M (2022). *You're invited to the metaverse! How H&M Group uses tech innovation for endless fashion opportunities*, <https://hmgroup.com/our-stories/youre-invited-to-the-metaverse-how-hm-group-uses-tech-innovation-for-endless-fashion-opportunities/> (accessed: 14.03.2023).

3D filters collection was crafted by Institute of Digital Fashion with effects of water droplets, glowing flowers or glittering clusters of onyx. The other two filters included whirling metallic gown and a molten headpiece that sparks with electricity (*A metaverse...*, 2022). Stylist and editor Ibrahim Kamara provided creative advice in the process of creating the collection, which Irish magazine IMAGE described as: “[...] full of show-stopping pieces, designed for self-expression” (Burns, 2022).

## Conclusions

Phygital can be seen as a marketing trend and means appropriate integration of the channels offered by the brand (e.g. the possibility of returning purchases online in the store). For this purpose, various solutions are used, from simple ones such as QR codes or cinematic VR to full VR productions and animations. The content is often based on gamification elements or refers to video games. In terms of retailing, the term *phygital* means digitising the store, incorporating either a website or social media (Belghiti et al., 2018). The creation of so-called “connected stores” or “phygital shops” enables a hybrid form of shopping, thereby satisfying the fragmented multichannel behavior of customers. On the one hand, consumers use of such a large number of channels makes it increasingly difficult for businesses to control

the buying experience, but at the same time, this multichannel form of distribution can contribute to sales growth. Analyzing the case of H&M, it is worth to mention the issue of building experiences using omni-channel to reach the customer. Phygital shopping experience involves hybridising physical (point of sale, products, etc.) and digital (touch screens, connected mirrors, NFC cards, etc.) elements at the same time and place (Belghiti et al., 2018).

Phygital marketing is used in many industries and it also works well in promoting tourist regions. The use of VR and AR technologies in phygital customer experience strategies helps design compelling customer experiences. The emergence of phygital marketing in tourism has contributed to the redefinition of the tourism space, interactions with tourism space, as well as changes in travel behavior. Previously, the tourism space included only the physical aspect. With the development of new technologies, immersion in virtual reality allows travel to make the physical world more attractive and sometimes even replace it (Neuburger et al., 2018). The use of virtual reality provides the opportunity to see places before travelling in the physical world, which is in keeping with the *try before you buy* concept. This allows us to arouse the curiosity of the user (consumer) (Tussyadiah et al., 2018). It can be said that such activities are the equivalent of an advertising brochure. By using 360-degree technology, the consumer can view the landscape and objects located in the promoted region. Also, the use of gamification elements, as in the case of *The Art of Living Odyssey* brochure, is a form of inspiration and motivation to visit the presented region.

Practice-based research and desk research helps the authors to collect the information about XR marketing projects, in order to show how the market slowly assimilates the new technologies by accepting in-between steps of innovation mixed with more traditional media. Below are the answers to the research questions, that were the starting point for the research process.

### 1. What is the XR impact on marketing?

Immersive technologies force a new way of thinking about marketing. For example, Aaron Luber from Google (2016) has formulated questions, that should be considered by brands before investing in VR technology:

1. Will VR give viewers an experience that they otherwise couldn't have?
2. Could virtual reality ads give shoppers a better feel for your product?
3. Will your recording environment be rich with things to see?
4. Will viewers want to continue watching beyond the initial "That's cool" moment?

Similar advices were formulated by Kosek (2022):

1. The XR marketing system should have a particularly precisely defined goal (direct, indirect) and a group of recipients;

2. The XR solution should ensure immediate attention, but also (which is much more difficult and often ineffective) its retention;
3. The XR system should not overwhelm the recipient with visual effects that will dominate the expected message – this is a common mistake of many projects – excess of form over content;
4. The XR system should bring a new quality to the customer communication.

XR marketing can be seen as a part of Marketing 5.0 idea proposed by Philip Kotler and, what is important, modern marketing should support phygital customers experience. The XR experience cannot be a copy of the solutions used in traditional marketing.

## 2. What are the similarities and differences between the analyzed XR marketing projects?

The main difference is the key content used in the analyzed XR marketing projects, e.g., VR videos, immersive video game or AR filters and numbers of organizations involved in the production process. Video game *Balenciaga Afterworld: The Age of Tomorrow* is one of the most ambitious XR marketing projects and probably the most cost-intensive. Together with *H&M Innovation Metaverse Design Story* it shows that this kind of content has ephemeral character (after a few months they are not longer available for the customers). This is probably due to the speed of change in the modern fashion market. In other sectors, such as sport or tourism, XR marketing have a longer shelf life.

## 3. What is the importance of immersion technologies in the context of phygital?

The phygital is here. Thanks to the mobile devices, the consumer has gained the ability to connect from anywhere, at any time, to points of sale to satisfy needs. Shopping in traditional stores has given way to situational shopping, in a completely mobile and agile form. This type of experience is referred to by the term *omni-channel retailing* (Brynjolfsson et al., 2013). It denotes the consumer's ability to move freely between different physical channels (points of sale) and digital channels such as: SMS, push notifications, websites, social networks, and even virtual worlds, which are controlled to varying degrees by retailers. VR headsets are not widely available, so this kind of hardware doesn't play a crucial role in the popularization of phygital experiences. It also means that is easier to reach consumer's attention with AR solutions.

#### 4. Is the combination of physical and digital elements crucial in helping the audience to get accustomed to immersive media?

Phygital could be a critical factor in making marketing campaign successful, especially at this time, when the customers are not yet accustomed to immersive technology, because it is very new, and there is lack of the right equipment. AR filters seem to have much better market share, because they use the already existing technology, owned by the customers in their pockets – smartphones. At the moment, XR marketing is a curiosity, thanks to which brands and organizations are perceived as modern and moving with the times. This type of solutions is most often used by the fashion industry, which is a part of the digital fashion trend. In this sector, mass brands also try to include elements of the metaverse, for example H&M or Carlings. However, the nature of this content is often ephemeral. Referring to the analyzed examples, one can put forward a theory that the use of XR marketing has the greatest potential in the tourism industry and in the fashion market. The popularization of XR marketing is also associated with breaking stereotypical thinking and perceiving XR as a technological curiosity for geeks.

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