

# ENTERTAINMENT

Detailed analysis of the tech  
and science trends influencing  
storytelling, streaming,  
exhibitions and theme parks.

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# THIS YEAR REQUIRES FOCUS



In August 2017, a rare explosive event known as GW17817 took place in space. Two stars collided, unleashing a blast energetic enough to form an incalculable number of new stellar bits that continue to travel through interstellar space. Over time, this stardust will combine into small objects, evolve into large rocks, fuse with even more material, and form into planets. One incredibly violent disruption will someday lead to the formation of a new corner of the universe. This is how our own sun and Earth, and all of human existence, came into being.

Lately it's as if we've been living through the aftermath of cataclysmic explosions: the release of generative artificial intelligence systems like ChatGPT and Midjourney, a fusion breakthrough that could someday generate zero-carbon energy, Russia's ongoing invasion into Ukraine, deep uncertainty about a global recession, and AlphaFold's protein-folding algorithms that predicted structures for nearly all cataloged proteins known to science, to name a few. These and other forces of change are colliding, going supernovae, and resulting in an unfathomable amount of new signals—bits of change that, over time, result in the trends that shape society.

Now more than ever, it's important to carefully track new trends as they emerge. But that isn't easy, given the rapid pace of change. For that reason, the theme of our 2023 Tech Trends report is Focus. It is crucial to focus when new signals are forming because some may be lasting and develop into impactful trends, while others might burn out and fade away. In an increasingly complex and fast-paced world, leaders who focus on the trends that matter and adapt to changing circumstances make better decisions and see improved outcomes. Trends enable them to anticipate near-term change, understand the factors influencing their industries, and develop a point of view on the future.

Our research is presented in 14 in-depth reports that reveal the current state of play, a list of influencers to watch, key trends, detailed examples, expert perspectives and recommendations designed to help executives and their teams develop their strategic positioning. Some of the trends are new advancements on mature technologies, while others represent frontier technologies and areas of science. When we look at them collectively, new centers of gravity come into focus, and we can glimpse the impacts they will have on every sector.

Trends on their own cannot predict the future. Rather, future-focused organizations use them to deeply reflect on the tension between long-term and short-term goals and to reduce uncertainty. By understanding the trends and changes shaping the landscape, executives can make informed decisions and capitalize on new opportunities in the year ahead.

We invite you to join us in observing how the stardust settles into new signals and trends. Share your feedback with us at [2023trends@futuretodayinstitute.com](mailto:2023trends@futuretodayinstitute.com).

**Amy Webb**  
Chief Executive Officer  
Future Today Institute

# HOW TO USE THE TREND REPORT

Our framework organizes nearly 700 trends into 14 clear categories, which are being published as separate reports. Each report includes specific use cases and recommendations for leaders and their teams.

## 1. Years on the List

We track longitudinal tech and science trends. This measurement indicates how long we have followed the trend and its progression.

## 2. What it is

Concise description of this trend that can be easily understood and repeated to others.

## 3. How it Works

Real-world use cases, some of which should be familiar to you.

## 4. Why it Matters

The implications of this trend on your business, government, or society.

## 1 1ST YEAR ON THE LIST

# FUSION THEATER

## 2 WHAT IT IS

**Theater companies are experimenting with varying degrees of audience participation, alternate realities, and both persistent and ephemeral world building. The result is not merely a hybrid theater experience but an emerging new artform.**

## 3 HOW IT WORKS

Danish theater company Fix & Foxy created "Homeparty," an in-home audio experience for groups of six to 10 people who receive role-play direction through earphones. "Is Anybody Home?" is a collaboration between Berlin-based theater company Gob Squad and the Volksbühne, an interactive experience where a guest can play a role in a film being projected at the same time. Academy Award-winning director Danny Boyle will direct an immersive dance performance titled "Free Your Mind" that is based on "The Matrix" and will be out this fall. Boyle's project promises to "stretch across the building's spaces and respond to them, harnessing the collective energy of the moment." Los Angeles-based Tender Claw has created two immersive digital theater adventures—"The Under Presents" and "Tempest"—that take place in VR during set performance times. Audience members wander through the digital world among virtual beings—some of them actors, some artificial characters—and can influence the evolution of the narrative.

## 4 WHY IT MATTERS

New theater experiences aim to draw new audiences—younger people as well as those who are challenged to get to an actual theater, be it for physical or other restrictions, such as time or distance. Digital technologies open up new forms of storytelling. Educational institutions, along with theaters and private companies, are providing extensive resources to a new generation of theater creatives, allowing them to explore fresh avenues of creativity and ensure that hybrid experiences are here to stay. However, creating narratives in virtual and augmented reality is quite costly and requires large audiences to pay for itself—or else the industry will have to wait for the technology to mature. Odeon Theatrical, which helps theater companies easily introduce AR into their productions, is one effort to scale the new forms.



# STATE OF THE INDUSTRY

**Experiences are moving to a collaborative model, opening up the opportunity for repeated but not repetitive engagement with entertainment franchises.**

This is a time of recalibration. People have returned to the cinema, theme parks, performances, and exhibits. In 2022, for the first time, Americans watched more streaming TV than cable. Spending on live performances and theme parks exceeded pre-pandemic years. Art sales reached historic numbers thanks to dual physical and digital sales channels. Movie theater attendance is still behind pre-pandemic levels, partly due to 50% fewer movies being released throughout the year, but spending on premium tickets has increased.

As people adjust their daily lives post-pandemic, technology offers new ways to experience and produce art and entertainment. Text-to-video artificial intelligence gives a glimpse of how easy film production may become. Epic's avatar tool can import scans of real people, making digital clones of increasing similarity to humans. And real-time personalization of augmented reality makes the imaginary worlds in Disney's and Universal's theme parks increasingly immersive. Experiences are moving to a collaborative model, where the audience has varying degrees of impact on how the story unfolds, opening up the opportunity for repeated but not repetitive engagement with entertainment franchises.

# STATE OF ENTERTAINMENT IN 2023

Haptics allow us to engage all of the senses when we watch our favorite characters on screen. MSG Sphere, opening this year in Las Vegas, will offer immersive effects including wind and smell. Until consumer devices offer such features at scale, this enriched experience presents a draw for audiences to return to theaters. Netflix and NBCUniversal's Peacock are exploring enriched storytelling in "Choose Love" and "The Real Housewives," respectively. The interactive offerings are a far cry from AI intuitively adjusting a series' storyline based on someone's past viewing behavior, but the projects allow for the design of new production processes for deconstructed storytelling. Digital twins of celebrities—unauthorized in the case of Tom Cruise and Keanu Reeves, authorized in the case of Will.i.am and the Chinese star Gong Jun—offer a glimpse at the earning potential of digital versions of these entertainers. But the question remains how audiences will respond to virtual copies of their beloved heroes.

The transaction volume of some of the biggest NFT marketplaces saw drops of 90%, as art collectors started to doubt the functional value of these digital art pieces. Meanwhile, the atten-

tion-grabbing headlines have moved on to text-to-image and text-to-video AI applications. An art piece made with Midjourney won the Colorado State Fair's digital arts competition last year. Microsoft added access to Dall-E to its consumer-facing Designer app. And Shutterstock is collaborating with OpenAI to explore ethical inclusion of AI-generated art in its database.

Disney's short-lived CEO Bob Chapek announced a data exchange between its streaming and theme park divisions to heighten personalization on both platforms. Universal and Meta are collaborating as well, and while details of this agreement have not been announced, the depth of Meta's data trove suggests powerful and far-reaching personalization efforts could come to entertainment. Virtual reality (VR) applications are evolving to a new experience category: free roaming, interactive adventures that can be experienced with others. This format, for now mainly in smaller pop-up entertainment forms rather than in big theme parks, much better satisfies visitors' desire for joint entertainment than the isolating act of sitting in a cart wearing goggles, without any chance of interaction with the environment.

The entertainment industry is at a tipping point, where new technologies are allowing exploration of completely new forms of expression. The technology trends explored in this report both originate and facilitate these developments, enabling leaders to consider emerging technologies that inspire, nurture, enlighten, and question.

## STREAMING

Power is shifting from content platforms to influencers as the latter's options for sharing content increases and new opportunities to create revenue streams expand.

Tapping into a global talent pool will become easier than ever with a range of new tools that expand collaboration for hybrid teams.

With the introduction of haptic devices, storytelling will engage all of the senses, not just vision and sound.

Storytelling will venture into personalization. Instead of creating a finite, linear product, different story modules will be combined in different ways.

Crowdsourced content, where viewers collectively decide what happens next, is gaining traction as a mainstream genre of narrative.

One-stop-shop video creation software is scaling the production of marketing materials and might soon make its way into narrative storytelling.

Digital twins of celebrities will start to expand the earning potential of their real-life counterparts.

This year, AI is moving from supporting to leading the creative process—writing scripts, creating music, and directing.

As dubbing becomes more automated, AI will translate and voice text, and also adjust the lip movements of actors to fit different languages.

# KEY INSIGHTS



## THE ARTS

The NFT market has cooled. Uses in the visual art ecosystem are still elusive, but relevance might expand in gaming, as digital tokens can be used to grant membership or unlock experiences.

Intellectual property rights are not ready to sufficiently address new forms of entertainment or the globalization of content.

Performance spaces are turning into multi-use venues that not only accommodate different audience sizes and performance needs but also house shops, food and drink establishments, and museums.

Theater productions are experimenting with different forms of audience participation and personalization, blurring the lines between video game, live performance, and film.

# KEY INSIGHTS

Virtual reality concerts will start to move from celebrity guest-stints in video games to stand-alone experiences.

Immersive art is delivering replicable works whose value lies in the cultural momentum they create, not their singularity.

AI art—still and video—is moving into the mainstream, raising questions about copyright issues and what makes art valuable.

Digital art has therapeutic effects, and health applications are emerging.

Real-time holographic projections will open up the possibility of live experiences occurring in multiple places at once.

## AMUSEMENT PARKS

Virtual reality rides in theme parks are morphing from passive, isolating experiences to interactive, social ones where guests can move freely through a space.

Smart contracts can enable demand-based bidding systems for products such as line-skipping passes, creating real-time optimization for guest experiences at theme parks.

The classic amusement park experience is expanding as companies produce not only small scale pop-ups and mega parks but also begin to integrate some of that imaginary-world feeling into consumers' daily lives via digital interactions.

# KEY INSIGHTS

Big entertainment players such as Disney and Universal aim to link their streaming with their theme park operations to provide holistic, personalized experiences.

