Department for
Digital, Culture,
Media & Sport

culture is
DIGITAL

CULTURE
IS DIGITAL

EXECUTIVE SUMMARY

FOREWORD

The UK's future will be built at the nexus of our artistic and cultural creativity and our technical brilliance.

By the Secretary of State for Digital, Culture, Media and Sport
Rt Hon. Matt Hancock

The Centre for Economics and Business Research 2018 World Economic League Tables identify this particular blend of creativity and technology skills as the driving force behind the strength of the UK's strong economic prospects over the long term;[1] a powerful combination of talents to project to the world as we prepare to leave the EU.

Digital technology is breaking down the silos between the cultural sectors.

Digital technology is breaking down the silos between the cultural sectors,[2] blurring the lines between disciplines – theatre blends with film; computer programming merges with sculpture. We have virtual reality curatorship, animated artworks, video games scored by classical music composers.

> 66
> Tech companies are collaborating with cultural organisations and practitioners to create new experiences for audiences.
> 99

Tech meets culture

Tech companies are collaborating with cultural organisations and practitioners to create new experiences for audiences, often exploring the boundaries of new technology at the same time. The Royal Shakespeare Company's groundbreaking production of The Tempest brought digital avatars to life in real-time as part of a collaboration with Intel and Imaginarium.

The partnership between English Heritage and Google Arts and Culture uses 360 degree image capture to reveal historical treasures online for the first time.

Cover: *Laser Forest*, created by Marshmallow Laser Feast

Right: *The Forever Project*, The National Holocaust Centre

Unprecedented opportunities

Technology offers unprecedented opportunities for the UK cultural sector. On a daily basis we witness technology's role in engaging new audiences, nationally and internationally, through digital platforms and distribution channels; in driving business models; creating art, cultural content and experiences; and increasing access to our world-class archives and collections.

The Associated Board of the Royal Schools of Music sets the standards for music examinations in 93 countries. Its international reach and continued success is dependent on the use of digital tools to communicate with teachers and learners across the world. National Theatre Live is opening up performances to cinemas and classrooms all over the world whilst the Forever Project at the National Holocaust Centre and Museum near Newark, Nottinghamshire preserves the testimonies of Holocaust survivors using laser image technology.

The ultimate power couple

The UK technology and cultural sectors make the ultimate power couple but more action is needed to make sure that they share the same interests. By focusing on the synergies between culture and technology – where the UK has dual competitive advantage – this Digital Culture Report focuses on the use of digital technology to drive our cultural sector's global status and the engagement, diversity and well-being of audiences.

Clear messages emerged about the opportunities and challenges and the demand from all parties for leadership, coordination and action.

This report is the culmination of the Digital Culture Project which I launched in April 2017 with the #CultureisDigital online consultation. The enthusiastic response to #CultureisDigital animated this project's consultation and policy making process. Our hashtag trended on Twitter in week one, the online stakeholder discussion platform was viewed 39,000 times and the blogs on the project on our DCMS channels received thousands of views.

Above: 3D mapping of the Ksar Said palace

Right: *Our Dancing Shadows* by Kaleider

As a result the stakeholder consultation attracted contributions from more than 150 organisations, from major national institutions to local arts charities, as well as large digital companies and tech startups. Throughout the process, clear messages emerged about the opportunities and challenges and the demand from all parties for leadership, coordination and action.[3]

We heard that a number of cultural organisations feel held back by a lack of infrastructure or resources, that they need better digital skills and to focus more time on leadership training; there are often communication barriers when working in a cross disciplinary way, and the pace of change in technology itself has resulted in a fragmented approach.

150
organisations

The stakeholder consultation[4] attracted contributions from more than 150 organisations

> **"**
> This Digital Culture Report focuses on the use of digital technology to drive our cultural sector's global status and the engagement, diversity and well-being of audiences.
> **"**

Audience expectations

We also heard a plea for evolution rather than upheaval. My department has responsibility for all things digital. But not everything is high tech. Or needs to be. We still enjoy reading a book, looking at a painting and watching a play without a mobile phone or a VR headset.

