

ONES TO WATCH

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WHERE IS YOUR CREATECH OPPORTUNITY?



A stylized, handwritten signature in black ink, appearing to read 'T. Davie'.

Tim Davie CBE *Co-Chair Creative Industries Council (CIC) & CEO BBC Studios*

Createch is a fast-moving and hugely dynamic part of the UK economy. It is the catalyst of innovation, providing solutions and improving experiences. Its success is underpinned by a strong ecosystem of world-class creative talent, technology innovators, entrepreneurs, and outstanding educational institutions.

The fruits of Createch have made their way into our lives in so many different ways: from seamless customer service to immersing our audiences in the wonders of the natural world. With so much

potential, and with such fast-changing sectors, the 'Ones to Watch' report, produced in association with Springwise, Digital Catapult and London & Partners, provides a who's who guide of the UK companies at the forefront of Createch.

The Creative Industries Council (CIC), a partnership between industry and Government, is committed to supporting the development of the eco-system that will help Createch thrive in the UK and from the UK to the world.

WHY THE UK IS WELL POSITIONED FOR CREATECH

The UK attracted more than

£6bn

of venture capital

for tech initiatives in 2018

- The UK has the expertise, data and financial resources to become a global hub in Createch.
- Creative industries contributed £101.5bn and digital industries more than £130bn to the UK in 2017. Between them, these two large and fast-growing parts of the economy accounted for 3.45m jobs.
- A third of Europe's AI companies are in the UK - twice as many as any other European market.
- The country is also ranked equal first globally in the Open Data Barometer, which measures how well Governments make data available for accountability, innovation, and social impact.
- In 2018, the UK attracted more than £6bn of venture capital for tech initiatives – the highest sum in Europe.
- According to Tech Nation, one in 20 of all high-growth tech workers worldwide is already in the UK, placing the market ahead of Japan, France and India, for talent.
- The UK is the global leader in Fintech. It has the potential to repeat this success in Createch.

Creative industries contributed

£101.5bn

and digital industries

£130bn

to the UK in 2017

OUR CREATECH USER EXPERIENCE MODEL

Though Createch covers many different technologies and activities, the user experience is always at its heart.

In the model used to draw up the 'Ones to Watch' report, Createch opportunities are organised into different quadrants based on how people experience them – namely, more passive or active, emotional or functional.

Ones to Watch showcases 50 UK-based projects praised by experts for delivering new products, services, and experiences in these fields.

It has identified key Createch segments as:

Immersive Entertainment

Passive / Emotional:

Audiences can immerse themselves in re-imagined storytelling and content

Transformative Experiences

Active / Emotional:

Interactivity is driving user engagement and strategic value for businesses

Seamless Service

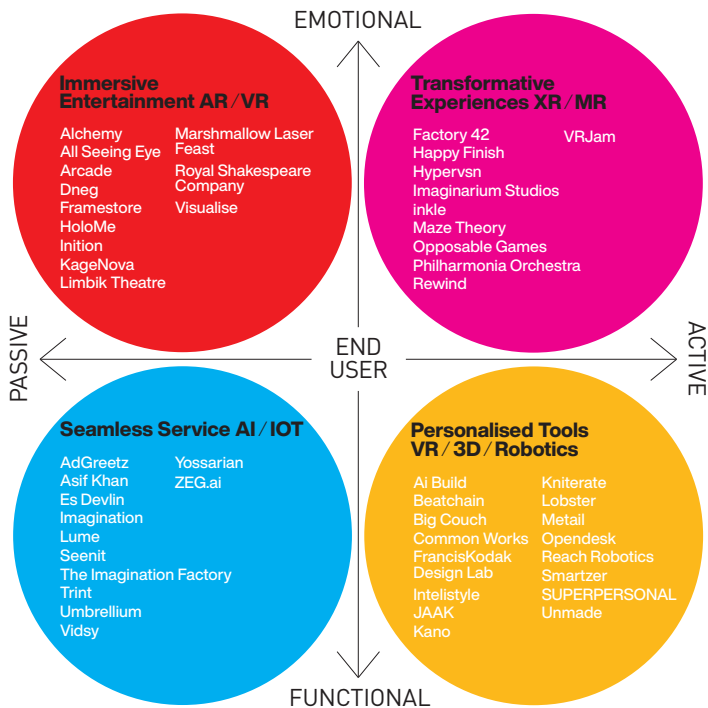
Passive / Functional:

Built on insight and data, systems are improving how people connect to the world

Personalised Tools

Active / Functional:

Tech is automating processes, liberating creativity and freeing up resources for better, more individualised design





AdChef is a new software as a service (SaaS) platform that fully automates the production and distribution of hyper-personalised video ads. Created by personalised advertising technology developer AdGreetz, the platform uses artificial intelligence (AI) to optimise content and placement of a brand's messaging. The proprietary system can be integrated into 22 digital media platforms, including Instagram, Snapchat, points of sale, text messaging and email.

The company currently has a patent pending for the platform. It consists of three interlinked systems: Ad Chemist, Ad Multiplier and Ad Runner. Ad Chemist helps produce creative content and segment audiences. Ad Multiplier generates thousands of different versions for each ad. Ad Runner uploads them, and the AI optimises engagement and tracking. So far, in partnerships with more than 50 Fortune 100 companies, results include a Facebook click-through rate five times greater than average. The ads run in 26 different languages and in 20 different countries. AdGreetz is part of the Business Growth Programme at London & Partners.

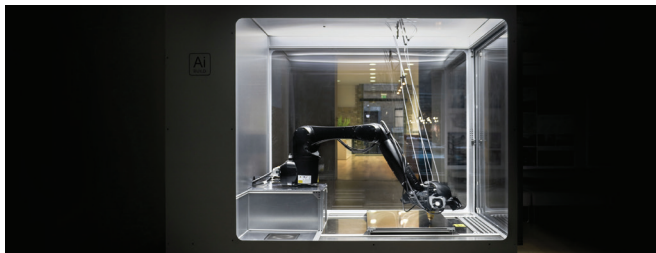
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AdGreetz

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TAKEAWAY

Personalisation helps build deeper, more meaningful relationships between customers and brands. As individuals and groups connect with the world around them in evolving ways, big data becomes more important. Analysis that combines human experience with machine learning is most powerful, especially when serving tailored content. How could public-private partnerships use hyper-personalised content to produce or support a social good?



Large-scale additive manufacturing experts Ai Build offer businesses the factory of the future as a service. The full Ai Build package encompasses software, hardware, infrastructure and a robotic arm all for on-site manufacturing at a location of the organisation's choosing. The cloud-based software package is called Ai Sync and oversees the entire manufacturing process. The hardware is called Ai Maker and fits onto the end of a robotic arm. It uses artificial intelligence and real-time sensory data to make autonomous decisions during the manufacturing process.

Ai Cell is the controlled environment that encloses the robotic arm and is available in three sizes. Use of three-dimensional tool-paths rather than the usual slices help make the entire Ai Build process much faster than traditional 3D printing methods. There is a range of subscription packages available, and the company recently signed a distribution agreement with Dubai-based 3DVinci Creations to work in the United Arab Emirates. Ai Build is part of Business Growth Programme at London & Partners.

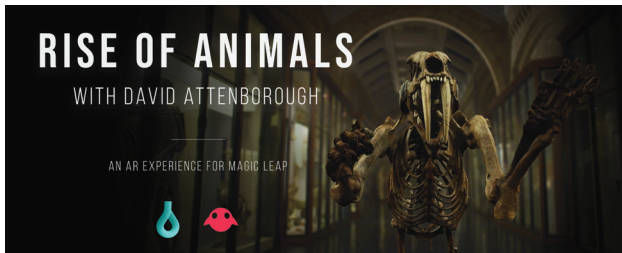
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Ai Build

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TAKEAWAY

The efficiency of on-demand manufacturing has made 3D printing far less niche than it once was. Businesses in manufacturing, construction and art are exploring the possibilities. Ai Build's service helps bring down what are often prohibitive costs, thus increasing access to the technology. Although intensive testing of products would be necessary and the administrative burden great, how could the food and healthcare industries make use of additive manufacturing?



Immersive production studio Alchemy creates award-winning experiences in a range of mixed reality formats. For Rise of the Animals with David Attenborough, the studio brought a museum of ancient creatures back to life. With a mix of 3D modelling, augmented reality (AR) and hand-tracked interactions, visitors to the virtual environments experience each animal's natural habitat in breathtaking detail. The project uses Magic Leap glasses to create the AR holograms inside the room. David Attenborough introduces users to the animals and the spaces they used to inhabit. Virtual visitors choose from a range of floating spheres to activate the animal that lives there.

