THE ROYAL SHAKESPEARE COMPANY
IN COLLABORATION WITH INTEL

THE TEMPEST
WILLIAM SHAKESPEARE

In association with THE IMAGINARIUM STUDIOS

SPACE TO PLAY

MAKING ARTS & TECHNOLOGY COLLABORATIONS WORK

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At the ROYAL SHAKESPEARE COMPANY we create theatre at its best - wonderful productions enjoyed by audiences, critics and everyone involved. Our shows have successful runs in Stratford-upon-Avon, go on tour, are screened in cinemas and classrooms, and recorded on DVD. They are in our memories as an enriching part of our lives. Then we move on to the next one.

When a production creates something for the first time, overcomes enormous challenge, leads to new ways of working, and is truly special, we want to take the opportunity to analyse what made this possible. To learn and to be confident that we can be as ambitious in the future. We wanted to seize this moment for *The Tempest*, created in collaboration with Intel and in association with The Imaginarium Studios.

We knew that using live performance capture and live facial real time tracking technology for the first time on stage would require collaborative working of the highest order. We gradually realised that this innovation for the stage would necessitate equally new approaches throughout the Company and for us all. The combination of inspired, and inspiring, people working with new technologies, often talking what felt like different languages, inside our theatrical structure, was clearly going to be transformative. We had many questions. Would that transformation be positive? Would we achieve our objective of mutual inspiration and development? And how could we explain the production in advance to our audiences when all we felt was uncertainty?

We knew that there was much to learn and we were conscious that we were likely to be too close to see patterns in our behaviour and our approaches. This report enables us to understand how we created the shared confidence to move through the project and it reinforces our learning. We hope that the contents will be helpful more widely as we explore what made this unique partnership between art and technology work.

*Catherine Mallyon*
RSC EXECUTIVE DIRECTOR
When I joined Intel in 2014, we set out on a journey to reinvent our brand by showcasing how our technology enables amazing experiences. Our partnership with the RSC to reimagine The Tempest, arguably Shakespeare’s most technologically-challenging play, has done just that, on a global stage with some of the world’s most talented and visionary theatre professionals. This bold and ground-breaking production, featuring digital avatars acting live and in real-time alongside human actors, pushed the boundaries of technology, performance, imagination, and storytelling, creating added depth to the performance and powerful emotional connections between the audience and the players.

While the final production was flawless, the path to opening night took two years of testing, learning, and perfecting, as Intel, the RSC, and the Imaginarium worked together to develop a first of its kind technical solution, studios designed to fully realize the power of Shakespeare’s storytelling and the vision of Gregory Doran and Stephen Brimson Lewis.

Our collaboration with the RSC started with a mutual passion for innovation. We’re very proud of the results. Together, we demonstrated how technology and art together can enhance creativity and storytelling to leave a lasting impression on audiences and the world.

Steve Fund
SENIOR VICE PRESIDENT, CHIEF MARKETING OFFICER
INTEL
THE PLAY

In 2014, the RSC started development of a ground-breaking production of *The Tempest* in partnership with a unique set of collaborators including Intel and The Imaginarium Studios.

The collaboration began with a creative challenge posed by RSC Artistic Director, Gregory Doran; how could this Tempest be different and spectacular for the 400th anniversary of Shakespeare’s death, and make use of the latest technology in a way that was relevant and appropriate for this particular play?1

The production was directed by Gregory Doran and starred Simon Russell Beale as Prospero and Mark Quartley as Ariel.1

Using advanced technology to reimagine Shakespeare’s play, *The Tempest* was performed 83 times at the Royal Shakespeare Theatre in Stratford-on-Avon from 8 November 2016 to 21 January 2017 and broadcast live into more than 500 cinemas worldwide on 11 January 2017. The production transferred to the Barbican Theatre in London for 30 June to 18 August 2017, and cinema screenings continued worldwide from March 2017.

Accompanying the theatre performance and cinema screenings, the RSC hosted a programme of talks, education workshops, a Creative Lab with Watershed, and two new installations by Flying Object in the Royal Shakespeare Theatre; Prospero’s Cell and Conduct the Storm.

‘Making of’ Videos were also created to share the process of developing the technology and design for this new production, and to share audience feedback. A social media campaign centred around Prospero’s Island, with content seeded on YouTube and Twitter, while a hugely popular Snapchat lens enabled people to see themselves as the character of Ariel.

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1 See Reference section for full creative credits
THE PARTNERS
One of the world’s best known theatre ensembles, the Royal Shakespeare Company performs the work of Shakespeare, his contemporaries, and today’s writers. Based in Stratford-upon-Avon in Warwickshire, its theatres receive over 1 million visitors each year.

Intel is an American multinational corporation and technology company that designs and builds technologies that serve as the foundation for the world’s computing devices. It aims to “invent at the boundaries of technology to make amazing experiences possible for businesses and society.”

The Imaginarium Studios is one of Europe’s leading Performance Capture studio and production companies, using the latest technology to create next-generation storytelling capability in film, television, video games and digital applications.

THE TECHNOLOGY
The Tempest 2016 is the first theatre production to feature live performance capture. Interacting with motion capture sensors in the Xsens suit worn by the actor Mark Quartley in the role of Ariel, this technology enabled the team to create animated versions of Ariel live on stage.

Quartley’s performance was also the first to showcase facial real time tracking technology, which allowed him to control the facial expressions of his digital character as well as the movements of his body. This live performance capture and facial tracking relied on the integration of the games engine (where the 3D animations were rendered) with the theatre production team’s lighting desk, so the team could control Ariel’s colour and position on stage in real time using an analogue fader.

Gregory Doran and the team focused their use of digital technology on four key elements of the stage production; the character of Ariel, the harpy, the hounds, and the spectacle of the masque.

KEY FACTS

AUDIENCES

- 139 Stage Performances
- 136,346 Total theatre audience
- 500+ Cinemas receiving live performances 11 Jan 2017
- 124 Different countries that users engaged from online
- 71,512 Total Cinema Audience
- 13,000 encore audience over 150 cinemas
- 860,000 Page views of The Tempest play pages online

TECHNOLOGY

- 1,000 tiny firsts happening every day of the project while turning the theatre into a digital environment
- 200,000 files running simultaneously to visualise Ariel’s live avatar
- 336 joints in the avatar. The equivalent of recreating every joint in the human body
- 50 million x more memory than the computer used for the moon landing
EXECUTIVE SUMMARY

THE RESEARCH

SCOPE, PURPOSE & INTENDED RESEARCH OUTCOMES
SCOPE AND PURPOSE

The RSC commissioned this research, with support from Nesta and input from Intel and The Imaginarium. It seeks to understand how technology partners have inspired the RSC creative team, how the RSC creative team has inspired technology partners, and what learning from this project could be of use to the arts sector in developing future collaborations.