Entertainment and education merge in museums, zoos, and other institutions that use augmented reality (AR) and VR to add interactive and gamified elements to their exhibits.

Personalized AR and VR elements in theme parks not only increase the realism of the imaginary world and pull the visitor deeper into the narrative; the technology also encourages repeat visits by making each individual experience of an attraction unique.

# ONES TO WATCH

**The Rally platform**, for helping creators monetize their followings by minting proprietary cryptocurrencies.

**Swedish startup Elk**, for enabling remote orchestra rehearsals by reducing latency to just 20 milliseconds, versus the typical 500 to 600.

**Israeli startup DeepDub**, for enabling automated dubbing of movies using deep learning and AI.

**Dr. Jonas Olofsson**, professor of psychology and leader of a research project at Stockholm University, that is developing an olfactory machine to match smells with virtual environments.

**The Content Authenticity Initiative**, for fighting misuse of content through end-to-end attribution solutions.

**Sven Bliedung von der Heide**, CEO of Volucap, for producing a mixed-reality news show that places the anchor, weather maps, and other elements into the viewer's personal environment.

**Jacob Navok**, CEO of GenVid Technologies, for creating a new entertainment genre, Massive Interactive Live Events.

**Soul Machines**, for creating photorealistic digital humans.

**Ukrainian startup Respeecher**, for re-creating Darth Vader's voice synthetically for the "Obi-Wan Kenobi" series.

**Gil Perry**, co-founder and CEO of D-ID, for creating moving and speaking digital avatars from a single photograph.

**Dr. Liang Shi**, Dr. Beichen Li, Dr. Changil Kim, Dr. Petr Kellnhofer, and Dr. Wojciech Matusik, for their research on real-time, 3D holography.

**Art and game studio Tender Claw**, for creating immersive digital theater adventures that take place in VR.

**Dr. Maria Vircikova and Matus Kirchmayer**, co-founders of Matsuko, for working on the development of 3D holographic phone calls.

**Anne McKinnon**, co-founder and CEO of Ristband, for translating the live concert experience to the metaverse.

**Michael Mack**, founder and CEO of MackNeXT, for being on the forefront of developing free roaming, localized VR experiences such as Yullbe Wonderland in Hamburg, Germany.

**Polygon**, for being included in Disney's Accelerator Program, a hint that this ethereum scaling tool may become the base blockchain on which Disney could build Web3 enterprises.

**Stability AI**, for developing open source music- and image-generating systems with other planned projects in the works, including AI models for generating language and video.

**Dawn Foote and Phil Higgins**, co-founders of Katapult, for their work to design immersive theme park experiences.

**Jongryul Kim, CEO of CJ 4DPlex**, for advancing the immersive entertainment experience through 4D movies.

**Alexa Meade and Catching Flights**, for their collaboration "Wonderland Dreams," which places viewers into a living art gallery in the heart of Manhattan.

**First Option's Cmd-Ctr**, for providing amusement parks with an innovative digital solution, resulting in a better user experience and increased visitor safety.

**Akira Fukabori and Kevin Kajitani of Avatarin**, for enabling virtual museum visits and applications for telepresence robots.

**Dominique Gonzalez-Foerster**, for her inventive uses of AR and VR to create immersive, otherworldly art installations such as "Alienarium 5."

**The Shed in New York City**, for providing an adaptive cultural meeting place that welcomes all forms of innovative art and creativity.

# STREAMING

TRENDS

## 2ND YEAR ON THE LIST

# THE NEW INFLUENCER ECONOMY

## WHAT IT IS

**The influencer economy—built around influential digital creators generating content to make money for themselves, brand partners, advertisers, and platforms—reached an estimated value of over \$16 billion in 2022. That’s more than double what it was in 2019. Influencers have long been a mainstay of platforms including Instagram, TikTok, and YouTube, and a broader ecosystem of startups is emerging to support this unique class of entrepreneurs in new ways.**

## HOW IT WORKS

In the US, Instagram leads the pack with brands spending more than \$2 billion on influencer marketing on the platform in 2022. But TikTok, owned by Chinese web giant ByteDance, surpassed Facebook last year and (barring US regulatory action) should pose a serious challenge to YouTube by 2024. Platforms continue to jockey for increasingly valuable influencers: TikTok recently enticed its creators with Live Subscriptions, a Twitch-inspired livestreaming program promising a more predictable income, as well as other potential revenue-sharing models. Snap introduced a Creator Marketplace and partnered with personalized content-on-demand app Cameo to help link brands with influencer talent to further capitalize on the creator economy. And YouTube debuted its Primetime Channels feature, allowing influencers to directly compete with cable TV programs for viewers’ attention (and the corresponding revenue). Beyond the major platforms, investors like talent agency UTA have funded creator startups such as Bounty and Rally. Bounty influencers get paid based on how well their product reviews perform. Rally helps creators monetize their followings by minting proprietary cryptocurrencies. Financial startup Karat extends credit based on metrics such as follower count and engagement rather than FICO scores, and it offers rewards points for influencer-oriented purchase categories. Creator-backed funds such as Creative Juice’s Juice Funds, launched in partnership with mega-influencer Mr. Beast, mirror venture capital funding structures.

## WHY IT MATTERS

With agencies negotiating on behalf of influencers and a suite of independent apps giving creators control over their businesses, power is shifting away from the platforms. The influencer economy is poised to eclipse traditional marketing and advertising channels, and there is no shortage of influencers on the horizon. But as brands, platforms, and individuals all vie for their piece of the growing influencer economy, a complicating factor is already entering the picture: the synthetic influencer. Unencumbered by the demands and limitations of human influencers, synthetic or virtual influencers are computer-generated characters that have already amassed social followings in the millions, agency representation, and partnerships with brands, from KFC to Samsung to Chanel.



## 1ST YEAR ON THE LIST

# DECENTRALIZED CREATIVE COLLABORATIVE

## WHAT IT IS

**Content production is in transition. The constraints of the pandemic, surging content demand from streamers, virtual production processes, and a global talent pool require creatives to use new tools and adopt fresh ways to collaborate.**

## HOW IT WORKS

Construction of traditional soundstages and virtual production stages is skyrocketing globally to satisfy the ever-growing demand for content. The decentralization of the industry outside of its main hubs invigorates local economies, such as those in New Mexico, Turkey, Australia, and Southeast Asia and increases the likelihood of hybrid teams working together. Adobe introduced the first camera-to-cloud integration last year: Red and Fujifilm cameras connect directly to Adobe's Frame.io collaboration platform and upload footage as it is being shot. Canon launched its hybrid meeting solution, Activate My Line Of Sight, which enables multiple video streams to be manipulated, initiated, or closed through gestures during a meeting. For example, remote participants can see a whiteboard, the entire room, and single participants at the same time, and fluidly join and move out of smaller conversations that develop. Alteon.io and Apple added a cloud-based workflow to Final Cut Pro, making remote collaboration accessible for smaller-budget productions. Meanwhile DaVinci Resolve 18 unveiled Blackmagic Cloud for collaborative work sessions and cloud-based project libraries. In the audio realm, Swedish startup Elk's Aloha enables remote rehearsals by reducing latency to just 20 milliseconds, versus the typical 500 to 600.

## WHY IT MATTERS

Increased remote collaborative capabilities make productions quicker and cheaper—and can increase the quality and value of content at the same time. Thanks to the democratization of creative tools, talent pools have increased globally. Paired with the rising content demand and options for distribution, this provides the opportunity to showcase a greater variety of voices from different cultural and demographic backgrounds.

## 1ST YEAR ON THE LIST

## IMMERSIVE NARRATIVES

## WHAT IT IS

**As the capabilities of our technical devices expand, consumers don't just watch their favorite content, they experience the narratives with all—or most—of their senses. Spatial audio, volumetric video capture, and haptics allow us to hear, feel, and see the action, transforming us into participants rather than spectators of the events happening on our screens.**

## HOW IT WORKS

A vest from Spanish company OWO replicates a variety of sensations, such as the feel of wind, a hug, or a gunshot. Pebble Feel, a device that users strap on their backs, simulates hot and cold temperatures. An olfactory machine developed by Stockholm and Malmö universities matches smells to virtual environments. In Germany, the number one news program, "Tagesschau," collaborated with volumetric video company Volucap to produce a mixed-reality episode that places the news anchor, weather maps, and other elements into the viewer's personal environment. Metastage has collaborated with HBO on the reality competition "Finding Magic Mike." Viewers can experience private dances of contestants and express their gratitude by raining pink dollars. And Las Vegas' MSG Sphere will incorporate 4D elements in content screenings, including wind and scent. In 2022, TodayTix bought London-based Secret Cinema, which takes an analog approach to immersion and turns movies into a theatrical experience: Events take place in secret locations where the world of the movie is re-created and attendees dress up and blend into the film's universe.

## WHY IT MATTERS

Immersive technologies have made inroads in gaming and metaverse experiences, where the desire to create a lifelike environment naturally pushes development. However, as consumers become accustomed to multisensory engagements, and enabling hardware becomes more accessible, expectations might shift in other areas of entertainment. This provides additional layers for storytelling: What does a location smell like? Where is the sound coming from? Is it windy or hot? Creatives will need to design olfactory, sense, and spatial elements, just as sound and production is designed now. Incorporating these aspects in storytelling will also potentially help bring viewers back into the cinema, where the sensory experience can be better controlled and the necessary hardware can be made available.

## 1ST YEAR ON THE LIST

## PERSONALIZED CONTENT

## WHAT IT IS

**Stories are evolving from finite products to flexible formats consisting of a variety of modules that can be combined in a near infinite number of ways. AI-assisted writing can adjust plotlines automatically to fit the viewer's taste profile, based on such data as a person's past viewing choices, browsing history, and favorite online publications.**

## HOW IT WORKS

While AI-driven customization of content has yet to be deployed, interactivity is rapidly becoming more advanced. Full motion video and interactive film hybrid "The Gallery," screened at last year's Dinard Film Festival in France, consisted of five hours of content with 150 branches and 18 different endings. Amazon's Create AI tool, announced in 2022, allows children to customize animated characters that Alexa creates storylines around and that can be further personalized using AI tools. J.J. Abrams' Bad Robot Games aims to create games that are just as engaging to watch as they are to play. Netflix, which ventured into interactive entertainment in 2018 with its "Black Mirror: Bandersnatch" film, has expanded its offering over the past few years. "Ranveers vs. Wild," "Cat Burglar," and the romantic comedy "Choose Love" are its latest contributions to the genre, and the episodes of its heist show "Kaleidoscope," which launched New Year's Day, can be watched in any order. NBCUniversal's Peacock also started to dip its toes into interactive waters and will give viewers the option to access behind-the-scenes contextual content while watching the third season of "The Real Housewives."