In 2017, Alchemy won the first BAFTA awarded to a VR film for David Attenborough's Great Barrier Reef Dive. Other projects by the studio include an immersive VR flight around Judi Dench's favourite oak tree; and bone shaking 'Space Descent' with Tim Peake, where you experience re-entry to the earth's atmosphere from the ISS.

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ALCHEMY

TAKEAWAY

With virtual reality used often in travel, shopping, education and gaming, other industries have opportunities to learn from the most successful of these implementations. Innovators, too, can monitor general engagement with the technology and consider ways to adapt and improve it. Since technology has already changed humans socially and cognitively, how could true immersion, involving sight, sound, smell, taste and touch, influence the relationship between individuals and brands?



Creative technology studio All Seeing Eye has partnered with the RAF Museum and Other Set to create the Immersive Histories: Dam Busters interactive installation. Thanks to immersive virtual reality (VR) visuals and haptic technology, visitors to the Royal Air Force Museum in London can experience one of the pivotal events of World War II: the 1943 flight of the British Lancaster plane on its bombing mission to Germany's Möhne dam.

Visitors not only see from a pilot's perspective but feel as well by wearing a haptic vest that is integrated into an authentic Mae West life preserver. Visitors are seated in the position of the navigator, and in the reconstruction of the plane, can touch the desk, fuselage and window. The Imperial War Museum was consulted on the project to ensure a historically accurate representation. Recent or forthcoming work from the studio includes the Draw Me Close co-production with the National Theatre and National Film Board Canada, and the VR game Seed. All Seeing Eye is part of the Creative XR Programme at Digital Catapult.

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All Seeing Eye

TAKEAWAY

Educators and educational institutions could especially benefit from this example of immersive VR. Its collaborative capabilities could open new avenues of sharing and learning across borders and boundaries. The use of interactive design in public events may also bring to light new storytelling methods. How else could this kind of approach, particularly in industries outside of the creative space, be used to create a compelling virtual experience?



Immersive technology company Arcade uses augmented reality (AR) to enhance visitors' experiences of tourist attractions and public spaces. Working with the Sea Life London Aquarium, Arcade created the multi-award winning Roxy the Ranger, an AR chatbot. Roxy interacts with visitors, who can pilot her vehicles in and through the aquarium's tanks. With the app, the Aquarium hoped to increase engagement and time spent at the attraction. On average, visitors that used the app spent 25 percent more time there and expressed much higher satisfaction with their experience.

The company's latest launch is the Fame Cam for London's Madame Tussauds. Using AR, the Fame Cam app allows visitors to learn more about their favourite celebrities and see different facial expressions. If sightseers use the app with all the waxworks on display, they receive discounts in the gift shop. Arcade works with governments, heritage centres, businesses, event organisers and more, always with the goal of turning bystanders into participants. Arcade is part of the Augmentor Programme at Digital Catapult.

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Arcade

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ARC ADE

TAKEAWAY

Using play to increase engagement is a popular idea, though it can be difficult to implement. AR provides an extra layer to a destination, and, when used to enhance rather than replace, lets visitors use the feature as little or as much as they would like. Providing options alone can allow for a more personalised feel to an experience. How could other group social events such as sports competitions be enhanced by the use of AR?



Multi-sensory architecture studio Asif Khan examines the ways in which materials and social change affect how people interact with their environment. For the UK's Astana 2017 Expo pavilion, the studio explored the origins of energy. Using computer-generated animation, sound and film, the pavilion showcased a 60-metre panorama of a landscape that was 40,000 pixels wide. The living, changing landscape was completely computer-generated and took visitors on a journey through a virtual day and night.

To remind visitors of the interconnectedness between humans and the Earth, the panorama reacted to their interactions with a connected sculpture. As people touched and moved around the piece, subtle changes to the weather and environment occurred in the panorama. The visitor journey was accompanied by a multi channel sound installation created for the experience by Brian Eno. A single deep tone greeted visitors at the entrance. The endless piece of music grew progressively richer and more layered as visitors explored the space.

Project creative innovator

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Asif Khan

TAKEAWAY

Architects and engineers continually push the boundaries of what is possible in the built environment. Digital design and fabrication, combined with new products and materials, are creating new opportunities. Interactive and responsive architecture allows for multi-use spaces that serve specific communities. Businesses can apply a similar approach to workplaces. How else could innovations in architecture and engineering be adapted for use outside the sector?

BEATCHAIN



Beatchain is an app helping independent artists reclaim power back from the giant corporations. Fuelled by proprietary AI, automation and data science, the platform provides the functionality of a major label, distributor, promoter and manager in one place, empowering creators to build a career and a brand on their own terms.

The company is keen to emphasise that social media is no longer an add-on; it is an integral part of running a creative business. In an industry where data is often analysed in isolation, the Beatchain app offers visibility and insight into an artist's entire digital presence, bringing social media data, streaming stats and ticket sales together to provide the full picture of their fan base. To further support emerging talents, the platform offers powerful social media management tools with inbuilt photo and video editing. By cutting out various levels of management, the company hopes to provide more musicians and other artists the means to earn a living from their creative work.

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B E A T C H A I N

TAKEAWAY

With the ability to manage multiple strands of marketing, from online advertising to social media content distribution, all from a single source, Beatchain's model could prove useful in a variety of industries. Small businesses in general, and social enterprises in particular, could benefit from the data and analysis provided by the platform. In what other areas of the arts could use of this technology be used to improve diversity and accessibility?



Film industry funder **Big Couch** worked closely with computer scientists from Imperial College London to develop two platforms: Filmchain and Crewfund. Filmchain uses Ethereum blockchain to monitor and distribute earnings from a film. Crew members can track what they are receiving, and payments are processed faster.

Crewfund offers crew members the opportunity to stake a share in a production. By agreeing to work for a lower upfront fee, the crew receives profit shares and deferred payments. Big Couch handles all legal and contractual aspects of projects, and full commercial rates are paid whenever possible. All individuals and projects are vetted by Big Couch, and a minimum level of experience is required. Crewfund also includes a feature called Crew up that helps producers find the team they want. Big Couch puts together a custom shortlist for every project and charges a 10 percent commission fee. Big Couch is part of the Business Growth Programme at London & Partners.

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BIG COUCH

TAKEAWAY

Although not yet widespread, the use of blockchain on job boards is becoming more common. It helps ensure a fair wage for freelance workers and provides administrative support. Blockchain could also be used to help simplify patient pathways in health systems and in workplaces of all kinds to report inappropriate behaviour. What support systems would need to be put into place to help extend the use of blockchain in the world of work?

COMMON WORKS



Design and technology studio Common Works translates sound and motion into bespoke ceramics. The studio's Miko project uses digital data inputs (including voice files, smartphone motion capture and social media feeds) to create unique bowls and vases. Considered a proof of concept prototype service, Miko is available online and visitors are offered a range of starter shapes to work with. One of the starter shapes is a bowl based on NASA asteroid models.

The studio is exploring ways to reduce waste and sees on-demand manufacturing as an area of particular potential. Miko also allows the team to consider ways in which traditional crafts and craftspeople interact with emerging digital technologies. Each ceramic piece created through Miko is hand cast and finished by an artisan ceramicist. Additional methods of customisation are available, but the studio team says that the audience isn't available yet. Demand needs to catch up to supply. Common Works is part of the Business Growth Programme at London & Partners.

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Common Works

TAKEAWAY

Personalisation plays a key role across many industries, including art and retail. And the concept of creating objects from play, especially digital play, is intriguing. It could be especially powerful when applied to the creation of mementoes of loved ones, particularly as the world's population ages. How else could user-specific data, applied at the intersection of artisan and digital creation, help reduce supply chain waste?



One of film and television's leading visual effects, animation and stereo conversion studios, DNEG, has nine offices worldwide and an ethical approach to doing business. Founded by a small group of creatives passionate about film and television, the company has since grown into a global powerhouse. In the past five years, DNEG has won four Best VFX Oscars for the company's work on First Man, Blade Runner 2049, Ex Machina, Interstellar and Inception.

For Interstellar, the company worked closely with Nobel prize winning scientist Professor Kip Thorne to create the black hole in the film. As part of the work, the team created a bespoke software tool called the DNEG Gravitational Renderer. The development of which resulted in two well-received scientific papers. The tool is now being used in Professor Brian Cox's world tour, Universal: Adventures in Space and Time, and DNEG is partnering with CERN to explore future applications of VFX in research and education.

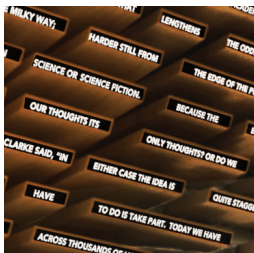
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DNEG

TAKEAWAY

A studio with such extensive networks is in prime position to share knowledge and best practice with others, as well as provide opportunities for collaboration with both small and large organisations. The creativity at the heart of the work is the engine that drives innovation. What areas outside the media world could make use of or adapt some of the visual and audio technologies honed by teams leading at the cutting edge of creativity?