Audience expectations are changing and so are the practices of artists, creators and curators.

Great art and cultural experiences are being created and appreciated by audiences in traditional formats. But audience expectations are changing and so are the practices of artists, creators and curators and we must ensure that the right structures are in place to support this transformation so that the UK continues its long history of creative excellence – digital and analogue.

Cultural organisations have a powerful role to play for audiences – particularly younger audiences – in the digital age. In the echo chamber of social media where content and commentary can be chosen to confirm existing views, cultural organisations can provide challenge, interrogate our opinions, reveal our history and support our sense of community.

Over the following pages I aim to set out a vision for Digital Culture.

Over the following pages I aim to set out a vision for Digital Culture. I hope it shines a light on the considerable successes of culture's engagement with technology and sets out some practical actions to help tackle the barriers for organisations of all sizes; tech and cultural.

❝

My enormous thanks go to the many individuals, organisations and advisors from across the cultural and tech sectors who have given freely of their experience, skills and ideas.

❞

Above: *Ticket to Ride,* Creative Scene, West Yorkshire
Right: *The Virtual Orchestra*, produced by the Philharmonia Orchestra and presented in partnership with Southbank Centre.

Tech and culture partnerships

Through this report I want to encourage tech companies – large and small – to think about partnerships with cultural organisations. To help provide creative thinking, to scrutinise tech development or to connect to new audiences.

The policy commitments are an Action Plan for cultural and tech organisations but they also provide a framework for the coordination and development of future activity.

My enormous thanks go to the many individuals, organisations and advisors from across the cultural and tech sectors who have given freely of their experience, skills and ideas. I am particularly grateful to Jane Finnis, Will Saunders, Professor Simeon Yates, Tonya Nelson and Lucy Sollitt who were seconded to the Digital Culture Project over 9 months to develop policy ideas and whose work is reflected in this report. This project has been a team effort so far, and there is much more to do.

Rt Hon. Matt Hancock
Secretary of State for Digital, Culture, Media and Sport

EXECUTIVE SUMMARY

The UK has a dual competitive advantage in creative and technological skills[4] and our future prosperity will be driven by this particular combination of strengths.

5th

The UK is 5th in the global innovation index

In March 2017, the Government set out an ambitious Digital Strategy, aimed at ensuring that the UK is the best place to start and grow a digital business and trial new technology, and that our digital sectors remain world-leading.

This has been amplified by the Government's Industrial Strategy, which set out how the UK will build on its strengths, extend them into the future and capitalise on the opportunities before us. The UK is 5th in the global innovation index and an 'innovation leader' on the 2017 Euro Innovation Scoreboard.

We are a tech savvy market, quick to take up and innovate with new technology; our capital's tech firms raised a record £2.45 billion in 2017, and evidence shows

that the UK and, in particular, London remain the most attractive destination in Europe for tech investors, gaining more venture capital investment in 2017 than Germany, France, Spain and Ireland combined.[5]

The Government's Industrial Strategy aims to expand on these successes, providing greater resources that enable firms of all kinds to startup, scale-up and grow. Through the Digital Charter, the Government will ensure the internet works for everyone, agreeing norms and rules for the online world and putting them into practice. Following the work of the Artificial Intelligence review, we will work to make the UK a global centre for AI and data innovation and embed the power of these technologies across our economy.

£2.45bn

Our capital's tech firms raised a record £2.45 billion in 2017

Creative Industries; those sectors which have their origin in individual creativity, skills and talent and which have the potential for wealth and job creation through the generation and exploitation of intellectual property, sit within and alongside the digital sector.[6]

Above: *Virtually Real, Royal Academy of Arts*

" London remains the most attractive destination in Europe for tech investors, gaining more venture capital investment in 2017 than Germany, France, Spain and Ireland combined[7]. "

> *Culture and technology can work together to drive audience engagement, boost the capability of cultural organisations and unleash the creative potential of technology.*

£26.8bn

Cultural organisations and practitioners are vital components in this success story, contributing just under a third (£26.8bn) of the GVA generated by the Creative Industries.