## WHY IT MATTERS

Modular narratives require exponentially more material to be shot than linear storytelling. This inflates costs and production time. It also changes the kind of control that directors, producers, and writers can exercise over their product. Their work becomes an environment and narrative setup in which a variety of actions can take place—similar to what a game designer provides. While personalized movies and series have the potential to lead to increased viewership, the form might also make it challenging for content to gain the level of cultural significance it enjoys today in a more fractured, on-demand consumption landscape. If everyone consumes different versions of a narrative ecosystem, the foundation for a broader societal discussion shrinks or changes, possibly hindering the exploration of important, controversial topics.

## 1ST YEAR ON THE LIST

# MASSIVE INTERACTIVE LIVE EVENTS

## WHAT IT IS

**Massive interactive live events (MILEs) are a hybrid between TV shows and video games. The storyline unfolds continuously over several weeks, and viewers can interact with the livestream to influence the action. The experience is designed to be as engaging for passive viewers as for actively engaged ones.**

## HOW IT WORKS

The first MILE aired on Facebook in 2021. “Rival Peak” emulated a reality TV show and placed 12 AI characters in an animated version of the Pacific Northwest. The live audience needed to help characters survive by getting them to perform necessary tasks. The show received 200 million engagements and 100 million minutes watched throughout its 12-week first season. GenVid Technologies, the company behind the MILEs, launched “The Walking Dead: Last Mile” in the fall of 2022. The committed fans of that beloved franchise could drive the story of this chapter, in which a coastal Alaskan community must fight off an army of zombies. Other activities included playing interactive mini games, exploring new locations, and connecting with other fans.

## WHY IT MATTERS

Two-way storytelling provides a new tool set to the creative community, by asking both sides—creator and consumer—to rethink what they are hoping to gain from and contribute to their respective experiences. Different stories will lend themselves to different degrees of relinquishing control and different forms of consumption, opening up doors for endless experimentation. This new hybrid will also cross-pollinate audiences between gaming and streaming and create new business opportunities for existing titles on both sides. Another advantage of participatory narratives: What happens will be novel and different each time an experience is launched, keeping the fan community continuously engaged.

## 1ST YEAR ON THE LIST

## DIGITAL CELEBRITIES

## WHAT IT IS

**They're never tired, always available, and don't get into trouble. Digital celebrities promise to solve the many shortcomings of their human versions. As digital twins of flesh-and-blood celebrities, or as completely original creations, they allow human stars to focus on projects they love and therefore increase their potential earnings.**

## HOW IT WORKS

Some celebrities already have unofficial digital twins. Tom Cruise, Keanu Reeves, and Robert Pattinson's deepfakes, made using synthetic media that relies on deep learning to re-create someone's likeness, all have their own (unauthorized) TikTok accounts. As the technology matures, companies are teaming up with celebrities to create official versions, too. A deepfake version of Bruce Willis was used in a 2021 Russian phone advertisement. And Chinese actor Gong Jun released a music video on Weibo that featured his digital twin.

In the music industry, Hume created Angelbaby, a singing rabbit the size of a human, and is planning to expand to a whole roster of virtual talent. Last year, Capitol Music Group signed FN Meka, a digital rapper, making it the first time a major label took a digital talent under contract. There was intense backlash because the creation was perceived as promoting negative racial stereotypes, and the label immediately severed ties.

## WHY IT MATTERS

Digital twins of human celebrities offer completely new engagement opportunities. The virtual copies can replicate stars at a younger or older age, depending on what best fits a movie or advertising project. Personalities of digital copies can be adjusted to spark entertaining interactions between the real and the unreal versions. Original virtual creations avoid some of the pitfalls of digital twins, such as the uncanny valley effect. However, all digital celebrities carry the risk of being hacked—or being illegally duplicated.



## 4TH YEAR ON THE LIST

## AI-ASSISTED CREATIVITY

## WHAT IT IS

**AI is transitioning from supporting creatives in their workflows to providing the foundational ideas for projects. As generative AI creates screenplays, music scores, and even leads cinematography and directing services, what should be considered artistic expression? Further, does it even matter whether a piece is created by a human or a machine?**

## HOW IT WORKS

Both Google and Meta released text-to-music AI in 2020, first steps in automated music scoring. A suite of AI tools analyzed Federico Fellini's oeuvre and created "Campari Red Diaries: Fellini Forward," a film that emulates the iconic director's style and premiered at the Venice Film Festival in 2021. While a team of human creatives monitored and influenced the output, the result is a glimpse of the pivotal role technology might play in the future. The quality of text-to-video AI applications is still far from professional, but the speed of development is exponential. Meta's "Make-a-Video," Tsinghua University and Beijing Academy of Artificial Intelligence's "Cog Video," and Google's "Imagen" were all released last year. Netflix is using multimodal machine learning to analyze its content and help editors and directors make creative choices that resonate with audiences. A grassroots approach to AI moviemaking can be found on Twitter: @SALT\_VERSE's Fabian Stelzer uses text-to-image and voice-generation AI, along with a script generated by GPT-3 and adjusted based on audience sentiment, to create an ongoing, episodic science-fiction movie.

## WHY IT MATTERS

Besides its impact on production processes and budgets, using AI as an originator of creativity requires new skills from human creatives, who shift into the role of supervisor refining and monitoring outputs. Marketplaces have developed that offer wording suggestions for text-to-image AIs such as Dall-E and Stable Diffusion. This is comparable to purchasing specific actions or filters for Adobe's Photoshop. As we outsource artistic expression to AI, how do viewers' relationships to the resulting products change, if at all? How will AI creativity affect the value of content if movies are produced in a matter of days instead of months or years? So far, art has been an essential way for us to share our human experience—will we care if we hand over that conversation to a nonhuman entity?

## 3RD YEAR ON THE LIST

## AI-GENERATED VOICE ACTING

## WHAT IT IS

**AI systems can now take a movie's dialogue and dub it into multiple languages, re-creating actors' original voices. With synthetic media applications adjusting lip movements to fit the spoken words, authentic localization of content can now be achieved quickly and cost-efficiently.**

## HOW IT WORKS

"Every Time I Die," a 2019 American thriller, was the first movie to be dubbed into Spanish and Portuguese using AI voices using DeepDubs' algorithm. The company's more recent work includes the English version of the Portuguese drama "Vanda," which screened at the 2022 Berlin Film Festival. Researchers at Nvidia developed a deep learning system that allows users to fully control the facial expressions of an actor on the screen—a technique that could be used to adjust an actor's lip movement in post-production to fit the language they are "speaking." Beyond dubbing, AI's growing capability to generate authentic, emotive voices has enabled one of cinema's most iconic moments of 2022: Val Kilmer's reunification with Tom Cruise in "Top Gun: Maverick." Sonantic worked with Kilmer, who lost his voice after throat cancer treatment, to create a vocal clone. Meanwhile, James Earl Jones, who voiced Darth Vader for over 40 years, gave Ukrainian startup Respeecher the permission to synthetically re-create his voice. The results can be heard in last year's "Obi-Wan Kenobi" series.

## WHY IT MATTERS

Streamers have increasingly taken a global approach to content distribution, asking for global rights and producing content with global casts. Audiences' interests have diversified as well, moving away from tentpole content. Just look at the popularity of "Squid Game" in the US or "RRR," a Telugu-language film that was the highest opening-day earner in South India in 2022—a spot usually reserved for a Bollywood production. AI voice dubbing can make it easier to meet this demand for localized content. The technology can also amplify the impact of such content: Viewers are able to recall dubbed material much better than that with subtitles.

## 4TH YEAR ON THE LIST

# AUTOMATING CONTENT PRODUCTION

## WHAT IT IS

**Text-to-video solutions enable companies to scale their corporate communication and marketing messages. As these bundled AI solutions become increasingly sophisticated and affordable, they will find their way into increasingly ambitious creative endeavors.**

## HOW IT WORKS

D-ID can create a moving avatar from just one photograph of the person to be digitized. South Korean company DeepBrain allows a user to simply upload a script, select a language, and then watch as an AI model presents the information with a human-like voice and body language. Chinese startup Surreal's current focus is swapping out the faces, voices, and language of actors in videos. The company, which works mainly with clients from the e-commerce sector, plans to expand to animating clothing. On the consumer side, Microsoft announced last October that it integrated Dall-E, an AI text-to-image platform, into its Designer app. It also launched Clipchamp, a free video editor. Adobe announced Project Blink, an AI-powered video editor that doesn't require Premiere Pro skills. Soon, AI text-to-video technology will be integrated as well, further scaling the impact of these tools. The progress in re-creating authentic-sounding and authentic-looking humans in the digital space is astounding. Working with Tokyo's University of Agriculture and Technology, Google helped develop WaveFit, a neural vocoder (a device that synthesizes the human voice) that can achieve natural human speech 240 times faster than earlier technologies, to aid with text-to-speech and speech-to-speech translations. Meanwhile, Epic's Meta Human Creator can now import face scans or other 3D captures of real people to create realistic avatars.

## WHY IT MATTERS

While long-form narrative content is far from being produced with a single push of a button, the increasing number of end-to-end solutions, bundling algorithmic voice and image technologies, will be accessible and increasingly utilized by budget-conscious companies, members of the creator economy, and regular consumers. The ease of use and rapidly improving quality of these tools will further heat up competition for viewers' attention.

TRENDS

# THE ARTS



## 2ND YEAR ON THE LIST

## BLOCKCHAIN ART MARKET

## WHAT IT IS

**Blockchain technology is redefining the digital experience of creating, authenticating, acquiring, owning, and investing in art. But if 2021 was the blockchain art market's boom, fueled by a perceived NFT "gold rush," then 2022 was the year it went bust.**

## HOW IT WORKS

In 2021 the art market experienced a tech-inspired craze with the introduction of non-fungible tokens (NFTs), digital works that offer ostensibly secure proof of ownership despite the images themselves being replicable. Purchased in marketplaces such as OpenSea, SuperRare, and Nifty Gateway, these digital works attracted collectors and investors convinced NFTs would be the future of art. Enthusiasm surrounding the metaverse, the virtual realm where NFTs can be displayed and engaged with, further fueled the market. These easily "minted" digital artifacts quickly became ubiquitous in collectible categories that went far beyond art, including sports memorabilia, gaming items, fashion pieces, and even noteworthy tweets. Some NFTs created by the artist Beeple, for example, or from popular themed series like Crypto Punks and Bored Ape Yacht Club, fetched tens of millions from eager buyers. But as the hype dissipated, and many began to question the functional value of NFTs, at least for the foreseeable future, a crash felt all but inevitable. By 2022, average NFT value was plummeting, and transaction volume on one of the most popular NFT marketplaces, OpenSea, had fallen by an eye-watering 90%.