The research draws on three main sources: interviews with 23 core members of The Tempest 2016 team at the RSC, Intel and The Imaginarium; observations of performances, exhibitions and talks related to the project; and data on processes and impacts provided by the partners.

DRAWING ON INTERVIEW, OBSERVATION AND DATA-DRIVEN INSIGHTS, THIS REPORT;

1. Demonstrates the impact of cross-sector R&D collaborations for arts and technology organisations, focusing on outputs (assets for all partners) and outcomes (benefits for partners, audiences, sectors)

2. Shares insights into how this partnership-informed staging of The Tempest was developed and delivered, focusing on people (skills, knowledge, connections) and process (technology, management, production).
INTENDED RESEARCH OUTCOMES

THE RESEARCH METHODOLOGY WAS INFORMED BY A SET OF LONG TERM RESEARCH OUTCOMES, DEFINED BY THE RSC AND PARTNERS, AND THE NECESSARY LIMITATIONS OF TIME AND RESOURCE. THESE INTENDED OUTCOMES HIGHLIGHT THE RSC’S MOTIVATIONS FOR SHARING PROJECT LEARNINGS AS OPENLY AS POSSIBLE, AND THE POTENTIAL FOR FURTHER APPLICATION OF LEARNING OVER TIME BY THE RSC AND OTHERS.

Evidence and insights for the arts sector, stakeholders and funders
- To increase understanding of the impact of technology on ways of working in the arts
- To raise awareness of the impact of the arts on development and testing of new technology
- To increase interest in organisational learning about how to work in collaboration with digital/arts partners
- To raise awareness of the value of innovation and R&D in arts and technology

Data, processes and tools for arts organisations
- To enable and inspire collaborative R&D projects
- To increase arts sector integration of tech and more innovative, collaborative ways of working
- To support arts organisations in making the case for – and evaluating the impact of – collaborative technology projects
- To share workflows and processes that could support future arts/ttech/commercial collaborations

Case study analysis to inform policy and advocacy for the Cultural and Creative Industries:
- To evidence the value of R&D in the Creative Industries
- To provide insights of value to policy makers responding to the Industrial Green Paper
- To increase awareness of the value of investing in collaborative projects and experimental R&D
- To indicate themes and processes for further research, research partnerships, and specific skills development
EXECUTIVE SUMMARY

SUMMARY OF KEY FINDINGS

LESSONS IN IMPACT & HOW TO COLLABORATE
Innovation and new ways of working happen when ideas are applied and developed out of their usual context.

Working together on The Tempest 2016 acted as a catalyst for each of the partners to innovate by looking at their art, technology and tools differently, while the R&D process provided a framework to deliver on this shared potential.

A key lesson emerging for arts and technology organisations from this project is that you can catalyse wider organisational innovation by investing in collaborative R&D projects.

Cross sector collaboration around R&D, with tangible public-facing outputs, is valuable for all involved.

‘All three partners in this project are passionate about the idea that cutting edge technology, married to art, can produce amazing experiences for people of all ages to enjoy. With Intel’s powerful technology and The Imaginarium Studios’ creative expertise, the RSC can break new frontiers in live story-telling, bringing Shakespeare’s magical character, Ariel, to life in a new and extraordinary way.’

THE TEMPEST 2016, PARTNERSHIP IMPLEMENTATION PLAN
The RSC and partners were able to bring positive impacts to ways of working, audiences and use of technology. Adapting their teams, culture and leadership enabled the production to be delivered. This involved celebrating and connecting people's expertise, shifting organisational cultures to embrace risk and enable innovation, and unlocking collaborative behaviours of transformational leaders in each organisation.

This impact can be grouped into outputs (assets) and outcomes (benefits), with the following shared impacts emerging for all partners:

**WAYS OF WORKING**

**OUTCOMES**
- Capacity to Collaborate
- New Skills and Confidence
- Working across Disciplines and Hierarchies
- Valuing Tech-enabled Partnership R&D
- Creativity from constraint

**OUTPUTS**
- New Data
- New Workflows and Processes
- New Functions

**TECHNOLOGY**

**OUTCOMES**
- Tested Motion Capture in Live Environment
- Confidence and Demystification
- New Thinking

**OUTPUTS**
- New Tools and Applications
- New Workflows and Processes

**AUDIENCES**

**OUTCOMES**
- National and International Reach for the Production
- Growing Cinema Sales for the RSC
- Global Social Media Reach and Recognition for the Project and Partners
- Brand Association with Creativity and Innovation
- Catalyst for Creative Thinking about Audience Experience

**OUTPUTS**
- Audience-related Data Evidencing Return on Investment
- Theatre Production and related Digital Installations
- Marketing and Communications Assets

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* See page 32 - 34 for outcomes and outputs by partner for further impacts noted by the RSC, Intel and The Imaginarium.
LESSONS IN HOW TO COLLABORATE

LEARNING FROM THE TEMPEST IDENTIFIED KEY PRINCIPLES THAT CAN BE DEVELOPED IN ARTS ORGANISATIONS TO ENABLE INNOVATION ACROSS DISCIPLINES. THESE PRINCIPLES CAN MAKE COLLABORATIVE ARTS/TECH R&D MORE FEASIBLE AND EXTEND ITS IMPACT BEYOND THE LIFE OF A SINGLE PROJECT TO INFORM LONG TERM OPPORTUNITIES;

1. PUT PEOPLE FIRST: recognise and celebrate expertise, motivate and support people to build skills and connect

2. ENABLE CULTURE SHIFT: enable risk, delegate and empower across hierarchies, provide time and space to play, and measure innovation beyond financial outputs

3. DEVELOP TRANSFORMATIONAL LEADERS: provide motivation and mandate, develop traits and behaviours, invest in capacity and planning

4. USE COLLABORATION CHECKLISTS: to help focus people, the project, and processes 4

SUMMARY OF RECOMMENDATIONS

THREE RECOMMENDATIONS HAVE BEEN SUGGESTED FOR THE RSC TO BUILD ON THESE LESSONS IN HOW TO COLLABORATE:

1. Prototype new ways of working

2. Develop processes for collaborative R&D

3. Establish a Knowledge Bank for each production or partnership project to share internally and with the sector

4 Collaboration Checklists can be found on p24.
KEY FINDINGS
LESSONS IN HOW TO COLLABORATE

MOTIVATIONS, EXPERTISE & CHECKLISTS
The Tempest 2016 was a high profile, large scale, collaborative R&D project involving partners on different continents, which provides learning about ways of working, use of technology, and engaging audiences, relevant to future projects of all scales at the RSC and other arts organisations.