Right: *The Tempest*,
The Royal Shakespeare Company

A fast-growing sector

Sir Peter Bazalgette's Independent Review of the Creative Industries highlights the significance of these sectors to the UK's Industrial Strategy. They contributed over £90 billion in GVA in 2016, over 5% of the UK economy (comparable to the Construction or Information sectors) and, between 2010 and 2016, grew by 45% – faster than any other sector.[7]

Cultural organisations and practitioners are vital components in this success story, contributing just under a third (£26.8 billion) of the GVA generated by the Creative Industries.[8]

A world-class cultural destination

The UK is one of the most exciting cultural destinations in the world; boasting world class museums, with the British Museum, the National Gallery and Tate Modern in the top ten most visited museums in the world.[9] Experts in our archive institutions preserve a thousand years of iconic national documents and the 3,223 libraries on high streets and in communities across Great Britain[10] provide a range of services to meet the needs of local people.

We can celebrate our nation's rich heritage with our historic buildings and monuments ranked 5th on the Nations Brand Index[11] and we can boast of a cutting-edge performing arts sector with three of the world's top five universities for the performing arts located in the UK. That training quality, in turn, feeds into our UK film industry which contributed £5.2 billion to UK GDP in 2015,[12] due to the talent both in front of and behind the camera and the quality of production, with the top three films released at the UK box office in 2017 being UK qualifying productions.[13]

The Digital Culture Project has been about bringing these success stories together. Born out of the Culture White Paper,[14] the Digital Culture Project and the #CultureisDigital online consultation was launched in April 2017. Its aim has been to explore how culture and technology can work together to drive audience engagement, boost the capability of cultural organisations and unleash the creative potential of technology.

45%

The creative industries grew by 45% between 2010 and 2016 – faster than any other sector

Working across the UK

Although cultural policy itself is devolved to Scotland, Northern Ireland and Wales, this report covers the whole of the UK and seeks to highlight digital cultural activities across borders. There are common issues to be pursued as each of the devolved administrations recognise the significance of technological changes to cultural organisations and audiences, and we collectively aspire to extract the maximum benefit where proposals have UK wide reach.

We have highlighted where actions are UK-wide or solely for England. Generally, only those actions being delivered solely by the Arts Council England alone, as its remit is restricted to England only, are unavailable for cultural organisations in the devolved administrations to participate in and benefit from.

Above: Sage Gateshead, Quayside Newcastle

Right: Demonstration of 'The People's Collection Wales' website

The devolved nations are active in this space. Creative Scotland's 10 Year Plan 2014–2024 sets out an expectation that all organisations will build digital thinking into their work and 'ensure that creative people and organisations have the digital skills and capacity to share and market their work'.[15] The Welsh Government is committed to celebrating the unique culture and heritage of Wales[16] and to promoting digital access, developing the potential for digital media to promote culture through projects such as Casgliad y Werin (People's Collection Wales).

> 66
> Although cultural policy itself is devolved to Scotland, Northern Ireland and Wales, this report covers the whole of the UK and seeks to highlight digital cultural activities across borders.
> 99

THEMES

The policy commitments in this report congregate around three key themes, each a chapter of this report. Below are introductions to each theme:

Right: *Titanic Belfast: Drawing Board, Interactive media*

AUDIENCES – USING DIGITAL TECHNOLOGY TO ENGAGE AUDIENCES

Digital experiences are transforming how audiences engage with culture and are driving new forms of cultural participation and practice.

As technology advances, so do the behaviours of audiences, especially younger audiences. We are no longer passive receivers of culture; increasingly we expect instant access to all forms of digital content, to interact and give rapid feedback.

Audiences are creating, adapting, and manipulating, as well as appreciating art and culture. In an era where the UK has an online audience of 50.4m people,[17] 76% of adults have a smartphone[18] and 80% use the internet daily or almost daily,[19] digital technology is transforming the relationship that cultural organisations have with the public.