## WHY IT MATTERS

Now that the so-called honeymoon period has passed, NFT creators and investors are seeking to realize the theoretical value of the format, beyond its mere novelty. Blockchain technology is shaping the market for virtual art, enabling the tracking of works, the verification of their provenance, protection from counterfeiting, and the ability for creators to receive royalties from successive sales of a work. But until the virtual art ecosystem has matured to the point where NFTs can serve a valuable function, they may find a more fruitful testing ground in thriving virtual ecosystems such as gaming. Yuga Labs, for example, the company that created Bored Ape Yacht Club, is parlaying a \$450 million round of fundraising into the creation of a massive multiplayer online game titled "Otherside" in which their NFTs can bestow characters with unique abilities or in-game virtual real estate, unlock levels or exclusive experiences, or grant membership to a particular team of players. The whiplash experienced by NFT investors should be enough to scare off the average speculator, but those committed to the format and unfazed by market volatility may still see value in its future, especially at the intersection of art and gaming.



## 2ND YEAR ON THE LIST

## PROTECTING CREATIVITY

## WHAT IT IS

**The state of intellectual property (IP) rights is uncomfortably undefined. Global distribution requires harmonization of various copyright laws, new digital realms and usages require regulation, and AI-generated art poses questions about who and what can be protected by law.**

## HOW IT WORKS

In *Miramax v. Tarantino*, the studio argued that Quentin Tarantino did not have the rights to sell NFTs relating to “Pulp Fiction,” which he both wrote and directed. The parties settled out of court in 2022, so any clarity about IP rights remains unresolved. Measures to protect creators and define a regulatory framework have begun to take shape: The World Intellectual Property Organization commissioned a global study to identify potentially infringing uses and practices in video games, and the Content Authenticity Initiative, which counts BBC, Deutsche Presse-Agentur, and Adobe among its many members, aims to fight misuse of content through end-to-end attribution solutions. Leica and Nikon have collaborated with Adobe to build content authenticity into their cameras so that creators are permanently attached to their creations from the moment of capture. Whether an AI tool can hold a copyright or its outputs can be protected by law differs by country. The US and UK do not protect AI, while Australia and South Africa do.

## WHY IT MATTERS

What kind of IP laws exist and how they are enforced directly impacts creators' ability to earn money and therefore holds fundamental importance to creative industries. The lack of clear regulation not only invites abuse by powerful players within the content ecosystem but also disincentivizes artists, who may worry about their work being abused. *Gonzales v. Google*, a case waiting to be heard by the US Supreme Court, has the potential to shift how IP rights will be enforced online. The court must decide whether publishers can be held responsible for content that their algorithms suggest to users. If the answer is affirmative, that would inhibit online platforms from hosting any content that could break a law, including copyright laws.

## 1ST YEAR ON THE LIST

## MULTI-USE SPACES

## WHAT IT IS

**Although traditionally not thought of as a technology, physical spaces are becoming more hybrid, giving artists free rein on the built environment and resulting in adaptable experiences for viewers.**

## HOW IT WORKS

Nearing completion, the Perelman Performing Arts Center in Manhattan will boast 11 performance venue arrangements within a 138-foot-tall structure at the World Trade Center complex. The reconfigurable space will host a wide variety of live performances and events and accommodate digital technologies that enable high-definition broadcasts of shows for remote viewing. The stage can adapt its space to accommodate a crowd of 99 or 1,200. A predecessor in this domain is The Shed, also in New York. Its interconnected spaces enable variable, simultaneous programs. With its convertible outer shell, the space can adapt in little time, providing variable light, sound, and temperature conditions. Ultimately, the space is designed for flexibility, being able to adapt to the demands of live performances in the future.

## WHY IT MATTERS

According to architect Chafik Gasmi, when physical spaces become dynamic or hybrid, then stores, restaurants, bars, museums, theaters, and hotels must no longer be separate entities; they can become fully integrated experiences. Interactive spaces will no longer be inert but must change with frequency to keep viewers and customers engaged. The role of employees in such spaces will change as a result, requiring cross-functional skills and training that enable the workforce to be flexible, while catering to a broad range of consumer engagements. As physical spaces become more adaptive, they will usher in new forms of entertainment and new ways for it to be consumed. When space can be adapted in real time, property managers can increase its monetization by repurposing the square footage to offer different products at different times of day.

## 1ST YEAR ON THE LIST

## FUSION THEATER

## WHAT IT IS

**Theater companies are experimenting with varying degrees of audience participation, alternate realities, and both persistent and ephemeral world building. The result is not merely a hybrid theater experience but an emerging new artform.**

## HOW IT WORKS

Danish theater company Fix & Foxy created “Homeparty,” an in-home audio experience for groups of six to 10 people who receive role-play direction through earphones. “Is Anybody Home?” is a collaboration between Berlin-based theater company Gob Squad and the Volksbühne, an interactive experience where a guest can play a role in a film being projected at the same time. Academy Award-winning director Danny Boyle will direct an immersive dance performance titled “Free Your Mind” that is based on “The Matrix” and will be out this fall. Boyle’s project promises to “stretch across the building’s spaces and respond to them, harnessing the collective energy of the moment.” Los Angeles-based Tender Claw has created two immersive digital theater adventures—“The Under Presents” and “Tempest”—that take place in VR during set performance times. Audience members wander through the digital world among virtual beings—some of them actors, some artificial characters—and can influence the evolution of the narrative.

## WHY IT MATTERS

New theater experiences aim to draw new audiences—younger people as well as those who are challenged to get to an actual theater, be it for physical or other restrictions, such as time or distance. Digital technologies open up new forms of storytelling. Educational institutions, along with theaters and private companies, are providing extensive resources to a new generation of theater creatives, allowing them to explore fresh avenues of creativity and ensure that hybrid experiences are here to stay. However, creating narratives in virtual and augmented reality is quite costly and requires large audiences to pay for itself—or else the industry will have to wait for the technology to mature. Odeon Theatrical, which helps theater companies easily introduce AR into their productions, is one effort to scale the new forms.

## 1ST YEAR ON THE LIST

# HOLOGRAPHIC LIVE PERFORMANCES

## WHAT IT IS

**Live acts are freeing themselves from location-specific constraints. Volumetric capture and ubiquitous high-speed connectivity promise to replicate performances in real time to any venue.**

## HOW IT WORKS

"Abba Voyage," created by George Lucas' Industrial Light & Magic, used a form of the famous Pepper's ghost effect to bring younger versions of the Swedish band's performers back to the stage. A hologram of Freddie Mercury sang on Queen's "Rhapsody" tour, and "An Evening with Whitney: The Whitney Houston Hologram Tour" kicked off a residency in Las Vegas. To be fair, celebrity holograms have been around since the appearance of a posthumous Tupac at 2012's Coachella festival. What is new is the development of real-time hologram creation: Researchers at MIT have discovered a method, using the computing power of consumer equipment, to create photorealistic 3D holography with deep neural networks nearly instantaneously. A global device partnership between Deutsche Telekom, Orange, Telefónica, Vodafone, and Slovakian deep tech company Matsuko is exploring solutions to enable 3D holographic phone calls. Paired together, these developments could soon enable global real-time holographic versions of a live performance.

## WHY IT MATTERS

Amplified by the rising costs of touring and the health insecurity of the pandemic, big ticket acts have reduced their world tours to a small selection of cities per country, forcing their fans to come to them: Harry Styles' North American tour included 42 shows in just five cities. Residencies in Las Vegas continue to be popular: Adele, Usher, and Katy Perry are among the acts opting for more permanent performance homes there. Offering fans an actual live experience closer to home provides the opportunity to multiply the earnings potential for every concert given, even if the projected concert tickets are sold at a lower price point.

## 1ST YEAR ON THE LIST

## VIRTUAL REALITY CONCERTS

## WHAT IT IS

**Virtual reality concerts first gained popularity during the pandemic to make up for canceled shows. Now they are evolving into their own category of entertainment, providing more intimacy with performers and new opportunities for smaller acts.**

## HOW IT WORKS

Megan Thee Stallion's "Enter Thee Hottiverse" tour brought a virtual reality experience to venues across the US. Guests would access the concert through VR headsets and see the star performing a few feet away, creating a much more intimate experience than is possible in an actual venue. Taiwanese company Beatday creates a virtual environment and captures an artist's performance with volumetric video. Fans can buy tickets to view the recorded performance, which like a real-life event is only accessible at a certain time and day in the virtual environment. Ristband, currently in alpha, aims to enable video livestreams inside virtual venues and allows 2D or 3D capture of performances to unlock advanced effects.

## WHY IT MATTERS

VR concerts free up artists' time for additional revenue-generating activities. They also have a higher return on investment than real-life concerts. Rapper Travis Scott allegedly made \$20 million for his Fortnite concerts a few years ago, compared to \$1.7 million for an in-person event. Monetization opportunities include merchandise and experiences. And the gaming environment presents natural crossover potential. As companies explore opportunities to make VR available to smaller bands, those artists will potentially be able to connect with and monetize their audiences without having to go on tour.



## 1ST YEAR ON THE LIST

## IMMERSIVE EXPERIENCES

## WHAT IT IS

**Installation artists have long developed fully immersive multisensory experiences, pulling viewers into alternate realities and new worlds. Now they have a slate of new technologies at their disposal to heighten these experiences, blurring the lines between physical and digital realms.**

## HOW IT WORKS

Alienarium 5, an exhibition by Dominique Gonzalez-Foerster, uses technologies such as AR and VR to produce images of holographic aliens and simulations of extraterrestrial life. The experience is further enhanced with sound and smell. Ohio-based Otherworld offers 32,000 square feet and 47 interactive rooms including bioluminescent landscapes and imaginative playgrounds. In New York, "Wonderland Dreams" is an immersive 3D painting created by artists Alexa Meade and Catching Flights. Emulating "Alice's Adventures in Wonderland" and called the "largest continuous painting in the world," the piece allows visitors to step into the physical space that the fictional painted landscape occupies. Walt Disney has partnered with Lighthouse Immersive, the company behind exhibits like "Immersive Van Gogh" and "Immersive King Tut," to launch a live experience celebrating several iconic animated franchises. Lasting 60 to 90 minutes, the exhibit allows guests to interact with different displays and be immersed in projections and screens that depict how an animated film is created.