Large-scale performative artist and stage designer Es Devlin is designing the UK's pavilion for Expo 2020 Dubai, UAE. Titled the Poem Pavilion, the structure will encompass a 20-metre high façade lit by LED lights to beam a collective, artificial intelligence (AI) generated global poetic message to outer space. All of the expected 25 million visitors to the Expo are invited to contribute. Expo 2020 runs from October 2020 to April 2021 and will showcase the UK's expertise in space and artificial intelligence.

The design was inspired by Stephen Hawking's Breakthrough Message competition that asked a worldwide audience to consider what message Earth should share with other civilisations. Poetry transcends borders and identities to bring people together via shared experiences, and the Poem Pavilion aims to do that in a newly interactive way. Es Devlin is also working in collaboration with Google Arts & Culture on POEMPortrait, an app combining Instagram-inspired filters with AI-generated poetry for the entertainment of users.

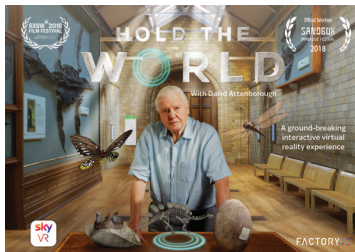
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Es DEVLIN

TAKEAWAY

In research and academia, AI focuses on automating editing and recognising plagiarism and data fabrication. In the sciences, AI automates many routine lab tasks and helps predict disease and generate hypotheses. In creative fields, AI is often used to power immersive experiences. Might AI be used to solve problems by encouraging communication, supporting connections and identifying commonalities between disparate industries?



Never before have members of the public been invited to handle so many of London's Natural History Museum's precious artefacts. Using virtual reality head and handsets and welcomed by a hologram of famed naturalist Sir David Attenborough, visitors to Hold the World can choose various specimens to pick up, hold and examine in close detail. Built by immersive and television content production studio Factory 42, the mixed reality experience even allows would-be visitors to interact from home.

Sir David talks sightseers through aspects of the animals' bodies and lives, and the fossils and bones eventually come to full, immersive life. The museum's team of scientists worked closely with Factory 42 in the recreation of the animals. Factory 42 has won multiple awards and works with organisations including Sky, the BBC, Google, Magic Leap, Pearson and Intu.

Project creative innovator

Factory 42

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TAKEAWAY

Transporting people into new worlds is one of the most exciting aspects of mixed reality experiences. It is the immersion that helps make AR and VR such valuable educational tools, for both retention and engagement, which are also beneficial in the workplace. How might XR be used in industries beyond retail, media, marketing and entertainment for internal engagement as well as cross-sector collaboration?

FACTORY42

FRAMESTORE



Award-winning creative studio Framestore creates extraordinary visual effects and interactive immersive scenes for film, tv, advertising campaigns and a variety of events and projects. Using a custom-built anti-gravity rig with Samsung's Gear virtual reality (VR) headset and smartphones, A Moon for Mankind experience transports participants out of this world and onto the moon.

As a celebration of the eighth and final series of Game of Thrones, Framestore partnered with HBO to put fans to the test against the Night King's army north of The Wall. The 4D immersion included a motion floor, wind and varying temperatures. And for HBO's first use of Magic Leap technology, Framestore created The Dead Must Die. In it, participants are ambushed and must fight the White Walker. For both projects with HBO, Framestore conceptualised, designed and developed both the digital content and physical components that made the experiences possible.

Project creative innovator

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FRAMESTORE

TAKEAWAY

Global entertainment and consumer brands work with the likes of Framestore to create high-quality images and immersive experiences because exciting visuals are long-remembered. And given the power of sight and how most people rely on this sense in daily interactions, it's easy to see why. For businesses outside media and entertainment, what type of visuals could help bring new stories and experiences to life for the general public?



Another Set of Eyes (ANET360) is a virtual reality (VR) immersion safety course for drivers created by UK and Hungary-based FrancisKodak Design Lab. Combining machine learning, VR and traditional driver training methods, the course can improve driver reaction time by 20 percent and reduce training costs by 50 percent. The 360-degree videos immerse students in a range of everyday driving situations, and content can be tailored to students' specific requirements. Training materials are accessed via the ANET360 app.

A user's reaction can be recorded in different simulated situations thanks to machine learning. When aggregated, the information provides valuable insights into patterns of human decision-making and can be used to further develop and improve road safety and education. ANET360 is the first accredited VR hazard awareness training programme under the Transport for London and Fleet Operator Recognition Scheme (FORS) in the UK.

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TAKEAWAY

Virtual reality is a useful training tool for dangerous occupations, and in education in general, it helps keep engagement and interest high. That, in turn, helps increase learning retention. The technology could also be used by professionals about to undertake particularly gruelling challenges, like a tricky surgery or an ultra-sports event. How could the insights gained into human decision-making from one industry be used to improve results in another?

HAPPY FINISH



Immersive entertainment has been raised to literal new heights by the virtual reality (VR) slide from creative technology production studio Happy Finish. The View from The Shard “The Slide” took visitors on an exhilarating VR ride around the outside of the Shard. Sitting on a custom-built motion platform, thrill-seekers travel at virtual speeds of up to 100 miles per hour through the photo-real VR slide experience.

In SOMNAI, an immersive theatre experience, Happy Finish worked with entertainment company dotdotdot to take participants on a technology-fuelled journey through a dystopian world with VR dream sequences. Using a combination of 3D elements, sound, smell, motion platforms and live actors, visitors had virtual lucid dreams of flying and dying. Other projects by the studio include the AI-generated image of a “perfect mum” for Dove’s celebration of #Realmums, and a walk through, 3D version of a neo-classical painting for the Royal Academy’s From Life exhibition. Happy Finish is part of the Mayor’s International Programme at London & Partners.

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Happy Finish

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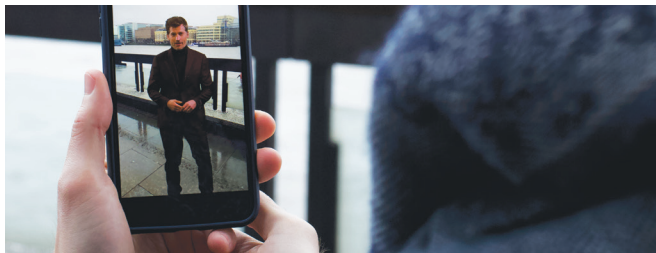
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TAKEAWAY

Mixed reality technology helps add another dimension to storytelling, whether by historical tourist attractions, marketers or theatre directors.

It could also be used to incorporate aspects of play into the workplace. Hard to grasp or intangible concepts could be more easily explained and may help campaigns garner more emotional investment from members of the public. What macro ideas could benefit from being made more relatable and understandable?



Augmented reality storytelling platform HoloMe uses high definition human holograms in augmented reality (AR) to change the way brands communicate with their customers. The HoloMe software is automated and works directly with an organisation's in-house systems to capture visual content and convert it into an experience. The conversion process is extremely fast, which allows businesses to mass-produce content and AR campaigns quickly.

Products displayed in the augmented reality stores are shown true to scale. This provides potential online buyers with a much more thorough way of examining items and considering different options, whether it be a kitchen or a pair of trousers. Users will be able to access the content through a smartphone or tablet with minimal data usage and processing power. Some of the company's recent work includes a partnership with Esquire, an exhibition with Net-A-Porter at Vivatech and, through Warner Music, release of a single with French artist Amir. HoloMe is part of the Augmentor Programme at Digital Catapult and part of the Mayor's International Business Programme at London & Partners.

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TAKEAWAY

There is magic in manipulating and interacting with a virtual image in the real world. Placing 3D objects in viewers' physical spaces opens up opportunities for collaboration. Whether the AR is used in training, gaming or shopping, audiences can connect with each other, and the organisations providing the experience, in ways that keep interest levels high. How could device-free virtual engagement change communications across a variety of industries?

HYPERVSN



Visual technology company HYPERVSN has built the world's first 3D holographic display system. A lightweight, easy-to-install combination of hardware and software, the system brings ideas, concepts and products to fantastical, surprising life. Images appear to float in mid-air. Creators can choose from ready-made visuals in the HYPERVSN content library. Or, teams can create bespoke content in the HYPERVSN 3D Studio. No design skills are necessary. The system's Pro Management Software provides businesses with complete oversight of devices, users and content.

A single HYPERVSN SOLO device produces images up to 75 cm in size. When used in multiples, the SOLO devices combine to form a HYPERVSN WALL capable of displaying visuals of almost any size. HYPERVSN has been used to create a variety of experiences for companies and events including a Nike product launch in Seoul, an installation for Louis Vuitton at Selfridges and a Hennessy event at Roland Garros.