Technology allows cultural experiences to be more accessible than ever; whether viewing collections online, experiencing immersive theatre or purchasing e-tickets for productions. We can look at a painting, read a novel, discover the heritage on our doorstep, or listen to music at a moment's notice, on multiple platforms and wherever we are in the world. Cultural organisations are beginning to harness the potential of digital technology to engage audiences through new formats and mediums and by diversifying their distribution channels.

50.4m

The UK has an online audience of 50.4m people, 76% of adults have a smartphone and 80% use the internet daily or almost daily

In using new technologies, there is the potential to reach out to new as well as existing audiences.

In using new technologies, there is the potential to reach out to new as well as existing audiences, including those who may have been previously disengaged or uninterested, and provide a hook for audiences to experience culture in new or 'deeper' ways. The collection, analysis and improved sharing of audience data is a key opportunity, allowing organisations to develop a more informed and responsive relationship with existing audiences and to engage new and under-represented audiences.

> We are no longer passive receivers of culture; increasingly we expect instant access to all forms of digital content, to interact and give rapid feedback.

With audience statistics showing levels of under-representation from Black, minority ethnic and disabled people, and lower socio-economic groups for many of the cultural sectors this report emphasises how digital communications and data tools can support efforts around audience diversity[20] in combination with the provision of cultural content and experiences.

Top left: Engaged school pupils use tech to enhance their field trip
Bottom right: Arkwright Experience, Cromford Mills, Derbyshire

SKILLS AND THE DIGITAL CAPABILITY OF CULTURAL ORGANISATIONS

Developing digital skills, for individuals, businesses, government and other organisations was at the forefront of the UK Digital Strategy and the UK's Industrial Strategy.

These set out Government ambitions to ensure that we have the skilled and capable workforce necessary for an increasingly digital world.

Research shows that organisations who benefit most from digital technology are those who are digitally mature.

Cultural organisations are increasingly using technology to help them deliver across many areas of their business. Research[21] shows that organisations who benefit most from digital technology are those who are *digitally mature*.

Right: *AltCity CDMX*, British Council 2016

Digital Maturity is where digital activity is embedded across an organisation as part of the strategic vision and throughout every part of the business, from its creative output and audience outreach through to e-commerce.

The cultural sector has particular skills gaps around intellectual property and data analysis.

The cultural sector has particular skills gaps around intellectual property and data analysis. Organisations don't have the skills relating to rights clearance, or access to legal advice around intellectual property rights. This lack of expertise is limiting their ability to create and exploit digital content.

A lack of skills in data analysis is preventing cultural organisations from collecting data and using it to develop their business models.

Our consultation also found that digital leadership – from both trustees and executive leaders – within the cultural sector has a significant influence on organisational behaviours. Change happens when there is senior recognition of the importance of digital skills and the transformational role that technology can play to support creative, audience and business model development.

> " Change happens when there is senior recognition of the importance of digital skills and the transformational role that technology can play to support creative, audience and business model development. "

FUTURE STRATEGY: UNLEASHING THE CREATIVE POTENTIAL OF TECHNOLOGY

The UK cultural offer is key to our soft power, as well as an important source of exports and inward investment.

> " The UK is recognised as one of the world's most adept soft power nations, ranked second on the Soft Power Index, a ranking for which our strong culture and digital sectors are important contributors. "

The UK is recognised as one of the world's most adept soft power nations, ranked second on the Soft Power Index, a ranking for which our strong culture and digital sectors are important contributors.[22]

Culture is a key driver for the Tourism sector. The 377,000 listed buildings, almost 20,000 scheduled monuments and 14 world heritage sites heritage are cited as important motivators for visitors to the UK[23] and DCMS-sponsored museums inspired 22 million overseas visits in 2016/17.[24] We export cultural exports of £18 billion which are growing quickly[25] and the cultural sector is a significant contributor to the www.greatbritaincampaign.com with events such as the Music is GREAT: British Music Showcase at MIDEM in June 2017 helping the GREAT campaign deliver economic returns of £2.7 billion for the UK already.[26]

£18bn

We export cultural exports of £18bn which are growing quickly and the cultural sector is a significant contributor to the GREAT Britain campaign

Top: Digitising Collection of 80 million specimens, Natural History Museum

Bottom: *DX17*, Imperial War Museum, Duxford

22m

DCMS-sponsored museums inspired 22 million overseas visits in 2016/17

PRIORITIES

The Digital Culture Project has highlighted three policy priorities to drive a Digital Culture future strategy and exploit soft power and export opportunities:

(1)

DIGITAL INFRASTRUCTURE FOR CULTURE

Our museum and archive collections are the envy of the world; 2,600 English museums care for important domestic and international collections, both historic and contemporary, and their curation is world renowned and respected.