## WHY IT MATTERS

Unlike traditional museums, immersive installations do not rely on displaying rare objects that can be present at one location at a time. These works of art can be reproduced on an industrial scale. If the material is licensed, it can theoretically be displayed anywhere in the world at the same time, creating a cultural momentum not previously possible. Immersive art functions less like a museum or gallery and more like a tech platform, enabling a large-scale collective experience. While many immersive art experiences have been temporary, a venue in London called Frameless is the first permanent space of this kind. Investors have already latched on: Goldman Sachs led a funding round that pulled in \$227 million for Fever Labs, the company that created "Van Gogh: The Immersive Experience." This marks the largest-ever round of funding for a live-entertainment startup.

## 1ST YEAR ON THE LIST

## AI-GENERATED FINE ART

## WHAT IT IS

**Generative AI tools are both more sophisticated and easier to use than ever. Relying on advances in machine learning, they are changing how art is created and thereby challenging the concept of the artist—and of art itself. A user-entered prompt generates art in a range of styles and, increasingly, mediums.**

## HOW IT WORKS

An AI-generated artwork was, for the first time, awarded the top prize in a competition. Theatre D'opera Spatial was one of 900 renderings created using Midjourney. Supporters claim that the tool is analogous to software like Photoshop and that human ingenuity is necessary for creating award-winning prompts and curating results. Marketplaces such as Prompt-Base exist for creators to buy and sell prompts, enabling users to more precisely bring about their visions. Getty Images and Shutterstock had contrary reactions to the new medium: While Getty sued the companies behind the AI art tools, Shutterstock opted for a collaborative solution. AI-produced images are becoming mainstream, with the first-ever AI-generated magazine cover seen on Cosmopolitan. Meanwhile generative video is making major progress with the announcement of Google's and Meta's systems. Some artists, such as KATSU, are integrating AI by utilizing drones trained on machine learning to create paintings.

## WHY IT MATTERS

AI-generated art raises complicated legal questions around copyright and ethics. The material scraped off these programs is often done without permission or proper attribution to creators. These tools could potentially be used to create offensive material, spread misinformation, or perpetuate negative biases and harmful stereotypes. They could also aid in the creation of propaganda or extremely realistic deepfakes. While some of the systems have built-in user guardrails, concerned experts have called for additional government regulation in the space.

With the increased ease of generating art, the debate continues over whether these tools will cost human artists and other creatives their jobs, or whether the technology will lead to an explosion of new opportunities. In any case, by making creativity more accessible, generative AI will change our relationship with the visual environment and dramatically expand the number of people able to create and experiment with art.

## 1ST YEAR ON THE LIST

# ART PLATFORMS BUILT TO IMPROVE MENTAL HEALTH

## WHAT IT IS

**Though studies show a relationship between increased time spent viewing digital screens and adverse effects on someone's state of mind, the versatility and convenience of technology has enabled new applications of art in the service of mental health.**

## HOW IT WORKS

By all accounts, the COVID-19 pandemic took a toll on the mental health of large portions of the global population, in part by isolating them from activities that would otherwise help them maintain psychological well-being. One such activity, viewing art, has been widely linked to improved mental health when experienced in person. But a 2022 study published in the peer-reviewed journal *Frontiers in Psychology* found that virtual art also conveyed these psychological benefits. A mere one to two minutes of exposure to art via Google's Arts & Culture platform led to alleviation of negative mood and anxiety in the study's subjects, and an increase in mental well-being. The study's conclusions provide encouraging signs that the therapeutic value of art may not be negated by digital barriers, and thus could provide dynamic non-pharmaceutical treatment to those constrained by physical or circumstantial limitations.

## WHY IT MATTERS

According to the Aspen Institute, trust in the US medical system dropped from 80% to 37% from 1975 to 2015, and the pandemic response has cast further doubt on health care institutions for many. As a result, we may see growing demand for unconventional health treatments, particularly those facilitated by modern technology. There may even be instances when art therapy can make use of innovative digital formats to achieve greater effects than its analog equivalent. At least one study shows that adolescents and children, who view digital media as a "native language," may be more comfortable engaging with and expressing themselves through therapeutic art in virtual reality than with traditional mediums. In another case, a pilot experiment by a researcher at the Indiana University School of Medicine showed that allowing recovering addicts to converse in virtual reality with a future version of themselves—one that demonstrates the effect of present-day substance abuse decisions—helped prevent relapse during vulnerable periods. While this may not fall into any traditional definition of art, it is a promising combination of creative technology and psychological science to improve the mental health of patients.

# AMUSEMENT PARKS

TRENDS

## 1ST YEAR ON THE LIST

# FREE ROAMING IMMERSIVE ENTERTAINMENT

## WHAT IT IS

**New virtual reality entertainment experiences use the technology for localized social activities that stimulate all the senses, enabling customers to fully immerse themselves in artificial worlds.**

## HOW IT WORKS

Dreamscape, which counts Steven Spielberg and Imax among its investors, provides stand-alone entertainment experiences outside of theme parks around the world. The company's latest endeavor, "Men in Black: First Assignment," launched at the end of 2021 and allows small groups to roam through large-scale sets, using body-mapping and motion-capture technology for a realistic experience. Industry giant Technifex launched Technifex XR with a focus on producing atmospheric effects such as scent, wind, and mist that are activated by guest activities. The company also works with the US military to create realistic training scenarios. Technifex's latest product, Sensory Floor, is a modular floor system that can initiate effects through a wide variety of methods, including leg ticklers and low-frequency rumbles. In Hamburg, Germany, "Yullbe Wunderland" opened in April 2022 in collaboration with Europa Park. The experience allows participants to "shrink" to miniature size so they can dive into the world of the largest model railroad ever created. Up to six people wander through a 250-square-meter space, each wearing a backpack computer, VR headset, helmet with infrared sensors, microphone, headphones, and hand and foot trackers. Data from this uniform, as well as from 150 cameras in the room, combines with data from other users to enable collaborative sensory experiences.

## WHY IT MATTERS

VR creates a variety of operational challenges for amusement parks, including motion sickness and longer wait times due to equipment fittings and hygiene protocol. The technology also introduces a more fundamental challenge. As it gets widely deployed, it can create an isolating experience and runs contrary to what guests are coming to enjoy, yet free-roaming, social, immersive VR checks all the boxes for an ideal family adventure: collaborative, immersive, and action-based, it allows visitors to escape reality and enter into an extraordinary adventure they cannot replicate at home.

## 1ST YEAR ON THE LIST

# BLOCKCHAIN-POWERED PARK OPERATIONS

## WHAT IT IS

**Web3 disruption is on the horizon for operations and business in the theme park industry. Digital assets, smart contracts, and the blockchain provide the potential for increased security and efficiency in ride maintenance, ticketing, and currency.**

## HOW IT WORKS

Disney included ethereum scaling tool Polygon in its Accelerator Program, a hint that Polygon could become the base blockchain on which Disney could build Web3 enterprises. Blockchain technology could offer a secure option to prevent ticket price gouging and fraud. NFT ticketing protocols could make it easier to integrate legitimate add-ons into prices. Line-skipping passes can be controlled through smart contracts via a demand-based bidding system. Smart contracts could be utilized for better tracking and management of ride issues.

There is a future for decentralized finance in parks, potentially creating a park-specific currency that is more secure, flexible, and simple. PortAventura World, the resort with the most theme parks in Europe, announced that it will become the first to accept cryptocurrency payment, starting with bitcoin.

## WHY IT MATTERS

The possibility that blockchain could add a new infrastructure layer to enterprise architecture and replace traditional contracts and payment systems, holds much potential for theme parks and their operations. However, Web3 infrastructure is still nascent and comes with issues around sustainability, reliability, and integration. Mining and trading many cryptocurrencies consumes vast amounts of energy. As sustainability differences among Web3 platforms shift, parks should ensure they are using energy-efficient versions of these technologies. The regulatory environment around Web3 is at best unsettled, as illustrated by Dragonchain, a dropped blockchain experiment by Disney. The Securities and Exchange Commission recently sued Dragonchain, alleging that \$16.5 million of crypto sales were illegal securities offerings.



## 1ST YEAR ON THE LIST

# ASSISTIVE AMUSEMENT PARK ROBOTS

## WHAT IT IS

**Enhancing the guest experience at theme parks is not just limited to data collection, applications, and customer experience management systems. Enter the latest generation of theme-park robots, which go beyond animatronic experiences to also enhance service touchpoints and operations.**

## HOW IT WORKS

Robots-as-a-Service are coming to interactive exhibits and theme parks. Japanese startup Avatarin uses robots powered by an edge AI platform to serve as surrogates for remote visitors. The bots can be steered remotely from a user's home computer, allowing the virtual guest to experience museums from anywhere in the world. No stranger to the use of robots at its parks, Disney has several applications in the works, including soft robots that provide interactive guidance or entertainment to guests in its stores, humanoid robots that can conduct stunts to allure audiences, and drone displays and shows by Dronisos that light up the night sky. Disney has even submitted a patent for what it calls a Robotic Sherpa, essentially a moving locker system that would autonomously follow guests around the premises, storing their items. Meanwhile, Universal filed a patent for an edible soft robotic system, which is exactly what it sounds like. Imagine an edible Santa Claus doing a dance on your plate before you eat him.

## WHY IT MATTERS

Robots are not new to amusement parks—Disney has been using robots, primarily animatronics, since nearly its inception. What is new is the breadth and quality of activities these machines can provide. In the near future, each guest could have their own personal robot guide, carrying purchases, holding conversations, adjusting itineraries in real time, and sharing experiences with loved ones who weren't able to join. But robots will not just be limited to customer-facing aspects of the parks. Disney has also set its sight on robots capable of sculpture and fabrication. As this technology advances, theme parks could use these machines to build structures within their resorts. If Tesla's Optimus robots perform as promised, or even close to it, autonomous humanoid robots could eventually pervade both back-of-house and front-of-house operations of resorts, theme parks, and museums.