Understanding people’s contributions according to their expertise, rather than existing hierarchies or roles, enabled the project to unlock (and build) capacity and enthusiasm across teams and organisations.

Transformational leaders in ‘hub’ roles at the RSC, Intel and The Imaginarium held knowledge and direction for the project throughout its development, with specialists joining the team as the project progressed.

Expertise in isolation is almost useless; it needed connecting to have impact. These connecting ‘hub’ roles unlocked isolated expertise.

The most significant challenges for the partners to overcome were those of project and relationship management, rather than technology itself. These are all areas for innovation development and learning within the reach of organisations of different scales and digital capacity.

Developing people, processes and assets to address the core project management and creative direction challenges of a collaborative R&D project, and identifying appropriate partners to work with, will allow arts organisations to undertake arts/tech R&D projects of some scale.

Research has identified key characteristics about the partners, process and project to provide further insights into what is needed to make arts/tech collaboration effective.

Using the checklists developed for planning new RSC collaborations can provide a valuable tool for other organisations wanting to develop collaborative projects.
MOTIVATIONS

SHARED AIMS
A set of shared aims was identified early on in the R&D process, with progress against them forming the basis of weekly partnership calls. The approach taken to delivery provided wide scope for creativity across departments.

1. Develop and create new real-time live performance capture for the RSC’s production of The Tempest 2016

2. Drive positive change in Intel and RSC brand perception in the UK and beyond. Reinvigorate the Intel brand - create emotional connections through powerful storytelling: content tailored to platforms, driving engagement across and between channels

3. Reach target audience, delivering RSC | Intel content. Audience participation with the partnership, highlight the RSC’s digital innovation, engaging new RSC audiences and bringing Intel’s role to life. Multiple pieces of content available. Media retargeting / sequencing ensuring audiences are exposed to the full story across a suite of assets

4. Develop a multichannel digital media strategy that helps RSC and Intel the target audience, leveraging the assets and RSC / Intel channels available for maximum impact. Social media and digital advertising opportunities considered. Consideration of RSC digital strategy and presence to maximize the partnership

5. Generate social media buzz on Intel and RSC social channels and increase web traffic in all markets

In addition to these shared aims, in an approach similar to that of a sponsorship agreement, partnership benefits were agreed between RSC and Intel around brand and marketing, press and PR, stakeholder and employee engagement experiences, and creative video content.5

AUDIENCE OBJECTIVES

“Be really focused on what you’re saying about a show... Why are you doing it? Who’s it for?”
Liz Thompson (Director of Communications, RSC).

All partners identified target geographical markets and audience groups that they were seeking to engage through the project, and these objectives were included in the Partnership Plan. Being clear about this up front, enabled the RSC to develop brand, social and PR KPIs to measure the extent to which these markets engaged with the project.

The UK market for the production focused on Stratford and the wider Midlands; and London for the Barbican run. Global target markets were identified by Intel, with the RSC’s cinema markets (particularly France, Spain and Germany), being key shared markets for both partners.

For Intel and the RSC in particular, The Tempest 2016 project provided an opportunity to attract new and younger audiences, increasing the number of 16-44 year olds engaging with their work. Intel focused on engaging millennials with the brand and the creative innovations its technology powered. The RSC’s audience development objectives overlapped with Intel’s in terms of appealing to millennials, with a particular focus on engaging more diverse as well as younger audiences. Reaching family audiences was also a key motivator for the RSC, with The Tempest 2016 scheduled in the slot usually reserved for RSC family productions.

5 See Partnership Plan template in appendices for an outline of the plan that underpinned the Intel/RSC partnership.
RECOGNISING EXPERTISE

ROLES
Specialist skills and knowledge from theatre, technology, and performance capture were needed to realise The Tempest 2016 project. Each partner brought their international reputation and expertise to the project. Innovation was made possible by the combination of RSC theatre and Intel technology, and the Imaginarium performance capture, with each partner pushing the boundaries in terms of capacity and capability.

Across the three principal partners, four types of expertise were required for the project to be developed and delivered. Every role in the project found its primary function in one of these four expertise categories: Creative, Technical/Production, Executive, Partnership.

These four types of expertise were essential to The Tempest as an arts/tech R&D collaboration and could be increased or decreased depending on the scale and ambition of different projects.

UNDERSTANDING PEOPLE’S CONTRIBUTIONS ACCORDING TO THEIR EXPERTISE, RATHER THAN EXISTING HIERARCHIES OR ROLES, ENABLED THE PROJECT TO UNLOCK (AND BUILD) CAPACITY AND ENTHUSIASM FROM PEOPLE ACROSS TEAMS AND ORGANISATIONS. THE SCALE AND PACE OF THE PROJECT ALSO REQUIRED LEADERS ACROSS TEAMS TO STREAMLINE THEIR ROLES AND FOCUS ON DECISION MAKING TO EMPOWER OTHERS. NOTICING THE RESPECTIVE EXPERTISE OF PARTNERS ALSO HIGHLIGHTS EACH PARTNER’S PARTICULAR VALUE AND CONTRIBUTION TO THE PROJECT.
RELATIONSHIPS

All the RSC, Intel and The Imaginarium staff who were interviewed were asked who they worked most closely with on The Tempest 2016 project, to identify how collaboration functioned for them in practice, across organisations, across departments, and across expertise groups.6

The role of key brokers such as Sarah Ellis (Director of Digital Development, RSC), Tawny Schlieski (Intel) and Ben Lumsden (The Imaginarium) in uniting all elements of the project’s planning and delivery, was clear.

These ‘hub’ roles within the network required dedicated capacity for relationship management, and held knowledge and direction for the project throughout its development, while other specialists joined and left the team as the project progressed from scoping opportunities and challenges, to delivery and implementation.

Expertise needs connecting to have impact. These connecting ‘hub’ roles are crucial to unlock isolated expertise and achieve a shared goal.

Clare Reddington (Creative Director at Watershed) was a critical friend to the project and described how as the partner relationships developed, hub roles enabled teams from different organisations to become increasingly integrated, to the point where Ben Lumsden (The Imaginarium) “looked like a member of the RSC staff.”

CRITERIA FOR COLLABORATION

From the interviews, observations and data, a number of characteristics emerged as being key to initiating the collaboration, managing the project, and delivering on the creative and technology potential of the collaboration. These relate to ways of working, audiences, and use of technology.

The Project Characteristics align directly with the key impacts of The Tempest 2016, and were crucial in motivating, prioritising and enabling the delivery of the collaboration. These relate to ways of working, audiences, and use of technology.

The Process Characteristics that allowed diverse teams across companies and continents to manage and deliver The Tempest 2016 related to project management, creativity, and technology. These processes arose in response to the key challenges and provided numerous outputs and outcomes that will stimulate collaboration and tech-enabled creative projects for the partners in future.