Our cultural institutions have responsibility for the curation, protection and preservation of the material they look after, for both present and future generations.[27]

80m

The National Archives have digitised and published online over 80 million of their historical documents.
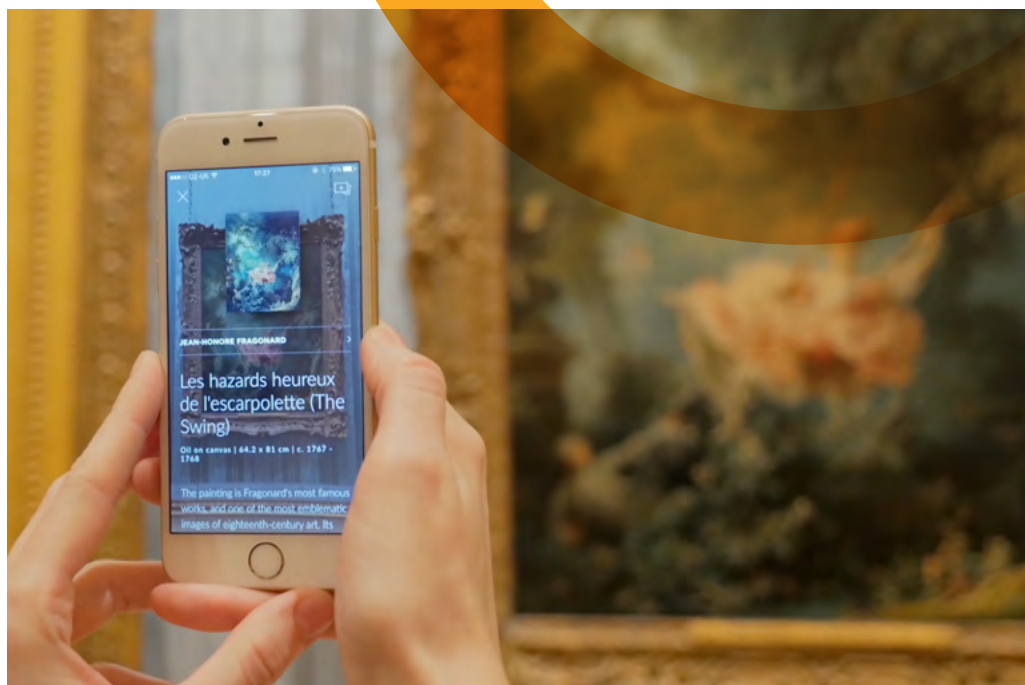
The Culture White Paper set out the aspiration to make the UK one of the world's leading countries for digitised public collections.

The Culture White Paper set out the aspiration to make the UK one of the world's leading countries for digitised public collections.[28] Digitisation has already had a significant impact on access to collections; 61% of museums have digitised up to 50% of their collection, with half of those with a digitised collection having made some of it available online.[29]

The National Archives have digitised and published online over 80 million of their historical documents, which in 2015/16 received more than 17 million visits.

A number of projects already in development are aimed at joining up collections, such as the British Library-led project for a Single Digital Libraries Presence; The Heritage Gateway; The National Archives Discovery Project; ArtUK, and the British Film Institute's Unlocking Film Heritage Programme.

However, throughout this project there have been calls for a more strategic and coordinated approach to enable more connections and curated content to be available across multiple digitised collections, across sectors and to improve discoverability for audiences.

This change would meet the expectations of audiences, scholars and the museums and archives workforce who expect digital content to be easy to navigate and open for them to enjoy, contribute to, participate in and share.