## 1ST YEAR ON THE LIST

# IMMERSIVE AMUSEMENT PARK EXPERIENCES

## WHAT IT IS

**The concept of the amusement park is evolving and expanding to meet the expectations of increasingly tech-savvy visitors, who skew younger and higher-income than before. Increasing competition is leading to the proliferation of new and enhanced offerings. Parks are becoming all-encompassing worlds, offering a diversity of experiences.**

## HOW IT WORKS

The “Explorer R” Experience Hub, a decentralized theme park prototype combining AI and the blockchain, opened in China in 2021. Visitors create an avatar through a process involving 3D scanning, image recognition, and gesture mapping, and their positions are tracked as they explore and engage with the virtual world, including branded experiences. Some parks leverage partnerships, like KidZania, a Netflix Content Studio Pavilion in Japan. Other experiential pop-ups, also driven by branded IP, provide fun at a smaller scale. Some activations, such as House of the Dragon’s “Dragon Den” at Comic Con, offer existing fans deeper engagement. On the other end of the size spectrum, mega parks continue to provide a one-stop amusement shop. Qiddiya in Saudi Arabia bills itself as “a disruptive destination that offers innovative and immersive experiences integrated on a scale never seen before.” Storyliving by Disney’s residential communities will soon open, inviting fans to live among the Disney magic.

## WHY IT MATTERS

As fun is more and more attainable via technology at home, choosing to venture out to an expensive park is a weightier decision. As personal spending on experiences continues to bounce back from COVID disruption, parks offer an opportunity to bring people together and provide a memorable collective experience. As climate change worsens, people may even look to theme parks to engage in natural experiences that will be harder to encounter in the wild. And as regulatory environments change, a shift to more experiences in temporary locations may provide companies flexibility to operate in places that align with their values.

## 1ST YEAR ON THE LIST

## INTUITIVE OPTIMIZATION

## WHAT IT IS

**Existing theme park customer platforms, mobile apps, and wearables provide an evermore optimized and personalized experience to park visitors, thanks to AI and Internet of Things technologies. The next frontier is connecting these platforms to data outside the park ecosystem for even greater personalization and user-friendliness.**

## HOW IT WORKS

Disney launched “Hey Disney,” a connection between its Genie AI and Alexa that offers interaction with Disney-owned characters and connects to its MagicBand+. Alpine Media offers the option to scan a QR code and communicate with the park via text messages, opening up another avenue into a visitor’s digital life outside of the park ecosystem. Disney announced in October 2022 that Disney+ would morph into an experiential lifestyle platform that enables data exchange between its park and streaming services, while providing a more personalized experience in both. Both Universal Studios and Disney filed patents that transmit data about personal preferences from guest wearables to park entities—staff, for example, could communicate accordingly or trigger customized experiences. The two companies also have plans to bring their parks into virtual realms. Former Disney CEO Bob Chapek expressed the goal to make Disneyland accessible to everyone, not just those who are physically in the parks, and Universal and Meta just announced a multiyear partnership that would include developing experiences around the theme parks.

## WHY IT MATTERS

If theme parks can extract data from additional sources, the opportunity to personalize the entire park experience—planning, visiting, and remembering—increases significantly. From the way staffers interact with guests to meal recommendations, itinerary planning, and favorite character meetups, everything can be adjusted without the guest having to deliberately state a preference. As personalization options expand, rides, projections, characters, robots, and extended reality experiences can be molded based on individual customer data. If theme parks fully embrace a presence in the metaverse, it could lay the foundation for an entirely new form of experiencing theme parks, one that’s not bound by real-life limits such as lines, hours of operation, or weather.

## 1ST YEAR ON THE LIST

# REINVENTING THE QUEUE EXPERIENCE

## WHAT IT IS

**No one likes waiting in line. Virtual queues give theme park guests control over their destiny and more free time to explore, be entertained, and spend money. Theme parks, in turn, get more revenue, happier customers, and data to track traffic patterns.**

## HOW IT WORKS

Disney's paid Genie+ service lets guests book ride reservations through an app so they can arrive during a scheduled window and skip the line. Variable pricing for this privilege changes depending on how busy the park is. The overwhelmingly popular service is subject to availability, and not all rides are eligible. Guests can also pay to skip the line at individual rides by purchasing a Lightning Lane pass. App-connected MagicBand+ microchip wristbands track guests as they travel the park and grant access to attractions. Booking software platform Xola uses timed entry to track busy periods and staff accordingly. Manageable crowd size enables social distancing and reduces the need for additional staff to manage lengthy queues. Park apps help guests join and manage their spots on virtual lines, get accurate wait predictions, and track progress. Text messages announce when it's almost time to ride.

Immersive queues are an extension of the ride experience. Detailed and Instagrammable scenes draw guests into the story, encourage them to share it, and keep visitors entertained and happy while waiting. Epcot's "Test Track" lets you design your vehicle before you ride in it, and "Toy Story Mania" at Hollywood Studios features an interactive animatronic Mr. Potato Head.

## WHY IT MATTERS

Waiting in line is not only the most frustrating part of a day at a theme park, it's also time that could be spent enjoying more rides or spending money on dining and shopping. As ticket prices rise, visitors will increasingly expect a frictionless, nonstop experience with little to no downtime. Setting expectations for wait times is key, and keeping customers entertained while they wait is essential. Virtual queues are a moneymaker as well. Visitors can use their extra free time to hit the gift shop, try more snacks, or buy a photo package posing with costumed characters. They can also speed up their wait times or skip the line entirely through an app. What would have been a hot and sweaty two-hour wait for a ride can now be bypassed with the touch of a button and Apple Pay.

## 1ST YEAR ON THE LIST

# DYNAMIC OPERATIONS FOR ENTERTAINMENT VENUES

## WHAT IT IS

**Amusement parks are increasingly using data to influence and direct their customers' decisions about when they will visit and how they will spend their time there. Data is putting control back into the hands of property managers.**

## HOW IT WORKS

Disney uses dynamic pricing in Genie+ to increase prices of individual day tickets, and Universal Studios employs similar methods. Once guests are on property, apps such as Cmd-Ctr Ride App allow operators to capture data and perform safety checks while rides are in operation, resulting in greater efficiencies. Through push notifications, Convivous enables parks to increase revenues or spread visitors throughout the park during peak times. Platforms such as Mobaroo give operators the ability to communicate and take action on issues of maintenance, safety, and operations—all while behind the scenes and from remote ends of the property.

Dynamic online pricing from Convivous helped Amarante Water Park in Portugal increase revenue by more than 80% by attracting more visitors at higher average ticket prices. Using predictive data to anticipate the most popular days at the park, the park offered higher-priced tickets on the sunniest summer days. Prices are lower at off-peak times. This manages expectations, increases demand on off-peak days, and helps minimize visitors being turned away at the gate if the park is at capacity.

## WHY IT MATTERS

With better tools and applications at their disposal, parks can create a better user experience, at least for some customers. Through the use of dynamic pricing, parks can reduce anticipated crowd sizes during peak seasons. Nudges influence the attention of guests and spread them around so they are not waiting in lines, potentially leading them to spend money on other experiences. With these dynamic systems, amusement parks are providing those who can afford the entrance prices a better, less-crowded experience. While these measures can increase revenues in the short term, time will tell if they impact the brand reputation for guests who feel alienated or left out.



## 1ST YEAR ON THE LIST

# IMMERSIVE MUSEUM EXPERIENCES

## WHAT IT IS

**Visitors to zoos, aquariums, and museums increasingly want meaningful, immersive experiences to make education more fun and exciting. Augmented and virtual reality and 4D theaters bring exhibits to life and let guests interact with animals, artifacts, and art in new ways.**

## HOW IT WORKS

At the National Gallery in London, masterpieces come alive for kids and parents in an immersive AR experience, “The Keeper of Paintings and the Palette of Perception,” using the Roblox platform on smartphones. The gallery chose the platform because kids are already on it, and the experience would be more lasting than a native app that would be soon forgotten after the visit. Boston’s Museum of Science offers multisensory 4D films that include smells and physical sensations to make audiences feel like they’re joining a penguin huddle or coming face-to-face with sharks. At the Georgia Aquarium, visitors in VR goggles board a transporter whose rocking motions create the feeling of swimming with ancient sea creatures. And visitors to the Toronto Zoo can interact with AR polar bears, elephants, and giraffes.

## WHY IT MATTERS

Zoos, aquariums, and museums must evolve to hold the attention of younger visitors who demand interactive experiences. AR lets visitors be a part of the show, while making the educational components of the visit more entertaining and therefore more sticky. Competition will be fierce among attractions that have the coolest exhibits. What kid wouldn’t want to see 35-foot holographic dinosaurs at the Houston Museum of Natural Science? Immersive exhibits also present a new revenue opportunity. There’s no better souvenir photo than of your family standing next to a polar bear.

## 1ST YEAR ON THE LIST

# CATERING AMUSEMENT EXPERIENCES TO AN AUDIENCE OF ONE

## WHAT IT IS

**Theme parks are ramping up visitor personalization by integrating AR and VR technologies, providing more immersive and interactive experiences, and offering individualized promotions and services informed by wearables and preferences. The continual merging of physical and digital realms enables customization and allows visitors to experience a new level of storytelling.**

## HOW IT WORKS

Meow Wolf is an art collective offering several unique interactive installations, including “House of Eternal Return” in New Mexico. Visitors roam around the “house,” filled with wormholes to the multiverse, as they hunt for clues regarding what happened to the family that lives there. Technology such as RFID cards, laser-based puzzles, and reactive projection mapping allow visitors to have unique experiences every time they hunt for clues. Disney’s “Star Wars: Galactic Starcruiser” provides a totally personalized experience for guests, who actively participate in and can even alter the events and narratives during their two-night stay in the “Star Wars” world. The experience includes a hotel, restaurants, and shops, in addition to the intergalactic locations where the narrative unfolds.

Disney’s patent for a “virtual-world simulator” was recently approved. This technology facilitates headset-free AR in which visitors’ moving perspectives are tracked throughout a ride and trigger the projection of personalized 3D images and virtual effects onto nearby physical spaces. Lucasfilm Entertainment just filed a similar patent. Illumix has partnered with Disney to create personalized AR experiences throughout its theme parks: As visitors look at their surroundings through their phones or tablets, they can see and interact with their favorite cartoon characters.