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6 Organisations scoping the development of their own partnerships for R&D may find the Nesta Building Partnerships Map useful: http://www.open.edu/openlearncreate/course/view.php?id=2212
### Partner Characteristics

**Mindsets, Capacities, Goals**

1. Open to learning new languages and new skillsets
2. Shared values
3. Open to and enabling of risk and improvisation
4. Understand their strengths
5. Lead ‘evangelist’ within each organisation, with autonomy to broker relationship with partners
6. Credibility and relevant, distinctive expertise
7. Understands their responsibilities in the partnership
8. Each partner has influence and creative say in the project, and skill to work in genuine collaboration
9. Motivate people by reinvention and finding better ways of doing what you do
10. Commercial alignment and shared intersection of ambitions

### Project Characteristics

**Ways of Working, Audiences, Technology**

1. Blended, multidisciplinary, cross-organisational team with trust, pride in newness, generosity, and resolution to deliver
2. Remove barriers between tech and artistic teams
3. Consider legacy potential of the collaboration from the outset
4. Massive creative freedom - not starting with finished vision
5. Extend audience journey and use technology to provide multiple ways into the artwork
6. Global reach through partnerships and social media
7. Provide tech-enabled experiences to remove barriers between art and audience
8. Start with the art – having a creative rationale for use of tech on stage enabled risk
9. Robust technology
10. Value the intangible and develop technology for something beyond its original design purpose

### Process Characteristics

**Project Management, Creativity, Technology**

1. Space to play and iterate
2. Set milestones, deadlines and cross-departmental/organisational KPIs rather than locking down output details too soon
3. Establish framework and relationships to communicate between partners, ensuring multiple connections between partners so project not reliant on individual functions
4. Programme inspiration and partner onboarding sessions early in R&D process
5. Develop a shared language for making decisions and framing outcomes publicly
6. Prototype! When you go first, there’s no way to show people a proven thing
7. Always have the technology in the room for R&D experimentation
8. Start with a creative challenge
9. Tell stories to make ideas real and get people onboard
10. Identify and frame stretch goals

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7 For The Tempest 2016, this meant the languages and skillsets of theatre, VFX, tech, marketing.
8 For example, for new markets, new audiences, and for R&D assets to be productised.
9 For example, weekly calls, show and tell sessions.
10 For The Tempest 2016, this was especially useful in enabling key technical decisions. The ‘puppetry’ metaphor captured the team’s imagination and became part of team shorthand, while ‘follow the Ariel story’ became a team mantra and sense check for decision making.
11 For example, The Imaginarium had been looking to do something with theatre, while Intel were looking to engage millennials.
UNDERSTANDING THE IMPACT OF COLLABORATION
WAYS OF WORKING, AUDIENCES & USE OF TECHNOLOGY
IMPACT SUMMARY

“The significant impact of The Tempest enables you to see...opportunities to deliver content in different ways”
(Geraldine Collinge, Director of Events and Exhibitions, RSC)

The impact of The Tempest 2016 project on the RSC and partners’ ways of working, audiences and use of technology was enabled by each organisation adapting their teams, culture and leadership so that the production could be delivered.

This involved celebrating and connecting people’s expertise, shifting organisational cultures to embrace risk and enable innovation, and unlocking collaborative behaviours of leaders in each organisation.

WAYS OF WORKING

OUTCOMES
Capacity to collaborate
Working on The Tempest 2016 increased each organisation’s capacity to manage collaborations and work with partners, through developing specific processes. This collaborative capacity is distinct from their existing capacity to manage client / supplier and sponsor / funded relationships.

The key differences between The Tempest 2016 partnership and the RSC, Intel and The Imaginarium’s other client/sponsor relationships are in timing and creative scope. Matthew Bolton (EMEA Brand Marketing Manager, Intel) described it as a “true partnership.”

The RSC, Intel and The Imaginarium and the RSC were involved in the project through all of its innovation stages. Tawny Schieskie describes how they “labelled” that first year...as experimentation,” while Bren Jordan (Capture Technical Director, The Imaginarium) noted that because of the newness of the technology and the nature of the collaboration, “we were...discovering the process as we went along.”

As a result, team members were able to exercise creative freedom within their roles, rather than working only to someone else’s brief.

New Skills and Confidence
“I...wouldn’t feel as daunted if we did something this huge again”
(Pip Harland, Head of Press, RSC)

This increased capacity and confidence to collaborate in a new way was enabled by the project unlocking people’s individual interests and ambitions to develop skills beyond their current role or regular work. In some cases, these skills were highly specialised (rigging characters, integrating software systems), in others, they were transferable (project management, improvisation to frame and adapt ideas quickly).

These new skills were not only developed by people wearing “a lot of different hats on this project” (Ben Lumsden, Head of Studio, Imaginarium) to design and manage its delivery, but also by the actors leading the production, with Mark Quartley’s avatar acting skills being a particularly notable example.

Working across disciplines and hierarchies
The project “broke down barriers between departments...because it was all new” (Stephen Brimson Lewis, Director of Design, RSC)

The scale and profile of the project, as well as its particular challenges in terms of new processes and technology, required people to work across departments and disciplines. For Intel and the RSC in particular, this required marketing, communications, PR, production, development, and technical teams to understand, own, and deliver on a shared goal. The network diagram on page 30 maps the complex web of relationships required to make this work.

The expertise of individuals across the hierarchy within each of the partner organisations was increasingly recognised and celebrated as the project progressed. The unusual combination of specialist skills brought together by this project accelerated recognition by senior leaders that “someone might know more than you” (Stephen Brimson Lewis, Director of Design, RSC).

From the #ProsperosIsland social media campaign to the R&D days in the RSC’s Clore Learning Centre in Stratford that marked the start of the project’s technology prototyping and avatar acting, play was a crucial element. Creating spaces and stories to play with the text and the idea of what a tech-enabled Tempest could be meant the project developed relationships across departments and structures. As Tawny Schlieskie describes it, play enabled the hybrid team to “look for things that push the boundaries” and then make them real. Catherine Mallyon noted that people across the RSC’s departments were liberated – and needed – “to do wilder things” than business as usual to deliver The Tempest 2016.

As well as working across departments and structures within each partner organisation, the project also required the team to work across technology specialisms. Bren Jordan (Capture Technical Director, The Imaginarium) describes how they “took existing things, but used them in a new way.”
Valuing tech-enabled partnership R&D
Data gathered about the project could be valuable for future funding, planning and advocacy. This underlines the usefulness of evaluating projects as they progress and collating a bank of documents and information to inform future thinking.