> **"** This change would meet the expectations of audiences **"**

Above: Smartify user scanning Jean-Honoré Fragonard's Les hazards heureux de l'escarpolette (The Swing), c. 1767–1768 at The Wallace Collection, London, 2017

2 INNOVATION

The fast rate of growth in the creative industries is largely driven by a combination of creative risk taking and Research and Development (R&D).[30]

The UK has a world beating HEI sector for creative subjects with institutions like Glasgow School of Art, University of the Arts London and Goldsmiths University. Students graduate with fully converged creative and digital skills and expect to pursue their creative practice using new technology.

The UK is at the cutting edge of innovation and technology globally, attracting more overseas investment in R&D than Germany, France and China.[31] However, our research found that the cultural sector, like the wider creative industries, finds it difficult to access R&D funding, resulting in less experimentation, access to technical skills and expertise, research, hardware and software, as well as time and space to undertake R&D.

The Bazalgette Review of Creative Industries notes that smaller organisations lack the capacity for strategic, cross-sectoral R&D which, if properly recognised and supported, could propel growth within the sector.[32]

The immersive reality market is growing at a fast pace, and is expected to reach £100 billion worldwide by 2020,[33] with the UK share currently estimated to be 5%. Cultural pioneers such as the Royal Opera House and the Philharmonia Orchestra are showcasing British excellence in immersive cultural production and demonstrate the potential for cultural organisations to play an influential role in positioning the UK as a global leader in content creation for immersive technology.

International touring projects like the collaboration between Marshmallow Laser Feast and Abandon Normal Devices in the award winning show In the Eyes of the Animal – a sensory perspective of three species of animals which inhabit British forests – and Rain Room by Random International – an installation in which rain falls all around the visitor but its touch remains absent due to 3D tracking devices – demonstrates the export potential of immersive cultural experiences.

By testing pioneering new experimental ideas and experiences using emerging technologies, culture can provide fuel for the wider creative economy.

£100bn

The immersive reality market is growing at a fast pace, and is expected to reach £100 billion worldwide by 2020

Left: *The Definitive Human Project*, Glasgow School of Simulation and Visualisation

Above: *In the Eyes of the Animal*, Abandon Normal Devices AND Festival 2015

> " By testing pioneering new experimental ideas and experiences using emerging technologies, culture can provide fuel for the wider creative economy. "

> **Effective tech sector partnerships can give cultural organisations access to digital talent, space, data, equipment, funding, peer to peer learning opportunities, and experimentation with technologies and new ways of working.**

3

COLLABORATION AND PARTNERSHIPS

Highlighted in the Culture White Paper, cultural organisations have a strong history of collaboration and successful partnership working and for many UK cultural organisations, multiple partnerships are a way of life. Effective tech sector partnerships can give cultural organisations access to digital talent, space, data, equipment, funding, peer to peer learning opportunities, and experimentation with technologies and new ways of working. In turn, the tech sector benefits from access to creative minds and creative content with which to innovate and a chance to reach out to new audiences to test the technology further than conventional consumer testing.

Left: *We Are Hull* by Zsolt Balogh, Hull City of Culture

Content creation can also help to drive technical innovations, pushing the possibilities of the software and its experiential potential.

Content creation can also help to drive technical innovations, pushing the possibilities of the software and its experiential potential. We are already seeing some impressive collaborations and partnerships between the culture and tech sector. For instance, Watershed in Bristol is working with the University of Bristol and their industrial partners to prototype and showcase new public facing applications of 5G.

Government wants to create the conditions where more partnerships between cultural and tech organisations of all sizes are possible.

COMMITMENTS

Laser Light Synth
by Seb Lee-Delisle,
Brighton Digital Festival

Audiences – Using digital technology to engage audiences

1.

Arts Council England and the Heritage Lottery Fund will ensure that funded organisations get better at collecting, using and sharing audience data, including:

a. Collecting and understanding data on the reach and impact of their digital and non-digital work and use it to drive their audience engagement strategies ensuring it is done on a consistent basis across the arts and heritage sector;

b. Encouraging the use of integrated databases, such as Audience Finder, and the sharing of audience insight research, so that all businesses in the sector can better understand digital and physical audiences.