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HYPERVSN

TAKEAWAY

Holographs are applied by a diverse range of organisations for a mix of purposes. Military mapping via holographic images helps improve reconnaissance. Financial security systems already apply holographs in several ways and are likely to expand their use. As well as being used for various types of training and art installations, what other types of businesses could put 3D holographic technology to work for increased engagement with audiences and customers?



Global creative agency Imagination's XPKit Connected Experience Toolkit is a technology platform that helps brands improve their customer engagement and sales. The software combines cloud technology with local systems to easily fit with a company's own CRM system. A strong analytics component enables clients to monitor and amend products and services as needed.

Focused on using creativity to transform businesses, XPKit helps brands build and assess experiences, from permanent installations to immersive showcases and more. XPKit comprises four modules. XPKit Content assists in the creation and delivery of digital material. XPKit Social optimises sharing and data capture of UGC at brand events. XPKit Immersive supports companies in connecting and broadcasting virtual, augmented and mixed reality experiences. And XPKit Analytics allows teams to see in real time how an event is being received by the audiences interacting with it.

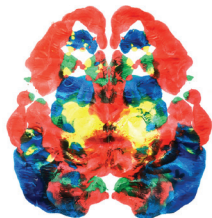
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TAKEAWAY

Seamlessly connecting customer touchpoints helps brands better understand behaviours, spot trends and provides support. Data collection makes analysis possible, which is valuable for performance optimisation internally and externally. Aggregated over time and possibly between sectors, big data could be hugely powerful, especially when approached with creativity. What types of routinely collected data could be examined across industries for potential collaborations and improvements?



B E I N G M E

REVEALING AND HEALING
CHILDHOOD TRAUMA

Technology innovation agency Inition worked with social enterprise The Cornerstone Partnership to create an immersive therapeutic training tool for adults working with children in the care system. The virtual reality (VR) film, titled *Being Me: Revealing and Healing Childhood Trauma*, debuted in October 2017 in London. It follows a child's development from its mother's womb to surviving domestic violence and finally to the safety of a home with adoptive parents. Created especially for new adoptive parents and social care teams, viewers experience different styles of care from the child's perspective.

To meet and support Cornerstone's goal of increasing emotional understanding within the child social care sector, the film also includes training in 'restorative parenting.' Using immersive technologies to accelerate behavioural change is becoming more common across sectors. Collaborations also make it easier for a range of organisations to access new and emerging technologies. Inition is part of the Business Growth Programme at London & Partners.

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TAKEAWAY

By using augmented and virtual reality to make complex topics more understandable and relatable, brands can achieve more with every campaign, whether for sales or social change. For digital natives, mixed reality education and training could very well become the norm, and new ways of storytelling are already enriching narratives past and present. How could digital forms of reality cross geographic boundaries to help make art more accessible to underserved and isolated communities?



Independent narrative game company inkle's beautiful, well-told stories have won multiple awards. Powered by the company's scripting language ink, the games use hand-drawn art in 3D. Launched in April 2019, their latest release, Heaven's Vault, is available on PS4 and Steam. The game follows archaeologist Aliya Elasra and her robot assistant Six. As players learn and translate hieroglyphics, their decisions affect the progress of the game. The scripting language remembers everything players say and do and incorporates those decisions and actions into what happens next.

An open-source language for writing interactive fiction, ink encourages gamers to try it out and have their stories turned into basic-level, playable web pages. As well as its two other games (Sorcery and Around the World in 80 Days), inkle creates interactive stories and apps in partnership with other organisations, all with the same high-quality interactive playability.

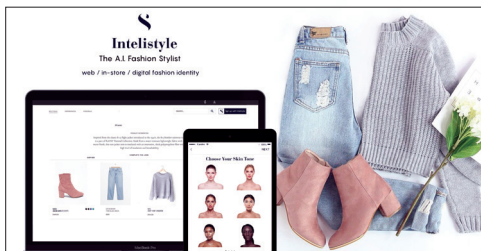
Project creative innovator
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TAKEAWAY

Gaming is used in a variety of ways, from crowdsourcing map content to helping teenagers manage their stress. And the technology associated with games, particularly the three-dimensional aspect of VR, is being applied in a range of industries, including with museums and other tourist attractions. Virtual access to content could also be useful in education and law. How might embedded data-analysis capabilities help promote cross-sector collaboration through extended reality technologies?



“Styled by AI” isn’t yet a commonly used term, although that may be about to change. London-based Intelistyle’s artificial intelligence (AI) chatbot stylist works with both retailers and customers. For retailers, the algorithm can “complete the look” by generating multiple outfits based around a single product and can recommend appropriate alternatives for out-of-stock items. With the app, the personal styling service can be accessed on any device, allowing customers a seamless move between online and offline shopping.

For shoppers, the chatbot recommends styles and outfits based on personal preference, body type and hair, eye colour and skin tone. Based on what is already in a shopper’s closet, it can recommend new buys as well as suggestions of combinations of items already owned. During 2019’s London Fashion Week, the outfit put together by Intelistyle’s algorithm was better received by a group of fashion experts than an outfit styled by a human. Intelistyle is part of the Business Growth Programme at London & Partners.

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intelistyle

TAKEAWAY

Intelistyle’s chatbot could help consumers better manage their clothing and, ideally, cut down on waste by preventing the re-buying of items already in the closet. And with multiple suggestions of ways to wear clothes and accessories, shoppers could make more frequent — but not repetitive — use of pieces they already own. What other features could be added to this type of technology to help make it more explicitly supportive of sustainability?



Jaak's blockchain system Kord is at the heart of the company's system for global intellectual property rights management. As a decentralised network, the data held in Kord creates a public, industry-wide view of rights that Jaak calls Smart Content. Working initially with leaders in the music industry, Jaak believes the system will work across sectors. For the music industry, Kord makes it easier for everyone involved in the process — from session musicians to headliners, labels, studios and streaming sites — to more clearly follow and understand the rights involved at every stage and helps ensure more equitable and timely payments to contributors.

Users have authority over their own information only and are able to upload, amend and delete their data as necessary. When the pilot with the music industry ends, Jaak will begin work on a range of products and further development of the Kord network.

Project creative innovator
Jaak

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JAAK

TAKEAWAY

A variety of artists could very well make good use of the system, including photographers and writers. It will be interesting to see how other areas of work utilize such transparency regarding intellectual property rights. The effects may be realised only after a period of time. Which brings to mind the age-old issue of forgery. How might organisations that oversee historical works make use of the decentralised nature of blockchain's data capture?

KAGENOVA



Mixed reality experts KageNova help make immersive experiences realistic. The company's spatial360 software turns existing 360° virtual reality (VR) scenes into fully interactive immersions. A user's real-world movements are translated into the virtual world creating true freedom of exploration.

spatial360 works through AI processing that runs in the cloud, combined with a (Unity) software plugin for viewing VR content. Together this enables six degrees of freedom (6DoF) movement, the magic number that allows for whole-room VR experiences, enhancing presence while eliminating visual-vestibular conflict, the biggest cause of cyber motion sickness.

KageNova recently completed Digital Catapult's Augmentor and the Vive X accelerator programmes and has been selected for a place in the Machine Intelligence Garage, a Digital Catapult programme to support start-ups working on artificial intelligence.

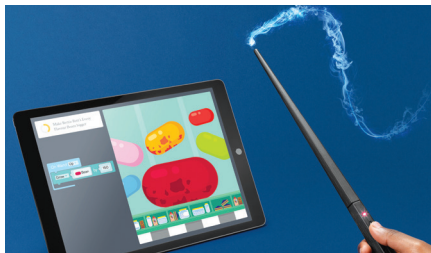
Project creative innovator
KageNova

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TAKEAWAY

Apps and plugins can be cost-effective, efficient methods for improving existing products. By taking that approach into the world of mixed reality, spatial360 helps businesses in any industry improve their immersive offerings. Whether training surgeons on new techniques, or sharing the life-cycle of a product, augmented and virtual realities offer myriad opportunities for adding detail to and expanding ideas and experiences. How else could interactive storytelling bring emotion and adventure to life?



Kano aims to make learning to code a fun process and encourages active creativity, rather than passive consumption. With its DIY coding kits, learners use brightly coloured boards, buttons and drag-and-drop blocks of code to solve challenges and earn rewards. Through step-by-step instructions and varied levels of difficulty, coders learn how to build apps, games and music, as well as hack popular games like Minecraft and Pong. Coding languages include Python, Javascript and Unix, and users can collaborate with a worldwide community of players.

There are five kits available, including the incredibly popular Harry Potter Kano Coding Kit, which teaches players how to code, build a wand and create magic. Other kits teach new coders how to build a tablet, computer, light features and a motion sensor. The company recently announced a partnership with Disney to create a Star Wars themed product. Kano is part of the Mayor's International Business Programme at London & Partners.