The project sparked interest in the value of theatre and arts organisations as partners for technology companies exploring new ideas. The process of R&D generated interest across specialist artistic and technical teams in ways to engage with new technology and creative processes. Having created a production that moved and excited audiences, and tested new social VR experiences, the project raised the profile of how art/tech collaborations can fuel innovation.

This value was seen internally - as the project engaged employees across Intel in a brand reinvigoration process - and externally, for example, as Intel tested new markets and brand association with customers. The project has enabled the technology company to explore known problems and anticipated needs in its market through experimentation and partnership.

Creativity from constraint
Articulating shared outputs and outcomes at the outset of the project, and providing weekly opportunities to update them, provided constraints which helped turn R&D into delivery.

The constraint of a scheduled output (a ‘production of The Tempest’) meant that there were milestones by which certain creative and technical decisions needed to be taken. This kept the momentum of the project and ensured there would be a public moment in which the experimentation would be shared.

While this meant that the project was not R&D to develop the most technologically advanced idea, the scale and profile of the necessary production meant that the project focused on developing a technologically advanced idea that was robust enough to be delivered night after night, week after week, during the play’s initial run in Stratford. This set a high standard for testing a minimum viable product with users, and represented a risk that all partners were aware of from the outset. Pete Griffin (Production Manager, RSC) noted that, knowing “even if this [technology] doesn’t work, there’s still a show under it all” was “reassuring” for the production team.

OUTPUTS
New Data
Collating and sharing data about the project’s impacts has provided the partners with a bank of evidence and case study material – including interview transcripts and observation canvases from this research - for the value of R&D. This could help inform future funding, planning and advocacy.

New Workflows and Processes
The project introduced and tested a framework that can be used for future collaborations, including methods for managing and monitoring partners’ actions, and reporting to meet partners’ expectations. Outputs include a template Partnership Implementation Plan, Shared Media Approach Canvas, Partnership Meetings’ Schedule, and an Approvals process for AV content. For Intel, the mapping of the project’s development process has provided a template workflow for future creative collaborations.

New Functions
For the RSC, The Tempest 2016 project has led to the evolution of roles across departments, including a wider mandate for digital collaboration and development for the RSC’s lead project broker Sarah Ellis.
AUDIENCES

OUTCOMES

National and International Reach for the Production

The production engaged audiences of all ages and tested the idea of scheduling an innovative Shakespeare production in the established family slot around Christmas. 80,261 people experienced the production in Stratford during its initial run, which was the first of the RSC's Christmas shows to offer live and encore cinema screenings.

Audience satisfaction with the production – at the theatre and in the cinema – was high. 90% of cinema audiences surveyed and 88% of theatre audiences surveyed rated the production and their experience as excellent or very good.

“A mesmerising mix of traditional language and modern special effects made this production the best Tempest I have ever seen. A superb cast, matched by an equally impressive set and lighting - spellbinding!”

(Audience feedback)

“It was awesome...they were using Hollywood special effects...without post-production process”

(Clare Reddington, Watershed)

RSC sources accounted for much of the increased audience for The Tempest, while press and word of mouth played a greater role than usual in generating interest and attracting audiences. The effect of Facebook and programmatic digital ads also saw an uplift, of 7% and 6% respectively, compared to other productions. The trailer (Digital Simon Russel Beale) was seen by 31% of all bookers and was a key influencer before booking tickets.

Growing Cinema Sales for the RSC

More than 70,000 people experienced the production in the cinema on 11 January when it was screened live to more than 500 cinemas across the UK, and in encore screenings across 150 cinemas. The production was adapted to meet the challenge of audience reception for live to cinema.

The Tempest cinema screenings engaged 8,569 people who were new to the RSC, and 2,142 people who were new to theatre. These cinema bookers were also almost four times as likely to also attend the production in the theatre than cinema audiences for other plays, with fear of missing out playing an influential role in this.

Of the 71,412 tickets sold for live and encore screenings of The Tempest, 12,000 were for audiences aged 16-44, 12% were for teachers or educators, and 9% were for people in full time study or education.

While most cinema audiences attended the live screening on 11 January, Encore productions played a large role for The Tempest with 7% of cinema audiences attending these screenings. Encore audiences were more likely to attend with larger numbers of under 16s, resulting in a far younger audience age overall. The average audience age for live screenings was 57, while for encore audiences, the average age was 48.

The production’s transfer to the Barbican for July and August 2017, and further cinema screenings worldwide from March 2017, highlight its potential for future touring and screenings which would further extend this reach.

Global Social Media Reach and Recognition for the Project and Partners

The project achieved global reach via social media, with Twitter, Snapchat, Facebook and YouTube videos sharing content and engaging audiences in conversations about the play around the world.

Tracking data for #RSCTempest on Twitter from July 2016 to January 2017 reveals the extent of engagement on this platform alone, with more than 198 million timeline deliveries resulting from 9,101 tweets and 4,322 contributors. The highest number of tweets coincided with the cinema live screening on 11 January 2017. Other hashtags used in relation to the project highlight interest in the lead actors and characters (#simonrussellbeale #markquartley #ariel), other elements of the project (#prosperosiland, #conductthestorm), related campaigns on other social media platforms (#snapchat), and local marketing campaigns (#birmingham #gettheetoaselfridges).

Brand association with creativity and innovation

The Tempest 2016 raised the profile of the RSC as innovative. For Intel, this association with creativity and driving “continuous improvement within the arts, or entertainment...through technology” contributed to their brand reinvigoration.

Bolton went on to characterise the partnership as a “coming together of creative minds and...innovative technology,” with the project providing content to reinforce the message of Intel as a creative force. RSC Artistic Director Greg Doran seconds this role.

12 For data sources and more details on cinema and theatre audiences, see Appendix 6
13 Timeline Deliveries total 198,348,166. Timeline Deliveries represent the total possible number of times someone could have viewed a particular tweet or post.
of Intel’s technology in driving innovation, describing how “Intel were providing the paintbox, we were using the paint” to explore new opportunities for art.

RSC Producer Kevin Fitzmaurice credits this project’s ability to encourage the RSC to “come out of the tracks” with surprising and impressing audiences – including professional technology and arts sector audiences. Described as Intel X Royal Shakespeare, The Tempest 2016 project was nominated for a 2017 Webby Award in the category of Live Experience (Branded).

Catalyst for creative thinking about audience experience
The project encouraged professionals across disciplines to think creatively about the audience experience of the production, and ways to engage with the project’s various outputs. For Intel and The Imaginarium, the project developed their thinking about the potential of technology to engage audiences beyond screens.

The RSC explored how to extend and enliven the customer journey, which resulted in the immersive Flying Object installations in the RST during the production. The project research also opened up new ideas for interactive and playful activity in Stratford around performances, which could be prototyped in future, embedding learning from The Tempest 2016.