2.

The Space and The Audience Agency will work with arts and cultural organisations, Nesta, the BBC and other content publishers and partners to develop a metrics framework and best practice guidance for arts and cultural organisations to use when planning and assessing audience engagement across different digital platforms.

3.

In order to further broaden cultural engagement and empower communities to share their voices, views and creative content digitally, Arts Council England will ensure that its Creative People and Places programme makes use of digital communications and platforms and that the analysis and learning from the projects are widely shared.

4.

We will encourage recipients of UK City of Culture and Cultural Development Funding to include ambitions to enhance digital audience engagement in their local place-shaping and growth strategies.

SUMMARY OF POLICY COMMITMENTS

Skills and the digital capability of cultural organisations

5.

Arts Council England, working with the Heritage Lottery Fund and partners, will create and pilot the use of a Digital Maturity Index for the cultural sector, to enable organisations to understand and benchmark their own digital capability and set plans in place to make improvements.

6.

Arts Council England, working with the Heritage Lottery Fund and partners, will work together to create a Digital Culture Code; a set of guidelines and principles which cultural organisations should sign up to in order to demonstrate a commitment to developing their own digital maturity and the maturity of the wider cultural sector.

7.

Arts Council England will set-up a Digital Culture Network, investing £1.1m over two years to create a network of expertise and sharing of best practice across each region in England in order to increase its sectors' digital skills and capability. The Network will:

a. Produce and deliver packages of support to increase the digital maturity of organisations and improve digital skills within organisations;

b. Look to partner with technology organisations to deliver training regionally reflecting key regional trends and needs;

c. Facilitate partnerships and collaboration between its funded organisations and the tech sector and others;

d. Provide targeted support to leaders to increase the digital maturity of their organisations, including the creation of a digital board bank and guidance of digital criteria for senior leadership appointments.

8.

In order to build the digital capability of the sectors it supports, the Heritage Lottery Fund will:

a. Fund a £1m campaign which will run over two years, to attract high-quality projects to build the sector's digital capacity, starting in 19/20 with a grant budget of £500k p.a.;

b. Make digital a key feature throughout the Heritage Lottery Fund's Business Transformation programme, with a particular focus on upskilling staff.

9.

In order to support the cultural sector in its understanding of Intellectual Property:

a. The Intellectual Property Office will work with the British Library's Business & Intellectual Property Centres and other representatives from the cultural sector to develop guidance and training so that cultural organisations can better understand the Intellectual Property framework and its relevance to them.

b. The Space will lead work with cultural organisations, cultural rights holders and seek guidance from the Intellectual Property Office to develop a Cultural Digital Rights Code of Practice.

SUMMARY OF POLICY COMMITMENTS

Future strategy – unleashing the creative potential of technology

10.

The National Archives will work with culture sector representatives to develop a new strategic approach to the digitisation and presentation of cultural objects, for example, looking at the common standards needed to make our nation's great cultural assets more interoperable, discoverable and sustainable.

11.

The National Gallery and the Royal Opera House will open up new opportunities for the culture sector to experiment with new technology and cultural content:

a. The National Gallery, working with data partners like Nesta, will create an Innovation Lab so that cultural organisations, and in particular museums, are able to make best use of advanced digital technologies in enhancing visitor experience and creating content, and can develop best practice in collaborating with the technology and academic sectors.

b. The Royal Opera House will create an Audience Lab to work with diverse talent, developing new skill sets to create innovative content using emerging technologies. The Audience Lab will strive to develop cross-sector collaborations to open up new experiences for audiences.

12.

The Royal Shakespeare Company, the BBC and the Arts and Humanities Research Council will share selected Research and Development prototypes and technical assets and will offer related capacity building and innovation support to cultural partners of all sizes across the UK. This commitment is aimed at mitigating resource issues, reducing duplication and encouraging innovation through collaboration.