Project creative innovator
Kano

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TAKEAWAY

Children are more tech savvy than ever, and families must find ways to balance physical activity with creativity and screen time. Kano's kits give children the tools to better understand the world around them by taking control of online spaces and devices. How could organisations inside and outside the sphere of education use an active learning approach to deepen engagement and improve the quality of interactions with their customers and audiences?

KNITERATE



Kniterate is helping disrupt supply chains and manufacturing by bringing small scale, on demand, no waste production to the masses. Kniterate is a digital knitting machine that uses yarn to print. Each machine includes a package of software with design templates, stitch choices and the option to share designs with the wider Kniterate community. With each piece printed directly from the digital file, there is no cutting necessary, which means no waste.

The online platform and app allow makers to set stitch density, produce small-scale runs and test new ideas. More complicated items are produced piece by piece, with only basic assembly needed for completion. Having raised more than €530,000 on Kickstarter, the company is now taking pre-orders for its Batch 5 machines due to ship in April 2020. Development of the software continues and in future iterations will include the ability to print from images.

Project creative innovator
Kniterate

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|||
KNITERATE

TAKEAWAY

The connotation of craft is often one of a low-fi, organic reaction to the world's rapid digitalisation. While that may be one aspect, many makers are at the forefront of materials technology, using old products in new ways and developing more sustainable methods of production. How might other organisations take inspiration from the made-by-hand movement to tell stories in a new way and encourage more mindful engagement with audiences and customers?



Complex topics and emotions are writ large in the interactive performances of the Limbik Theatre. Using a mix of virtual reality (VR), real-time motion capture and live video projection, the Theatre's latest project, *Fatherland*, explores disembodiment in the modern world. Audiences are guided through the story via the eyes of an elderly man with dementia, his carer and his son. There is one professional performer in the show, and audience members are invited to participate by donning a VR headset and becoming one of the 'cameras' through which the story unfolds.

As dementia robs the body of its mind, the show questions the place of reality in an increasingly interconnected world. The son's interest in conspiracy theories further complicates the scene as he searches for alternative reasons to his father's illness. *Fatherland* was created in partnership with the University of Portsmouth and the National Theatre using technology including HTC Vive trackers, iKinema Orion and Live Action, and Epic's Unreal Engine. Limbik Theatre is part of the CreativeXR programme at Digital Catapult.

Project creative innovator
Limbik Theatre
Project partner
**University of Portsmouth
and the National Theatre**

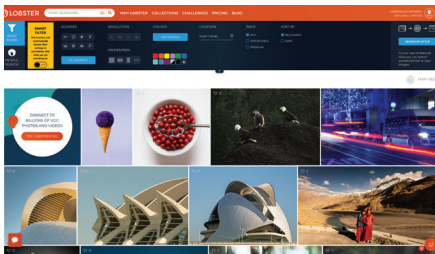
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TAKEAWAY

Increased connectivity has the ability to make certain human experiences feel more universal. So, stories of individuals and groups that have never been heard before are coming to light. Technology assists this representation in various ways, and brands are intensifying their search for the most interesting and attractive account of their business. How could the concepts of co-creation and universality be combined in public spaces for improved community and service provision?

LOBSTER



Ethical stock imagery platform Lobster connects organisations seeking high-quality media with the owners of content shared on social platforms. Completely reinventing the stock image library, Lobster's artificial intelligence (AI) powered searches help brands find and license images and videos that fit a company's branding style. The AI filters in much greater detail than traditional tags, and users can search on 10 social media platforms for everything from mood to location and diversity.

All searches include a quality ranking to reduce time spent scrolling through blurry images. After licensing, an image's resolution can be increased by up to sixteen times for use in print. Lobster uses blockchain for transparency, and creators are paid for their work after agreeing a licensing agreement. Lobster pays a 75 percent commission on any work used and takes on the full administrative burden of tagging, invoicing and licensing. As a further benefit to creators, Lobster partnered with KodakOne to support a post-licensing service to track unfair use of material.

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TAKEAWAY

Transparent supply chains are essential to all ethical businesses, yet can be difficult to set up and oversee. Food and fashion have often been at the forefront of the movement, and there are a variety of distribution and payment platforms available to musicians that use blockchain, too. How could other industries benefit from better vetting of user-generated content?



Data virtually comes alive with Lume. In partnership with the University of Cambridge's Lee Lab, Lume's virtual reality (VR) platform is a revolutionary way of collaborating around complex data. Completely interactive, Lume allows companies and labs to create virtual rooms where their complex data exists. These collaborative workspaces can be accessed by teams globally using VR headsets (and soon through the web) allowing users to share data insights with clients and team members in a meaningful and efficient way.

Lume's powerful algorithm can transform any data into interactive content that can be easily understood, improving the productivity of global teams and helping engage clients with complex data narratives.

Following the success of Lume Alpha, the company is now working across industries such as deep science, academia, pharma and financial services to improve data communication and accelerate the pace of innovation. Lume is offering 50 companies exclusive access to its beta release. Lume is part of the Augmentor Programme at Digital Catapult.

Project creative innovator

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TAKEAWAY

VR data analysis provides an immediacy that could be particularly useful in time-sensitive situations, especially when multiple experts are needed. How could the ability to collaborate in real time across physical boundaries with such accessibility and in-depth analysis benefit teams as diverse as those working on natural disasters and public health campaigns?

Lume

MARSHMALLOW LASER FEAST



Immersive art collective Marshmallow Laser Feast creates innovative multi-sensory art installations. Their latest experience, *We Live In An Ocean Of Air*, takes visitors on a fantastical tour of the exchange of oxygen and carbon dioxide in both human breathe and giant Sequoia trees. The 20-minute journey uses untethered virtual reality (VR) and breath and heart rate sensors to track each individual's rates during the experience. By revealing the invisible processes going on all around, visitors are encouraged to reflect on connectivity and the interdependence of humans, plants and animals.

The installation provides tiers of immersion to embed audiences into the new world and further illuminate the relationships between individuals, communities and the natural world. Earlier work by the collective includes an animated tour of the food chain titled *In The Eyes of the Animal*. It was accompanied by a soundscape of audio recordings from one of the UK's forests.

Project creative innovator
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**MARSHMALLOW
LASER FEAST**

TAKEAWAY

Art is and can be everywhere, which makes it a fertile place for experimentation and development. With Marshmallow Laser Feast's fusing of forms, techniques and tools, the unseen is seen. This is often motivates world travellers and could be something tourism organisations look to for inspiration. What technologies could be used to animate and reveal new angles of a story, no matter how well-told in the past?

MAZE THEORY



Built by VR immersive entertainment studio Maze Theory, an artificial intelligence (AI) enhanced virtual reality (VR) game puts British crime drama *Peaky Blinders* fans directly in the Birmingham-based street gang action. The AI allows characters to react to gestures, sounds and actions of game players. Upon entering the virtual world, players encounter new and well-known characters and must infiltrate the world of the Shelby crime family to help defeat a rival gang.

One of the most intriguing aspects of the use of AI in VR entertainment spaces is the unknown nature of interaction between players and the game, making the entire experience completely bespoke for each individual. The game is scheduled for release in 2020, and the UK government's Audience of the Future Programme is helping fund Maze Theory's development of AI VR technology. In September 2019 in partnership with the BBC, the studio will release a feature length cinematic VR game titled *Doctor Who: The Edge of Time*.

Project creative innovator
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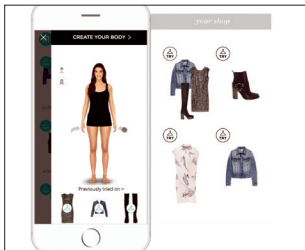


MAZE THEORY

TAKEAWAY

Market research, medical diagnosis and maintenance management are three of the disparate industries exploring the power of AI in VR. Immersive experiences can help unlock deeper insight into people's motivations as well as make it easier to consider another point of view. AI chatbots could be the future of therapy, and predictive maintenance, combined with VR training, could save manufacturers billions in unplanned downtime. How else could immersive, visual storytelling approaches be used for better business management?

METAIL



When it comes to online shopping for clothes, getting the right fit can be a guessing game. Many people solve the quandary by ordering the same item in multiple sizes and then returning the ones that don't fit. The United Kingdom's Metail platform's solution to the size and fit problem is designed for use by both shoppers and retailers. Metail offers two services – MeModel and Composed Photography. MeModel takes a few measurements from customers and uses its machine-learning algorithm to suggest accurate and personalised style and size recommendations.

For retailers, MeModel provides data analysis to help maximise inventory and supply chain efficiency and to help boost brand loyalty with insight into customer preferences. Composed Photography adds another service for retailers, providing a much simpler method for photographing and publishing new collections. Models are digitally dressed, allowing for endless changes and different styling options without the high cost of reshoots and retouching. Metail is part of the Mayor's International Business Programme and the Business Growth Programme at London & Partners.