The RSC Marketing team also experimented with a multiplatform social media campaign #ProsperosIsland, which included a desert island playlist designed for Shakespeare’s protagonist and mock tourist bus adverts showcasing the play’s setting. In the first week of this campaign (w/c 4 Jul 2016) alone, the hashtag reached half a million people on Twitter. That figure now sits at over 800,000.

The Imaginarium highlighted the impact of the project on their understanding of what is relevant for delivering the end product of a stage production, where precision rendering is less important for audience perception than in gaming. This learning and approach has potential to be an extra tool for film and game Directors to use to enhance performance.

OUTPUTS
Audience-related Data Evidencing Return on Investment
- Press Data collated and highlighting repeated, long term press and PR with high Intel association
- Google Analytics data related to Tempest online content evidencing reach and ROI of these assets
- Brand Data on ROI for customer facing KPIs in partnership plan
- Social Data on ROI for customer facing KPIs in partnership plan
- PR Data on ROI for customer facing KPIs in partnership plan

Theatre Production and related digital installations
- 139 Theatre performances enjoyed by 136,346 people
- 650 Cinema screenings enjoyed by 71,142 people
- 2 new installations by Flying Object in the Royal Shakespeare Theatre; Prospero’s Cell and Conduct the Storm.

Marketing and Communications Assets
- Marketing assets including #ProsperosIsland posters and adverts
- The RSC created 4 films in-house for The Tempest 2016 to illustrate the project
  - Introduction to the project - showing the R&D and ambition
  - Prospero meets Ariel – the technology work going into creating the avatar
  - Designing The Tempest – focus on Stephen Brimson Lewis and his set and costume designs
  - Marketing feature trailer/audience vox pop film – sharing feedback and reception of the production
- Interactive Snapchat lens, enabling users to take the form over Ariel.
- Do’s and Don’t’s Guidelines for partners filming with the RSC

KEY FINDINGS
TECHNOLOGY

OUTCOMES

Tested motion capture in live environment
The Tempest 2016 heralded a number of technology firsts. This testing of new technology was the source of pride and excitement among teams in all partner organisations.

“I’m proud that we at the RSC...dived in” (Kevin Fitzmaurice, Producer, RSC)

The Tempest 2016 was the first theatre production to test real time facial capture and the first to test live performance capture using the Xsens motion capture suit. These new uses of technology were tested through a new partnership and in a live context. For The Imaginarium, the project provided an opportunity to test inertial motion capture, building on their expertise with optical motion capture honed by their work in games and film.

New thinking
The project was a catalyst for new thinking - about hardware, about virtual reality, about design - in each of the partner organisations.

For the RSC, the project required new thinking about technology both on and beyond the stage. Executive Director Catherine Mallyon describes the project as a “natural development” and a “step change” in the company’s use of digital technology to develop its work, and engage and inspire audiences. A key aspect of this new thinking about technology was in thinking about how to tell a story and value a variety of visual responses to texts. For Stephen Brimson Lewis (Director of Design, RSC), the project prompted consideration of technology in terms of “How does this help well? How does this tell the story?” while Associate Director Aileen Gonsalves articulated how taking a “discovery first” approach meant they didn’t “get unhinged” by the technology and were able to “tune in to the truth” of the characters in a way that was enhanced by the collaboration and the technology.

For Intel, it was an opportunity to think beyond a time-or-space-limited demo designed for inspiration over function. Tawny Schlieski (Director of Client Research, Intel) describes how “the project was forced to be authentic, because we knew it had to stand up.” The project also contributed to Intel’s interest in thinking about the role of powerful, chunkier machines for customers beyond gamers and specialists.

For The Imaginarium, it was an opportunity to think about creative content beyond the screen and to design digital characters in response to practical differences between theatre and film/screen requirements. As Pete Griffin (Production Manager at the RSC) noted, “Theatre is a much rougher magic [than film].” This rougher magic was liberating for The Imaginarium team, particularly in terms of rendering and choice of motion capture system for the production. Like colleagues at the RSC, The Imaginarium team were inspired by the project to think about future uses of the Xsens suit in their other work, for example in rehearsals or new virtual reality applications.

Confidence and Demystification

For The Imaginarium, the project increased the RSC’s confidence and experience in integrating technology into their productions, but it also increased the confidence of its technology partners in developing and testing new technology. For example, Ben Lumsden (Head of Studio at The Imaginarium) described the project as providing a “step up into our capability.”

“Technology might be able to provide magic, but...[it] isn’t magic.” (Gregory Doran, Artistic Director, RSC)

Leaders across the partners have a better understanding of technology as a result of the project, and artistic leaders at the RSC recognise that they don’t personally need to hold all the digital expertise when they can call on their team and partners for specialist inputs.

This growing confidence accompanied a helpful demystification of the technology. As Chris Hill (Director of Marketing, RSC) notes, digital technology is a catalyst for innovation but “innovation doesn’t equal digital.” By demystifying technology, the RSC is able to think about when and where to make use of technology and celebrate its own expertise in creative innovation.

“It’s definitely one of the most challenging projects that we’ve worked on...but also one of the most exciting” (Liz Thompson, Director of Communications, RSC)

KEY FINDINGS
This celebration of the role of art in the innovation process is also embraced by Intel. The challenge of staging Shakespeare’s last play and Doran’s creative challenge meant the project could unlock what Tawny Schlieski (Director of Client Research, Intel) describes as “interesting sideways things...with powerful new technologies.”

OUTPUTS

New Tools and Applications
The project led the hybrid team to use “existing ideas...in a new way” (Bren Jordan, Capture Technical Director at The Imaginarium), including the Xsens motion capture suit, live motion capture techniques, and the partner’s capability to use inertial and optical motion capture systems.

Adopting failures as assets, there are a number of partially completed digital assets that didn’t make the final Tempest production but could have alternative applications. The project also identified myriad virtual reality applications for The Tempest 2016.

For Intel, an “engagement that began in experimentation” (as Tawny Schlieski describes it) has applied and tested their technology in ways which have scalable applications. The project also resulted in the integration of motion capture systems with the production lighting board, providing the RSC with a new toolkit for stage design.

New Workflows and Processes
Technology is increasingly integrated in RSC workflows, whether scoping, managing or communicating about partnership projects. As Geraldine Collinge (Director of Events and Exhibitions) described it, the phrase “how we did it with motion capture” or ‘for The Tempest’ will become a touchstone that is “part of people’s language.”