## WHY IT MATTERS

Consumers are increasingly expecting tailored experiences. Theme parks must find ways to integrate personalization, as it will drive organizational fiscal performance and improve customer relationships. Upping the number of novel opportunities for visitors should correlate with revenue growth potential for parks and organizers. As visitors repeatedly interact with personalized encounters, parks should use the captured data to create evermore targeted offers and experiences. This cycle promises to generate long-term customer loyalty, as satisfaction increases with the feeling of being singularly catered to. Personalization will make fantasy worlds feel more realistic and truly bring visitors into the story.

As with all new technology, increasing the usage of personalization could have ramifications for the workforce and local economy. If a virtual-world simulator or a personalized AR experience allows park visitors to interact with virtual characters, costumed cast members could no longer be needed, leading to layoffs.

# EXPERT PERSPECTIVES



# WHILE ENTERTAINMENT EVOLVES, THE NEED FOR STORYTELLING PERSISTS

**SXSW CONFERENCE AND FESTIVALS**

**JANET PIERSON**, Director Emeritus Film and TV

**CLAUDETTE GODFREY**, Vice President, Film and TV

**JODY ARLINGTON**, Communications Director, Film & TV Programming Team



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We are ever future focused, seeking, elevating, grappling with our collective conversation about our future, past, and present.

**SXSW Conference and Festivals, unlike any other event in the world, sits at the epicenter of a wide swath of creative people across dozens of industries and disciplines. We are ever future focused, seeking, elevating, grappling with our collective conversation about our future, past, and present.**

Our attendees are not only the leaders in their fields or emerging visionaries, they are consumers of each other's work and ideas. They understand the power of our unique audience, and planned and serendipitous interactions that help creative people achieve their goals.

We know these things to be enduring truths: Entertainment has always been a winner-take-all industry with tiers of success and sustainability that are inaccessible to many. And there have always been forces trying to democratize this.

There will always be incredibly talented creators who struggle to create their work and build careers.

There has always been a firehose of works to consider—great, good, mediocre, and terrible. It's just never been as accessible to so many at the same time before. Even the most talented and successful independent film and TV writers, directors, producers, editors, and other professionals have been required to sustain their personal creative projects with commercial work, industrial projects, and studio tentpoles, or work outside of the entertainment business altogether.

Reaching and engaging audiences—wherever they are and wherever you want them to be—will always be challenging and mystifying. William Goldman's "nobody knows anything" is trotted out with regularity because the prognosticators and analysts are often just as perplexed as everyone else with each new technology, trend, success, or failure.

Festivals, the ones that are attuned to their stakeholders and committed to evolving, remain essential curators, community-builders, launch-

pads and, in some cases, the final and/or only theatrical destination for scores of important and excellent work.

Who, what, where, when, and how will always change. Make no assumptions. Putting aside those exclusively motivated by money and power, there is one question that remains fairly constant across all other work we celebrate at our own event and others: Why?

Since the time of the cave painters and fireside shadows, humans have been compelled to communicate, tell stories, illuminate, distract, evoke, awe, recount, and convey the hundreds of thousands of stories, dreams, fantasies, horrors, and perspectives that make up our collective understanding of our world.

In this moment of fractured life and streaming, coming together to share work is the essence and the future of the form: telling and listening, inspiring and being inspired, communing together. This is what we champion, and the one entertainment trend we should never discount.



# AI AND PERSONALIZED EXPERIENCES WILL DEFINE THE FUTURE

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**SVEN BLIEDUNG VON DER HEIDE**  
CEO of Volucap



**I've been working in content creation for over 20 years, and there's never been such a huge revolution as there is today. All previous methods of filmed content creation were designed to optimize stories on a 2D canvas and produce them at enormous expense. Behind the scenes, productions have been digitized with better and better tools, and costs have been reduced by means of more efficient workflows—but these have always been small steps. Every production still requires an immense effort by hundreds of people.**

Two-dimensional digitization has been followed by three-dimensional digitization, so that even today many elements in 2D films are built in 3D by lots of people and rendered on computers. Actually filming in 3D remains the big challenge. For over 20 years, volumetric photos (3D scans of static objects in 3D) have been made using photogrammetry and lidar. Volumetric photos are similar to 2D images and do not include motion information. To animate a person as a volumetric photo requires a process similar to creating a movie from a photo of a person: It requires hundreds of people and immense cost.

When we launched Volucap in 2018, we were able to show for the first time that volumetric video of sufficient quality is possible for high-definition cinema productions, with a resolution of 650 megapixels. By 2022 we were able to capture people with a total of more than 3,000 megapixels per frame. That is equal to more than 1,500 high-definition cameras.

Volumetric video makes it possible for the first time to step from 3D photo to 3D video. Volumetric captures—volucaps—can be used over and over again. Virtual Production is already utilizing volucaps to project backgrounds of

3D environments in real time, with real actors, making productions increasingly independent of location. Content creators can now draw from a catalog of Volucap extras. Whether it's a feature film, virtual reality experience, or architectural visualization, a production can already save immense amounts of money on catering and casting for extras. And the production's carbon dioxide emissions can be reduced by more than 90%, according to first analyses, simply by shooting on a virtual production stage instead of having to travel.

However, the big revolution is still to come. High-resolution volumetric training data is one of the key elements in accelerating the development of AI-based content production. In the next 15 years, AI will be able to generate real-time photorealistic stories based on text prompts.

Illustrators and photographers are already looking for new revenue streams, because they understand that they can't win the battle against AI. Why would anyone buy stock footage or drawings when AI can produce the equivalent product in nearly real time for less than 1 cent per image? At the same time, AI continues to learn from humans, and it remains to be seen



if artists will still be able to protect their own styles or prompts in order to receive compensation for AI-generated materials based on the artists' training data.

When content creation is no longer tied to actors, locations, or film crews, intellectual property practices will change. Actors who have been volucapped can still play the same role years later and demand licenses for roles that they might not biologically be able to play again. Since screen actors are usually experienced through projections only, a physical body is not essential for marketing. This opens the door for AI-based actors, which can be established by studios as their own intellectual property and for the first time compete directly with human actors. The first licensing models in this direction are already being tested.

These methods will first be used in very controllable situations such as news broadcasts and music videos that have little creative impact on actors. It remains to be seen when we will first see a full production using only AI tools, but I think seven years is a realistic range. In 15 years, there will be enough power to compute this data in real time so that stories are created individually for viewers in real time to cater to their current state of mind or buying behavior.

Once content can be written and rendered in real time, humans will become indirect trainers of the systems, which will try new things based on AI evaluations and metrics. Broadcasters themselves will be differentiated by how they optimize for quality or profit, as well as by how effective their AI training is. While the old trades will attempt to maintain the status quo, new skills will rise in importance. A good AI trainer, in fact, will become one of the most in-demand professionals in the field.

“

In the next 15 years, AI will be able to generate real-time photorealistic stories based on text prompts.



# GUESTS TAKE CONTROL OF THE ENTERTAINMENT EXPERIENCE

**SHAWN MCCOY**

Executive VP, JRA, Part of RWS Entertainment Group



**A combination of societal trends, consumer preferences, creative design techniques, and advancing technologies has created a landscape within the leisure entertainment industry where guests are active participants within experiences that blur the lines between traditional attractions, food and beverage, retail, and the real and imagined world.**

From multibillion-dollar theme parks to more modest local attractions, location-based entertainment offerings are becoming more immersive, varied, and personal. Inspired by social media's ability to deliver personalized content, along with the video game culture's ability to provide interactive, story-based experiences where players drive their own narratives, next-generation attractions are providing guests with opportunities to explore, play, shop, eat, drink, and even spend the night within a variety of thematic environments.

The benchmark for this type of world-building can be found at the "Star Wars" themed Galaxy's Edge in Disney's Hollywood Studios in Orlando, which is filled with a variety of themed environments, signature attractions, interactive experiences, shops, and restaurants. The highlights of this zone are two next-generation rides that invite guests to take a leading role within a greater story and influence its outcome. Interactive retail experiences within Galaxy's Edge allow visitors to build their own droids or lightsabers as part of a personalized premium experience, while the themed restaurant, Oga's Cantina, is booked months in advance. Adjacent to Galaxy's Edge is the innovative Galactic Starcruiser Resort, a 100-room immersive lodging experience. Over the course of their two-night adventure, visitors will encounter iconic characters, dine in exotic environments, and participate in a variety of personalized, themed activities.

Smaller, local, less expensive attractions can deliver equally compelling experiences by focusing on providing competitive social experiences combined with quality food and beverage offerings. Topgolf has set the standard for such attractions, where guests participate in a core physical activity while eating and drinking

together. Unique food and beverage experiences, such as "Absurdities" in Singapore, elevate traditional dining to a new level of immersion and interactivity, while other attractions, including "PuttShack," "Flight Club," "Level 99," and "Activate" feature a variety of physical and digital interactives that challenge guests physically and mentally in a fun and repeatable manner.

As media hardware and software continue to evolve, it becomes increasingly difficult for audiences to discern between live and digital content. When attractions add live actors, scenic lighting, and special effects, the outcome is equally impressive and engaging. Examples include Universal Studios' "Bourne Supremacy" stunt show, where live actors perform in front of a massive LED screen, along with the innovative "ABBA Voyage" concert experience, which features digital "ABBA-tars" of the popular musical group performing with a live band.

As demand increases for more immersive, participatory, and personalized attraction, developers and operators will have to create experiences that meet the expectations of their audiences in order to maintain their market share. Larger operators such as Disney and Universal Studios

are at the forefront of this movement, investing heavily in creating new theme parks, themed lands, and attractions. To recoup their investment and control crowds, new dynamic, tiered, and VIP pricing models are becoming more and more popular. For example, Disney's new Genie+ system allows guests to purchase quicker access to various rides, shows, and attractions, while guests can guarantee access to each park's most popular attraction by purchasing a separate Lightning Lane ticket. While these premium experiences generate additional revenue for the operators, the increased costs may be unattainable to some guests, resulting in a less enjoyable experience.

# SCENARIOS

## WHAT IF WORLD TOURS WERE ONE NIGHT ONLY?

Scenario Year: 2039

After Ticketmaster's catastrophic presale for Taylor Swift's Eras Tour resulted in protests and congressional hearings, the company finally admitted in 2023: "It's me, hi, I'm the problem, it's me." Nearly 20 years later, tickets for her widely anticipated FORTY world tour never sold out—even as Swift took the stage for the first song. That's because she built her own VR platform and used the legacy ticketing system as just one of several vendors—along with Netflix, Amazon Prime, Apple XR, Microsoft 360+, YouTube XR—to sell access to the one-night-only event. Reaching 195 countries simultaneously, Swifties could choose among 65 virtual stadiums, buy digital collectable merch, and meet fans from all over the world.