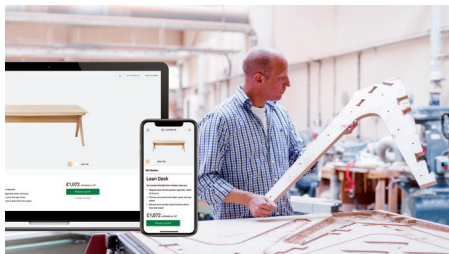
Project creative innovator
Metail

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TAKEAWAY

In 2018, nearly two billion people worldwide shopped online. Even a fraction of those transactions being returned is a substantial figure, and with climate change mitigation incredibly urgent, retail (and fashion in particular) has a huge role to play in increasing sustainability. This is where personalisation may begin to pay dividends. What types of processes could be put into place to better support consumers in buying quality over quantity?



OpenDesk is a global online furniture marketplace that connects customers with local makers. Rather than buying and shipping individual pieces of furniture, customers pay to access a design file and have the furniture built for them in their own country by local makers. The process supports small-scale creatives and designers by giving them a global platform for their designs without the administrative burden of having to oversee delivery. Customers also avoid the high environmental and time costs of international shipping.

The company recently introduced its augmented reality (AR) virtual showroom for iOS. Potential customers choose a design to preview and then click either object mode or AR mode. Object mode shows the item in detail, from all angles, as per regular online shopping. AR mode places the piece of furniture into the virtual version of a shopper's home or office space for a realistic demonstration of look and feel.

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TAKEAWAY

Much of the personalisation in retail is offered by global businesses that are able to invest in the latest technology. Local makers, while also offering bespoke items (albeit on a much smaller scale), tend to work in more circular economies that focus on sustainability as the centre of their approach to doing business. What technology could help international brands take a more ethical and on-demand approach to manufacturing within their supply chains?

OPPOSABLE GAMES



Part of Opposable Group, games and VR research and development studio

Opposable Games focuses on connected multiple-device gaming. The company's proprietary OneTouchConnect system allows cross-platform devices to recognise each other. The system connects devices across iOS, Android, Mac and PC for true shared-gaming experience. Single and multi-player gaming is supported, and for developers, the system is available as a Unity plugin. The plugin includes example codes and scripts.

The company's biggest game is the alien-infested, tactical sci-fi action of *Salvaged*. Players command a salvage ship fighting for survival in a new galaxy. As well as producing their own content, Opposable Games works with a range of organisations to help bring their own material to immersive life. For the University of Bristol, Opposable Games developed a cognitive behavioural therapy PC game called *Pesky gNATs* for children in therapy. With the Wellcome Trust, the company created a microscopic virtual pet game called *Mycrobe*.

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OPPOSABLE
GAMES

TAKEAWAY

Entertainment software has been widely adopted across industries, often for in-house training and development. The technologies are also often used to track engagement and help improve customer support services. With global in-game spending expected to reach over €28 billion in 2020, marketing teams may find the increased numbers of touchpoints available via a single product invaluable. Where else could in-product links combined with seamless movement between devices be especially useful?



London's Philharmonia Orchestra is dedicated to using technology to reach new audiences and expand on traditional musical experiences. The Orchestra's Universe of Sound installation is a digital, interactive exploration of an orchestra from the inside out. Visitors step inside the virtual orchestra to experience – in full immersive surround sound – 132 musicians and conductor Esa-Pekka Salonen performing Holst's The Planets. The 3D audio and video installation combines unconventional projecting surfaces, touch screens, giant visual displays and movement-based interactions to create the thrilling opportunity to play along with the professionals.

In 2019, the orchestra is taking audiences on a journey through the intense and volatile creativity and political turbulence of Germany's Weimar period. The programme is a mix of cabaret, shows and musical accompaniment to talks and films, titled Weimar Berlin: Bittersweet Metropolis and will launch at London's Southbank Centre.

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TAKEAWAY

Music is about discovery, and the industry has embraced a mix of technologies. From blockchain for fair payment to recording with inexpensive equipment and new ways of sharing and distributing music, the sector thrives on mixing creativity and technology. The continued growth of automation and artificial intelligence creates the possibility of algorithms creating and using music. How might the emotional power of AI-generated music be used in other industries?

REACH ROBOTICS



Augmented reality platform MekaMon brings video game characters to life via its gaming robot. Created by Reach Robotics, MekaMon is a consistently evolving entertainment platform. As a personal robot with character, MekaMon's fluid movements are so expressive that a film trilogy is being built around the robot. In partnership with ThoughtWorks Arts and directed by Adrienne Wortzel, the first film, *The Sentient Thespian*, explores the emotions and potential of human-robot interaction.

For gamers, MekaMon presents a variety of options. Single player augmented reality combat or multiplayer battles are available, and with MekaMotion, owners can create new animations for their robot. As part of the global MekaPilot community, gamers can try out, rate and use other animations. Version two of the robot is now available to purchase. To get in on the action without committing to a robot, players can try MekaMon games for free via the app.

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Reach Robotics

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TAKEAWAY

Although not yet widespread amongst the general population, robots are becoming more advanced. When combined with some aspect of extended reality, the possibilities appear endless. From remote bomb defusing to new modes of transport in difficult terrains, robots can help humans do more. Education, of course, contains incredible opportunities for the use of robotics. Is there an area of work common across multiple industries that would find a robot useful? And if so, how?



Immersive content production studio REWIND's Salesdrive service lets potential car buyers browse from the comfort of their home. During the interactive virtual reality appointment with a dealer, customers see the vehicle from multiple angles and can try out features for a real-time inspection. The dealer has different menus available including Lifestyle and Customization that allow buyers to see different options, including a bike (in a rack on top or in the trunk), baby seats, colours, wheels and other performance options.

After a meeting, analytics including heat maps that show where customers were looking can help dealers further tailor their presentations. And with multiple users able to attend an appointment, the entire car-buying process becomes more collaborative and easier to arrange. Developed in partnership with HP and Intel, the Salesdrive proof of concept was debuted at Unite LA in October 2018. Rewind is part of the Mayor's International Business Programme at London & Partners.

Project creative innovator

Rewind

Project partner

HP

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REWIND

TAKEAWAY

Interactive virtual reality puts the visitor at the heart of the story, and not just as a viewer. Able to participate in the virtual world they have entered, customers can get to know brands in an entirely new way. Roughly two-thirds of the world's population uses smartphones, and since most mobile devices are powerful enough to support VR, potential audiences are nearly everywhere. How might educators use this technology in school?

ROYAL SHAKESPEARE COMPANY



All the world really is a stage, and the Royal Shakespeare Company proves it with its mixed reality experience of the Seven Ages of Man speech from Shakespeare's *As You Like It*. Working with spatial computing experts Magic Leap, Shakespearean actor Robert Gilbert was filmed performing the three minute soliloquy. Magic Leap uses volumetric capture to turn video into digital, three-dimensional film available for viewing anywhere.

To watch the short play, viewers wear Magic Leap One AR glasses. Audience members can then view Gilbert from a variety of angles and see the tree on set change with the seasons in the soliloquy. A gust of wind blows leaves from the tree, and they disappear into the world around the viewers. BAFTA winning composer Jessica Curry wrote the music especially for the performance.

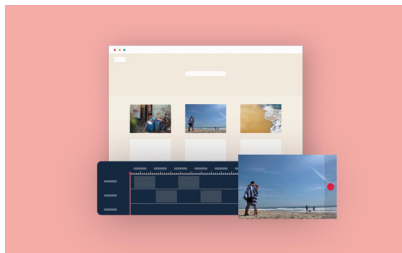
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TAKEAWAY

One of the most important effects of the development in mixed reality technologies is its integration with education and the arts. Accessibility is greatly improved, and larger, more varied audiences are introduced to a range of art forms and ideas, inspiring future scientists and artists. This creates the virtuous cycle that is necessary to support innovation. How else can wearable computing power be used to transform a brand's relationship with its target audience?



Video creation platform Seenit enables groups of people to create a single, multi-perspective film. The online Seenit studio, powered by WeVideo, provides all the necessary video production management tools from beginning to end. Users start by creating a project brief and shot lists. Once a project has been set up in the Seenit studio, participants are invited to start filming via the Seenit Capture app. Available for both iOS and Android, the app lets production managers send on-the-move messages of guidance and encouragement.

When filming ends, all content is uploaded and teams can edit and brand the material. The studio's artificial intelligence (AI) software can transcribe, analyse and provide auto adjustments for quality improvements. The app can be white labeled for a complete in-brand experience, and completed content is easily shared. Used internally, video co-creation can be a powerful engagement tool for global businesses with thousands of employees. Seenit is part of the Mayor's International Business Programme and the Business Growth Programme at London & Partners.