The Imaginarium has an updated tech pipeline for animation and an updated pipeline for mocap to avatar as a result of The Tempest 2016. Having developed skills in rigging characters and projection, they have also identified efficiencies by weeding out what does and doesn’t work. As Technical Artist Dan Orchard notes, “If you were to do this project again you could do it in half the time” with the streamlined processes tested through this project.
## KEY FINDINGS

### WAYS OF WORKING

**PEOPLE**
- Value range of different / new expertise beyond seniority
- Staff and team pride in RSC delivering such an innovative project
- Discovered skills throughout departments - liberated people to try new ideas
- Highlighted need for time / ways to reflect on production

**CULTURE**
- Learnt to share process with actors and audiences
- Connected departments and broke down barriers by discovering new together
- Process for working with external partners
- New commercial and creative relationships forged

**LEADERSHIP**
- Processes and skills for managing collaborative projects
- Roles evolving to increase capacity and leadership for collaborative and digital projects.
- Finding ways to take learning forward and reflect in the longer term
- Analyse how we tell a story and value variety of visual responses to text

### AUDIENCES

**CULTURE**
- Massive reach via social media - Twitter, Snapchat – and achieved a fantastic cross generational response.
- Extended customer journey and more potential here inspired by research visits and insights from other sectors
- Tested potential for innovative project of scale in long running family calendar slot over Christmas
- Think about core audience experience even when focus is on the challenging innovation
- Raised RSC Profile as innovative
- Catalyst for creative thinking in professional practice within and beyond the project, e.g. what technology can mean for audience experience
- Potential touring

**LEADERSHIP**
- Identified myriad new tech applications of *The Tempest* (e.g. VR)
- Leaders have better understanding technology and know they personally don’t need to be expert
- Demystified tech for theatre professionals

### USE OF TECHNOLOGY

**PEOPLE**
- Production skills developed – including skills to integrate systems
- Skilled and inspired to think about future uses of the suit

**CULTURE**
- R&D generated interest in ways to engage with new tech
- Recognition of theatre’s value for technology - moves people, tests/creates social experiences
- Wider dissemination of tech into RSC pipelines
- Failures as assets - partial completion of assets that didn’t make final Tempest but could have alternative application

Through “genuine collaboration,” we were able to “achieve something bigger”  
(Sarah Ellis, Director of Digital Development, RSC)
## Ways of Working

### People
- Brought in support from Intel Labs, Business Groups and Marketing
- Internal employee engagement in brand reinvigoration

### Culture
- Evidenced value of playing on fringes of mass market (90% focus on things it knows can sell, 10% needs to be on things Intel doesn’t yet understand)
- More marketing traction and on-message coverage than typical from “off path” intervention

### Leadership
- Reinforced recognition in Intel that it’s good to be involved in partnership projects from Day 1, not only come on board as sponsors later

## Audiences

### People
- Brand reinvigoration “coming together of creative minds and... innovative technology” (Matthew Bolton, EMEA Brand Marketing Manager)
- Millennials engaged through social media

### Culture
- Broader internal buy-in and public understanding of Intel as a player in more areas, including Entertainment by placing technology at heart of this unexpected, authentic project.
- Intel as creative - this project provided content to reinforce that message
- Strong return on investment - repeated, long term press and PR with high Intel association

## Use of Technology

### People
- Recognition of new skillset and artform of avatar acting

### Culture
- Make a real thing not just a demo, so needed to be inspiring and stand up to use
- Provides example of VR in a “clearly... shared social experience” (Tawny Schlieski, Director of Client Research) - helps overcome persistent dystopian story of VR as isolating/individual. Intel are interested in creating new technology to connect.
- Introduced a ‘new electric light’ into the theatre

### Leadership
- Project helping move from the prevalent lighter, smaller focus of tech design to highlight role of powerful, chunkier machines for customers beyond gamers and specialists.

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**Brand reinvigoration “coming together of creative minds and... innovative technology”**

(Matthew Bolton, EMEA Brand Marketing Manager, Intel)
<table>
<thead>
<tr>
<th>WAYS OF WORKING</th>
<th>AUDIENCES</th>
<th>USE OF TECHNOLOGY</th>
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<tbody>
<tr>
<td><strong>PEOPLE</strong></td>
<td><strong>PEOPLE</strong></td>
<td><strong>PEOPLE</strong></td>
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<tr>
<td>■ Confidence to recruit for Animal Farm and understand how to do 3D characters in virtual world.</td>
<td>■ Understand what is relevant for end product in theatre to focus efforts. Precision less important for audience perception in theatre than gaming</td>
<td>■ Developed skills in rigging characters and projection and identified efficiencies by weeding out what does and doesn’t work.</td>
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<tr>
<td>■ Adapted methodology of early mock-ups to aid decisions rather than relying on descriptive vision</td>
<td>■ Adapted to meet challenge of audience reception for live to cinema rather than in theatre</td>
<td>■ Exploration of Inertial vs Optical with skills that can be used for outdoor shooting on Animal Farm</td>
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<tr>
<td>■ Working with theatre helped develop their skills in improvisation and relationship/project management</td>
<td>■ Skilled and enthused to go further and use tech as extra tool for Directors to use to enhance performance and enable audience interaction</td>
<td>■ 1st to test / advance real time project in Game Engine</td>
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<tr>
<td>■ Learnt how to create better characters - valuable for client work</td>
<td>■ Working methodology for practical collaboration including use of stretch goals</td>
<td>■ Identified steps to create characters in virtual worlds – ‘Nailed’ pipeline for MoCap to Video Game Avatar</td>
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<td><strong>CULTURE</strong></td>
<td><strong>CULTURE</strong></td>
<td><strong>CULTURE</strong></td>
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<tr>
<td>■ Working methodology for practical collaboration including use of stretch goals</td>
<td>■ Working in theatre raises awareness of the potential of technology beyond the screen</td>
<td>■ Real time facial capture added to tech pipeline to see animation as they shoot films</td>
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<td>■ Proof of concept they can create content and integrate systems with partners</td>
<td>■ More enthusiasm for working in collaboration</td>
<td>■ Open to change - rethought how they designed digital characters in response to differences between theatre and film/screen.</td>
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<td>■ More enthusiasm for working in collaboration</td>
<td>■ LEADERSHIP</td>
<td>■ LEADERSHIP</td>
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<tr>
<td>■ LEADERSHIP</td>
<td>■ Shift from client working to partnership working</td>
<td>■ Comfortable with uncertainty and using technology in new ways</td>
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<td>■ LEADERSHIP</td>
<td></td>
<td>■ Excited by potential opportunities and opportunity to explore all those other Ariel’s</td>
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**The Imaginarium**

**KEY FINDINGS**

**OUTPUTS AND OUTCOMES**

**THE IMAGINARIUM**

**Theatre shows “the naked truth of MoCap”**
(Bren Jordan, Capture Technical Director, The Imaginarium)
CHALLENGES OF COLLABORATION

PROJECT MANAGEMENT, CREATIVE & TECHNOLOGY CHALLENGES
CHALLENGES SUMMARY

“It was all challenging!”
(Sarah Ellis, Director of Digital Development, RSC)

While The Tempest 2016 was a highly innovative, technologically-advanced project, the main challenges it faced are those familiar to most arts organisations and projects; those related to creative direction and project management. This meant the team was able to draw on tested practices to address familiar challenges and, “make it work, no matter how painful it was” (Tawny Schlieski, Intel).