## WHAT IF CELEBRITIES' DIGITAL PERSONAS GET HACKED?

Scenario Year: 2031

As generative AI systems grew more powerful, studios embraced the technology, by creating synthetic celebrities. Synths streamlined the starmaking process, reducing the amount of time and expense that historically went into scouting potentials, developing their public images, and refining their looks. Synths also afforded studios security, at least initially: Digital stars could be controlled and wouldn't deviate from their storylines (which meant the end of costly scandals involving humiliating text messages, offensive social media posts, and unpopular political opinions expressed publicly). The system worked well, until it didn't. Hackers found vulnerabilities to exploit. During live events, synth stars started uttering occasional racist remarks. Some started appearing in highly sexualized forms. Their behaviors became unpredictable—and soon, it wasn't clear which synths had been hacked and which were simply learning from their interactions with humans. Some enterprising hackers invented a new form of puppeteering, taking over synths entirely and making them do and say terrible things until ransoms were paid. Studio executives scrambled to address the issue and undo the damage, but there was no playbook for how to control this new generation of stars behaving badly.

## WHAT IF AN AI WON AN EMMY AWARD FOR BEST DIRECTOR?

Scenario Year: 2032

When generative AI was used to direct YouTube's runaway hit reboot of "The Golden Girls," no one took the show—any of it, from the concept to the cast—seriously. To everyone's surprise, the series worked. The four women's back stories revealed who they really were, and who they might have been if they'd made different choices. Their tremendous stories, familiar and complicated and brutally funny, invited users to think about their own paths, which is why it swept nominations during awards season—including a Primetime Emmy nomination for Outstanding Directing for a Drama Series. Cultural critics, industry executives, and the Directors Guild of America decried the nomination, but there were technically no rules prohibiting an AI from competing in—or winning—an award for exceptional creativity and technical execution.

## WHAT IF LIVE EVENTS WERE PROGRAMMABLE?

Scenario Year: 2025

Massively interactive live events (MILEs)—television shows that blended game shows and cartoons in which audiences voted to determine some characters' actions—gained a wide audience in the mid-2020s. Entertainment executives saw a lucrative opportunity: programming live entertainment to allow audiences and generative AI systems to codevelop storylines in real time. Next-gen MILEs also meant scale: just like a video game, a live event could be attended and participated in repeatedly and provide a novel experience each time. Without the technical skill or physical agility required of modern video games, MILEs are events that are open to everyone and promise an exciting shared experience. MILEs have eroded the popularity of broadcast sports: Why watch a rules-based game played by other people when fully programmable shows beckon?

HOW TO  
PREPARE  
FOR THE  
FUTURE



# HOW TO PREPARE

What should your organization do now to prepare for these trends?

## RISKS

### ESCALATED CYBER RISKS

Increased digitization often brings with it the risk of cyberattacks. As more core processes go digital, the implications become correspondingly more severe. If a digital celebrity is hacked, the damage to the brand can forever hamper its earning potential. As AI molds storylines to personal tastes, attacks can influence that experience and turn it into a harmful or traumatic experience for the viewer, whether the episode occurs on a streaming platform or in a theme park. When technology evolves, it is crucial to build and evolve security at the same time.

### DIGITAL ABUNDANCE

A downside of digitization is its ease of replication and the potential for overexposure of the market to a particular asset. A large part of the value proposition of entertainment is the rarity and exceptionalism of its talent—there is only one Mindy Kaling or one Kathryn Bigelow. If technology enables

omnipresence of talent and an exponential increase in production of assets, it may result in market fatigue and loss of interest.

### MEDIOCRE STORYTELLING

Democratization of storytelling might empower audiences in new ways, but majority opinions do not necessarily create the most engaging stories. Taking risks, making unusual choices, and providing unique perspectives are crucial ingredients for excellent storytelling, a gift not given to everyone—and an improbable outcome of crowdsourced decisions. After the novelty factor of co-authoring narratives wears off, we might wake up to a landscape of mediocre storytelling that is not able to provide us the emotional engagement we crave.

### A NEW VALUE PROPOSITION

The question remains how humanity will respond to content created by AI. Will audiences flock to digital twins of their favorite celebrities? How will we relate to and value stories that are created by non-humans? Storytelling has been used since

the beginning of time to share experiences and create connections. Will the perceived value of synthetically created content, and as a result the interest in and willingness to spend money on that content, decline?

## OPPORTUNITY SPACES

### GLOBAL STORYTELLING

New collaborative tools provide the opportunity to employ a global talent pool that has been trained thanks to ever-widening access to digital creator tools. Such an abundance of diverse talent brings with it the opportunity for nuanced, localized storytelling that deepens access to and understanding of different cultures, demographics, and marginalized communities by creating shareable experiences.

### DEFINING NEW ROLES & RESPONSIBILITIES

As AI takes center stage in the creation process, it shifts responsibilities for those who have previously been in control: directors, producers, designers, and artists. New skills need to be developed that empha-

size creative direction, supervising, and adjusting, rather than doing the actual act of creating. This shift will also change the power dynamics of an industry traditionally driven by the idiosyncratic visions of its most successful creative talents. Whoever is able to define the new paradigm and set up corresponding processes and business models will set the bar for the rest of the industry to follow.

### DECONSTRUCTED NARRATIVES CREATE NEW INCOME STREAMS

As storytelling evolves from finite, linear products to responsive environments that are customizable by the audience, every story has the potential to turn into a franchise with long-lasting earning potential. Deconstructed narratives free up collaborative iteration between the audience and the originator of the idea, and provides a canvas for exploration. Every engagement with the content can provide a singular experience for the viewer, resulting in enduring curiosity about the possibilities—and willingness to spend to experience them.

# HOW TO PREPARE

What should your organization do now to prepare for these trends?

## SCALING PERSONALIZED CONTENT

If entertainment companies can access more data about their consumers—not just the data from within their own ecosystems but also data from, say, Google or Facebook—they can begin to create personalized experiences at scale. These would be limited primarily by the capabilities of the tools creating the experiences—for instance, the ability for AR and VR systems to provide real-time responsiveness, or of AI to reassemble and customize content according to a viewer's profile. Beyond that, the biggest limitation will be the entertainment industry's own ability to produce enough modular content to customize.



# KEY QUESTIONS FOR YOUR TEAM

1

How can you ensure the safety of future digital assets? As content evolves from a finished product to a personalized, ever-changing experience, how can you monitor and prevent unwanted alterations from third parties and cyberattacks?

2

What changes do you need to make to your organization to create interactive, modular content in addition to a linear storytelling product?

3

How would digital entertainers, such as digital twins of real celebrities or digital originals, impact your business model?

4

Will generative AI, such as Dall-E, Bard or ChatGPT, disrupt your business, and how can you leverage it to your advantage?

5

How can you begin to pave the way for blockchain integration into your operations to make processes more efficient, safe, and transparent?

6

There is a tension between the desire for personalized experiences and the power of communal experiences. Have you determined what your customer prefers? And how can you optimally combine these approaches in your product?

7

What will the average attention span be in five years, and how can you adjust your product to optimize it for consumption?

8

How can the implementation of hybrid, modifiable physical spaces best enhance user experiences?

SELECTED  
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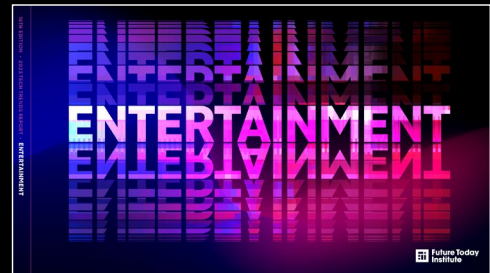
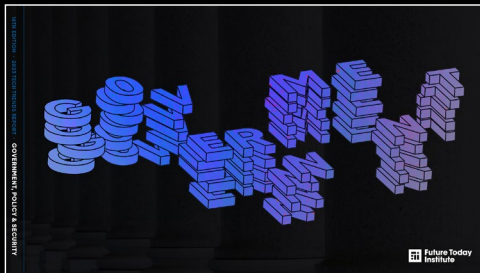
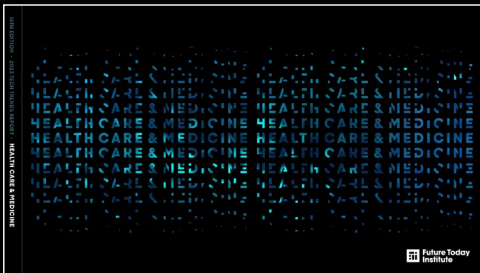
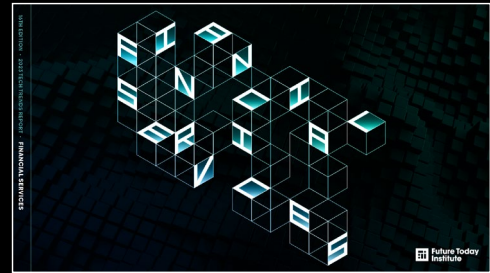
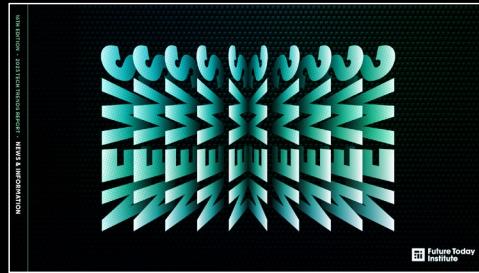
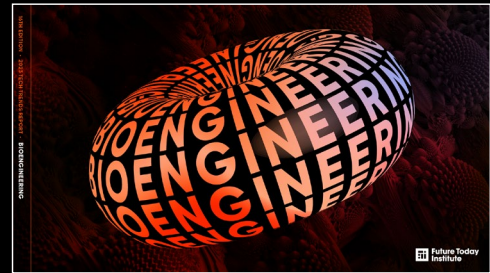
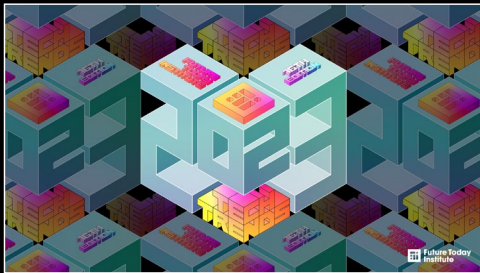
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