Project creative innovator Seenit

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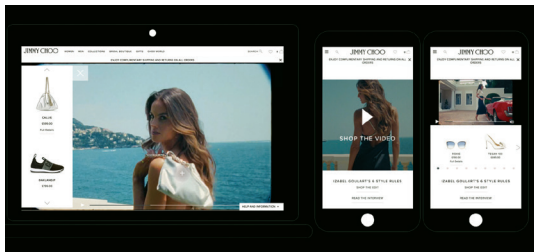
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TAKEAWAY

The quick turn-around combined with multi-perspective contributions make Seenit Capture a particularly thought-provoking option for producers and large global organisations. Banks and professional services may also find the collaboration and cost-effective post-production features useful as part of the more in-depth and personalised experiences they have on offer. How might live music events and performing arts groups use the technology to further engage with fans and audiences?



Shoppable video specialist Smartzer uses a customisable overlay to make anything in a video clickable. This means social media content can earn money like never before. The overlay helps create more seamless connections between audiences and additional content. Product attachments can be added as links. The overlay is fully customisable and responsive. This allows companies to create bespoke templates to match their branding and optimise viewing on any device, including in-store touch screens (with no need to invest in new machines).

Analytics include engagement metrics (including conversions), graphs showing product preferences and detailed behavioural data (including when and where clicks occur). Clients include LVMH, Valentino, Barbour and partnerships such as Adidas/Missoni and Harvey Nichols/Marc Jacobs beauty. Many users claim click through rates in the region of 10 percent, a rate much higher rate than the average, making the platform an essential investment for smaller companies as well. Smartzer is part of the Mayor's International Business Programme at London & Partners.

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Smartzer

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SMARTZER.

TAKEAWAY

Monetising user generated content (UGC) is a rapidly growing focus for businesses. There are billions of creators in the world, and myriad creative industries looking for unique material. It is at the intersection of new technologies such as Smartzer's overlay, licensing and intellectual property rights that additional applications may find new ways of working. How could blockchain be used to connect and improve different methods of earning from UGC?

SUPERPERSONAL



Using only basic measurements and a recording of a few of the user's head movements, the SUPERPERSONAL app turns ordinary shoppers into models. Customers can try out both style and sizing before buying, as well as get a much more realistic idea of how an item looks in motion on a person (themselves) rather than a mannequin. The app was piloted during the February 2019 London Fashion Show at the Hanger event, and virtual models took part in the catwalk show.

The app combines artificial intelligence (AI) with state-of-the-art visual imagery processing. For retailers, that translates into cost savings and efficiency increases when they use the model swap option in the app. This option allows the clothes to be photographed once, and a range of models and accessories added and styled as needed. A virtual fitting room with personalised recommendations is also part of the commercial version.

Project creative innovator
SUPERPERSONAL
Project partner
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SUPERPERSONAL

TAKEAWAY

Personalisation in retail helps sales teams make better suggestions and, as they get to know loyal customers, provide support and customisation for major life events. As technology develops, ideally brands will make such pertinent recommendations that, in the long run, fewer prompts (like ads) are needed and more overall sales are achieved. By adapting a similar focus on bespoke provision, how could public sector organisations help improve their customers' journeys?

THE IMAGINARIUM STUDIOS



Motion and performance capture experts The Imaginarium Studios take a story-led approach to technology. The studio has designed a pipeline that optimises the motion capture processes at every stage – pre-production, production and post-production. Using a custom marker set and retro-reflective body markers, the system of more than 50 optical motion capture cameras records actors body movement in intense detail. Head-mounted cameras can track every movement of the human face, no matter how subtle.

The studio works closely with clients to help create concepts, plan shots and rig characters. With a dedicated studio space in London, The Imaginarium Studios also travels with productions where its mobile optical system tracks and records body data in almost any situation and location. Recent work by the studio includes Star Wars Force Awakens and Netflix's *Mowgli: Legend of the Jungle* film.

Project creative innovator
The Imaginarium Studios

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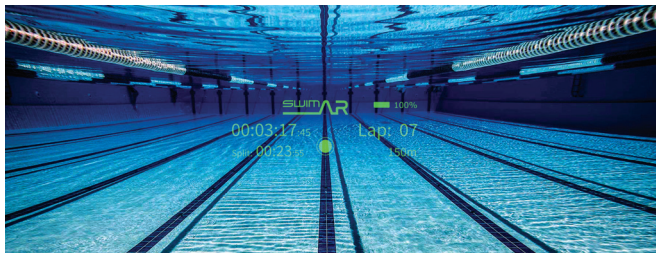
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TAKEAWAY

As technology develops, the ability to tell many different versions of the same story grows. Additionally, this technology allows the capture or creation of additional perspectives, opening up new worlds to audiences. As well as the entertainment sector, motion capture is used in healthcare to measure disability and progress in rehabilitation. What other types of businesses have a narrative arc to share that could benefit from the development of storytelling technology?

THE IMAGINATION FACTORY



The Imagination Factory's holographic swim goggle data display takes wearable technology under water. Called SwimAR, the display attaches to a variety of sizes and styles of swim goggles and provides real-time training information like lap times, split times and distance. Designed specifically to match the transparency and brightness of water, the holographic data is displayed directly in the line of sight of the swimmer. It is built using Sony SmartEyeglass technology and was developed by a triathlete. The translucent holograph also helps prevent the eye strain that is a common complaint in users of other smart eyeglasses.

Now an independent company, SwimAR is seeking commercial partners and additional coaches and swimmers to help continue testing the display. After multiple rounds of feedback, GPS capabilities have been integrated into the device. Bluetooth functionality is also in development, and the team is working on open water features. The Imagination Factory is part of the Augmentor Programme at Digital Catapult.

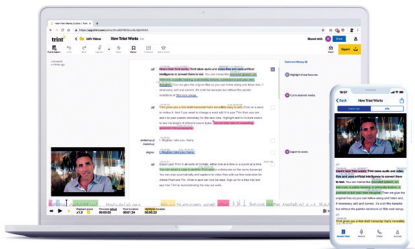
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SWIMAR

TAKEAWAY

SwimAR is a fantastic hybrid of hardware and software. Although developed specifically for athletes, applications could reach far beyond the world of sport. Real-time data, particularly health, safety and environmental alerts provided via an integrated wearable, could help professionals in a variety of industries, including mining, firefighting and disaster recovery. How else could AR displays of data and analysis help improve processes in industries that rely on speed and collaboration?



Automated transcription and editing platform Trint uses artificial intelligence (AI) to provide super swift turn-around times for transcripts and a suite of tools to make the best use of the spoken word. The service works in 12 European languages. Users upload audio or video files, and within minutes, the AI returns searchable, editable documents. Timecodes are automatically included in the text, helping journalists and video editors quickly find the exact wording, and texts can be downloaded in full or in part. Trint also provides a speech to text tool and an iPhone app for improved collaboration and near to real-time transcription.

The company recently raised GBP 3.4 million in Series A funding to strengthen both the AI and the platform. New tools will include workflow processes for large teams working on the same content and a video player with interactive transcripts, making recorded content more searchable and shareable.

Project creative innovator
Trint

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trint 
beyond transcription

TAKEAWAY

The combination of Trint's fast turnaround time, video captioning and speech-to-text service could greatly increase accessibility for organisations in many sectors. International education, research, healthcare and government could all find the platform particularly useful. The ability to edit transcripts is especially important for ensuring accuracy. With 2019 declared The Year of Indigenous Languages, and more than 2,600 languages in danger of disappearing, how could transcription services work across sectors to help sustain at-risk communities?



Urban technology design studio Umbrellium focuses on helping cities remain engaging, rather than just smart. Working with Direct Line Smarter Crossing, Umbrellium created the Starling Crossing - Stigmergic Adaptive Responsive Learning Crossing. Similar in colour and markings to traditional crossings, the Starling version prioritises pedestrian safety by modifying crossings based on real-time conditions.

The road surface uses a neural network framework with embedded LED lights and cameras to track moving objects and differentiate between pedestrians, cars and bicycles. The system tracks speed and trajectory and alters the crossing location and size depending on the current conditions. During busy times, the crossing automatically widens and moves up or down the road depending on traffic. When potential danger is identified, such as a child veering into the road, danger lights flash to alert the person and a buffer zone of lights surrounds them to alert vehicles on the road.

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TAKEAWAY

Smart crosswalks could help build the future of urban mobility by integrating with networks of connected transport systems. Ranging from micro-scooters and pay-as-you-ride bicycles to driverless cars and new train and bus systems, public transport is an integral, yet too frequently fragmented, aspect of urban design. How could new technologies and projects help improve the seamlessness of city travel in a sustainable way?