CONCLUSION

This report is the first of its kind and, as such, is a call to action to practitioners and organisations across the cultural and tech sectors.

Here, we propose an approach to support the whole digital culture ecology: our audience is both the world-leading and the small, voluntary led organisations in communities; technology companies ranging from startups and scale-ups to large and multinational tech companies; those working at the cutting edge of technology development and those using more basic digital tools.

We encourage cultural and tech sector organisations to support the proposals set out here and work together to unlock the opportunities for Digital Culture. There is more to be achieved and we hope that individuals and organisations will use the framework of this report to coordinate themselves and the expertise and enthusiasm that we have seen over the last year.

> " We encourage cultural and tech sector organisations to support the proposals set out here and work together to unlock the opportunities for Digital Culture. "

Right: Derry Playhouse Theatre, Hypixel, Blockworks, Adam Clarke, Alex Scarrow, The Space, Dragnoz

END NOTES

1 World Economic League Tables 2018

2 For the purposes of this report, we have defined cultural organisations as those from the performing arts, visual arts, heritage, museums, archives, libraries, film and making connections with the wider creative industries.

3 Further details on our approach can be found in the final section of this report.

4 World Economic League Tables 2018

5 PitchBook December 2017 and London and Partners

6 DCMS Sector Economic Estimates Methodology sets out the overlaps between the Creative and Digital sectors.

7 DCMS Sectors Economic Estimates 2016: GVA

8 Creative Industries statistics do not include data for the heritage sector beyond museums and galleries. Further detail on the economic contribution of the heritage sector is available here: Historic England – Heritage and the economy 2017.

9 British Museum no.3, National Gallery no. 4, Tate Modern no.6 in 2016 – The Art Newspaper

10 At 31 March 2017, the total number of library service points open 10+ hours per week in England (including mobiles) was 2,958 and for Great Britain was 3,223. CIPFA statistics, 2017.

11 Visit Britain: Britain's Image Overseas

12 BFI Statistical Year Book 2017

13 BFI Top Films in 2017

14 The Culture White Paper announced a review of culture and digital with the aim of 'making the UK one of the world's leading countries for digitised collections and using technology to enhance the online experience of users'.

15 Creative Scotland 10 Year Plan (p.27)

16 Prosperity for All: the national strategy (p.20)

17 The UK's online audience stood at 50.4 million people in March 2017, Ofcom report, August 2017.

18 Ofcom report, August 2017, p.164

19 Internet access – households and individuals: August 2017, Office for National Statistics

20 DCMS Taking Part Diversity Trends 2005/06 to 2015/16

21 Lloyds Bank Digital Index for Small Business and Charities , 2016

22 Softpower30

23 Heritage Statement 2017 p.7–10, Department for Digital, Culture, Media and Sport

24 Sponsored Museums Annual Performance Indicators 2016/17, DCMS, p.4

25 DCMS Sectors Economic Estimates 2017: Employment and Trade This figure is for 2015 – the latest year for which data is available. The cultural export figure quoted combines goods and services which use different methods of collection.

26 GREAT Britain Campaign

27 The Mendoza Review: an independent review of museums in England, November 2017, Department for Digital, Culture, Media and Sport

END NOTES

28 [The Culture White Paper](#), March 2016, Department for Digital, Culture, Media and Sport, p.9.

29 Arts Council England and Nesta Digital Culture Survey 2017 ([Museums factsheet](#)) find that museums are more likely than any other artform to digitise collections with 73% of museums surveyed undertaking this activity.

30 [Defining R&D for the creative industries](#), Hasan Bakhshi and Elizabeth Lomas, March 2017, Nesta, AHRC & UCL

31 [Eurostat Science and Technology database](#) (2017), 'Research and Development'

32 [Independent Review of the Creative Industries](#), Sir Peter Bazalgette, September 2017, p.28

33 After mixed year, mobile AR to drive $108 billion VR/AR market by 2021, www.digi-capital.com

34 Interoperability refers to the basic ability of computerized systems to connect and communicate with one another readily, even if they were developed by widely different manufacturers in different industries.

IMAGE CREDITS

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