Global fashion software company Unmade works to transform the industry through on-demand production. Sustainability is the goal and, using Unmade's platform, can be achieved through customisation, short runs and collaboration. Companies that work with Unmade provide consumers with customisation options. Via the customisation editor, shoppers see exactly what the garment will look like as they design their own. Unmade's garment mapping technology makes sure that each bespoke aspect is reflected on screen in full colour, with correct lighting and shading and accurate fit and style.

On the production side of custom fashion, Unmade's order management system (OMS) links directly with factories to calculate the best possible schedule. The software also integrates seamlessly with a brand's in-house systems to provide complete oversight of the entire process. Shipping information and processes are included in the OMS as well. Moniker, Rapha, Opening Ceremony and Christopher Raeburn are some the brands working with Unmade.

Project creative innovator
Unmade

Contact

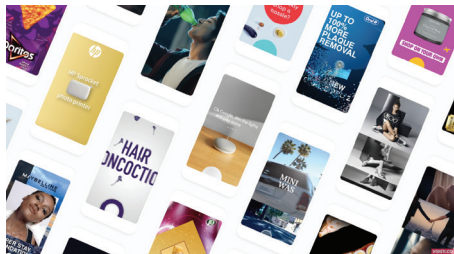
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UNMADE

TAKEAWAY

As citizens continue to more thoughtfully engage with their consumption, the process of buying mass-produced, easily replaceable items is slowly being challenged by limited edition, local production. Curated customisation is one way organisations of all sizes can build increased sustainability into their brand. How could product designers of all types incorporate the idea of personalisation and increased audience engagement into their work and business?



As a full-service mobile media distribution platform, Vidsy connects the best new generation creators with some of the world's largest businesses. A global leader in video advertising, Vidsy assigns a mix of ten motion graphic artists and filmmakers to each brief to develop a range of material. Content is then sent out for user testing, and the Vidsy team analyses results before the campaign launches. Describing mobile as its "creative canvas", Vidsy's jobs network allows artists to apply for the briefs they want direct from their mobile, and the company pays bonuses to the top creators in the network.

For brands, the company's all-in-one solution helps marketing teams create and manage videos for different platforms at scale. Built-in analytics make oversight easy, and the platform can be integrated with in-house systems. Major brands that Vidsy works with include L'Oreal, Warner Brothers, Facebook, Barclays and Amazon. Vidsy is part of the Mayor's International Business Programme at London & Partners.

Project creative innovator Vidsy

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VIDSY.CO

TAKEAWAY

Scalability is essential to increasing an organisation's profile, and platforms like Vidsy make it easier to reach a bigger audience. Brands, of course, need content that rings true with customers and provides an interesting angle. Great storytellers now have an incredible variety of tools to work. What would help businesses integrate a new technology with their social media platforms and content formats to make best use of their storytelling potential?

VISUALISE



Dedicated virtual reality production studio Visualise helped Visit Belfast bring the sights of the city to people and events around the world. Using augmented reality to create immersive doorways, visitors walked through a physical doorway and were virtually transported to another place entirely. Visualise mapped the project's virtual doors to the actual doors, meaning that when people walked in, they were immediately completely immersed in the city.

The technology used in the project was a hybrid of 360-degree, virtual and augmented reality storytelling. Virtual tourists wore headphones and viewed the city via iPad Pros (chosen for the screen size) as they walked into the space. Hosts in the 360-degree videos encouraged visitors to interact back and forth with both physical and virtual spaces. A green screen provided tourists with the opportunity to take photos (and thus share their experience) in front of a range of notable Belfast locations. Visualise is part of the Mayor's International Business Programme at London & Partners.

Project creative innovator

Visualise

Project partner

Visit Belfast

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VISUALISE

TAKEAWAY

Precious and fragile world heritage sites, as well as overcrowded tourist destinations, could use hybrid experiences like this as a way to better manage resources. Similarly, bringing adventures to life for spectators who may never have the opportunity to try them in real life could help increase accessibility. How could industries as diverse as sport, construction and architecture put AR and 360-degree film to use for both training and public consumption?



Live experience platform VRJAM supports artists and audiences in creating and accessing extended reality (XR) events. The platform has been purpose-built to stream virtual and augmented reality (VR, AR) content on mobile devices. Designed in consultation with Google, VRJAM is currently seeking €445K in seed funding to complete the build of the platform, create an app and design launch material for its headline acts.

Live motion capture places fans inside the action and by virtue of its digital location, allows them to meet other fans around the world. Full 360-degree video recording allows fans to share their experiences. As a reward for engagement, fans receive a share of the advertising revenue accrued during their interaction with each piece of content. Introduced to the public at London's Ministry of Sound nightclub in October 2018, the system has been tested successfully across five different countries.

Project creative innovator
VRJam

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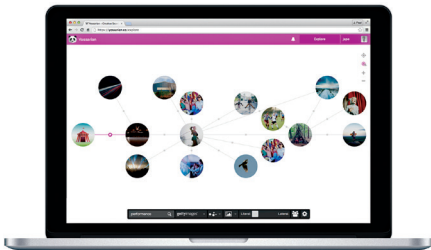
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TAKEAWAY

As well as for sports events and music concerts, live-streaming, extended-reality experiences could also be used by organisations in sectors as diverse as health and the environment. While safety and privacy may be particular concerns in other industries, the ability to reach a larger audience in a new way could make the effort worthwhile. How might some traditionally offline activities incorporate aspects of mixed reality into their work and projects?

YOSSARIAN



Metaphorical search engine Yossarian uses lateral connections made by its artificial intelligence (AI) to help encourage creativity in its users. The algorithm can be set to search for different levels of metaphor that range from “literal” to “serendipitous.” The company believes its metaphorical machine-learning searches help people escape the ubiquitous filter bubble contained within traditional search engines.

Professionals in all industries spend many hours searching and brainstorming for inspiration, and Yossarian can provide new angles from which to approach an idea. One hospital emergency department reduced its handoff errors by more than 65 percent thanks to Yossarian’s analogy of a pit stop crew. The strength of AI is its capacity to perform learned searches at rates humans can never attain. So for businesses and individuals reliant on everyday creativity, a variety of suggestions beyond their range of experience can be particularly helpful in kick-starting new approaches. Yossarian is part of the Machine Intelligence Garage start-up cohort at Digital Catapult.

Project creative innovator
Yossarian

Contact

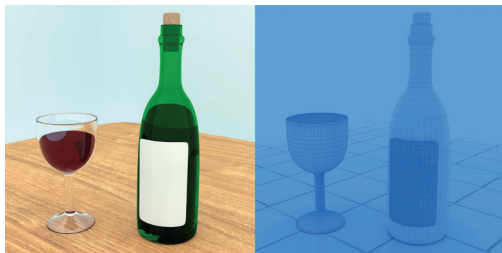
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TAKEAWAY

Creativity is one of life’s intangibles, so using AI to augment it creates an interesting connection between human and machine. Marketers and advertisers, as well as others in the traditional creative industries, are obvious users. Less obvious could be the use of the metaphorical search engine in helping organisations running public and social spaces and services. What types of solutions might be found in collaborations between organisations that have never worked together before?



ZEG.ai is transforming the use of 3D modelling with its artificial intelligence (AI) design software. Specialising in deep-learning AI, the company provides what may be the world's first concept that uses 3D content as a service. At a minimum, companies must provide one to two images for the 3D model to be based upon. The AI then takes on what is frequently an extensive, expensive and time-consuming process and produces 3D models for a fraction of the usual time and cost. With the strength of its deep-learning networks, entire product catalogues can be modelled.

For industries that rely on visuals, particularly e-commerce businesses, an on-demand service such as this could greatly enhance their offerings, whether that be in sales, services or training. 3D modelling as a service also provides vastly improved marketing capabilities without requiring the acquisition of any new hardware, software or processes. And ZEG.ai offers both augmented and virtual reality versions of a visualisation. ZEG.ai is part of the Machine Intelligence Garage start up cohort at Digital Catapult.

Project creative innovator
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TAKEAWAY

An affordable 3D-modelling service could have ramifications far beyond the obvious industries of gaming, architecture, film, media and advertising. Training and education at many levels could benefit from immersive details rendered in high definition. The cost and time savings, along with speed in which models can be produced, could provide substantial benefits to cash-strapped government departments and environmental agencies. What opportunities are there in the food industry to use 3D modelling?

Ones to Watch showcases 50 UK-based projects praised by experts for delivering new products, services, and experiences in the fields of Immersive Entertainment; Transformative Experiences; Seamless Service and Personalised Tools.

A forum of industry and Government, the **Creative Industries Council (CIC)** focuses on areas where there are barriers to the growth of UK creative organisations, such as in access to finance, skills, export markets, regulation, intellectual property (IP), and infrastructure. Action is taken forward through a small number of 'task and finish' working groups. Industry members of the CIC also support the website below to promote awareness of the UK's creative industries.

www.thecreativeindustries.co.uk



Design Morrison Dalley

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