The extent of the technology challenge that this R&D project chose to address is scalable, while the project management and creative direction challenges are less so.

In other words, if arts organisations are able to develop their people, processes and assets to address the core project management and creative direction challenges of a collaborative R&D project, and identify appropriate partners to work with, they will be able to undertake arts/tech R&D projects of some scale.

PROJECT MANAGEMENT

MOVING FROM THEORY TO PRACTICE

Working on a project which creates new technology and utilises existing technology in a new way poses a challenge for those involved, as well as for audiences; that of communicating and making tangible otherwise purely theoretical ideas. Describing a live mo-cap avatar is one thing; making it is quite another. And describing your vision for what a ‘live mo-cap avatar’ looks like is not as compelling as showing people what you mean. The Imaginarium helped address this challenge, felt especially keenly by the production team expected to deliver a show integrating these new ideas, by creating prototypes of the Ariel avatar to share with the partners and Stephen Brimson Lewis, who could then decide on options to develop.

Aligned with this challenge of moving from aesthetic, technical, and creative theory, to practice in the form of the rehearsals and live show – was the challenge of defining milestones and deliverables. With almost limitless possibilities for a technologically-enhanced production, the ideas taken forward were necessarily constrained by the time and resource requirements of the project. Defining the cut off points for decisions about theoretical outputs was an ongoing process.

These challenges of articulation and logistics were accompanied by anxiety among the multi-disciplinary, cross-organisational team about where their individual space was to contribute to the project. This is best summarised as the difference between having expertise and skill that could be useful, and sharing or being called on to share this expertise and skill at the right time.

RESOURCES

While the lead-in time for the production was more than a year longer than that of a standard RSC production, R&D and partner relationship building takes more time than working with the same established teams and processes, and the milestones for delivery of the production focused on the final 6-12 months out from delivery. Time was a challenge, and often a helpful one to galvanise the project teams across organisations.

“I don’t think... we quite realised how enormous it was going to be.”
Liz Thompson (Director of Communications, RSC)
The technology and the collaboration were both unknown quantities at the start of the project, so there was no specific process or resource for them to be scoped and managed, and both evolved as the core team took shape. Capacity to deliver was a challenge for certain departments at key stages during the project, as they balanced the needs of partners and the project with business as usual. Many of the interviewees recognised that the resources needed for the project evolved as decisions were made and couldn’t have been known at the start.

**WORKING WITH PARTNERS, REALLY.**

There are inherent challenges in working with partners to initiate, deliver and communicate. Initiating the project required partners to address the challenge of understanding each other’s needs and expectations, and agree contract details including IP. Managing the project relied on the partners’ ability to communicate across time zones, deal with staff changes, and develop approvals processes as the endeavour evolved. This involved repeated, continued internal communications within and across the partner organisations to remind people of the vision and goal, update people on progress, and motivate people to keep contributing their ideas and energies to the project.

One of the challenges of cross-sector collaboration is in the extent to which partners are able to share learning and seek help around challenges, depending on commercial sensitivities. Agreeing how you will manage the different business, confidentiality, and PR needs of different partners in a collaborative project is essential. When the project is especially innovative, as was the case in *The Tempest*, agreeing how each partner could seek support and guidance without breaching commercial confidentiality was a crucial aspect of the relationship management between the three organisations.

**SCALE**

The different scale of the partners impacted peer-peer working. With Intel’s global marketing teams outnumbering the RSC’s entire staff, marketing and press requirements were demanding for the RSC’s team, in part due to the need to communicate with large numbers of peers across the partner organisations. Intel filmmaking around the production also posed practical challenges for capacity. The challenge of scale was in part addressed by managing expectations about approvals, goals, and deliverables in the Partnership Plan and regular communication.

**LANGUAGE**

The three partners each brought their own specialist language and skills to the project. From shorthand to acronyms, to different understandings of what seemed to be common terminology, developing a shared language was a key challenge for the collaboration. Added to these specialist ways of imagining, communicating and managing projects, was the challenge of what to call things when they are completely new. Each of the partners is a massive brand in their sector and their specific ways of working and communicating defined how the collaboration worked in practice, as well as how it was defined on paper through shared vision and goals.

**CREATIVE**

**THE ORIGINAL CHALLENGE**

While answering Greg Doran’s creative challenge to make use of the latest technology to spectacular effect in *The Tempest* for the 400th anniversary year meant addressing the creative challenge that faces all RSC productions - what approach to take to the creative delivery of the play on stage, and to creative activity related to the play off the stage – it also posed a distinctive challenge for this production in terms of timing and integration of new digital technology.

**MANAGING AUDIENCE EXPECTATIONS**

A key creative challenge related to how and what to share with people about *The Tempest* 2016 as it was being developed. With the other partners, the RSC sought to balance their commitment to engaging audiences in their creative process and raising the profile of the production, with the need to manage people’s expectations about what the collaborative R&D would lead to in terms of the production itself.

The challenge of sharing the excitement, potential and vision while the details are still theoretical and evolving, is a familiar creative challenge even when new technology and high profile partners are not involved. These factors simply amplified this challenge.14

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14 This challenge was addressed through members of the team sharing insights from the project development at conferences and in interviews, as well as through video content, and talks accompanying the production.
KEY FINDINGS

KEEPING THE PLAY CENTRAL

“No longer will we look at digital as ‘other’ but we will just go how are we going to do it?” (Sarah Ellis, Director of Digital Development, RSC)

To ensure that the story and characters of The Tempest remained the primary focus, digital technology was used only to enhance the audience’s engagement with the play on and off stage. Doran describes the need to “have a ruthless logic” to the use of digital. For The Tempest 2016, this meant sense checking all the innovative ideas emerging from the R&D process against the question “How is this enabling magic?” This underpinned the ambitious but judicious use of new technology within the production itself, as well as immersive installations and social media engagement around its staging.

TECHNOLOGY

UNDERSTANDING WHAT TECHNOLOGY MEANT FOR AUDIENCES

Exploring what people’s expectations were – of digital technology in a theatre, of Virtual Reality, of motion capture – posed a challenge for the project. By drawing on each partner’s specialist data and knowledge of these three areas, these insights could inform decisions about what technology to use, how to focus it in the production for maximum impact, and how to share insights into the making of the production with the audience so they “know quite how much very clever work has gone into actually making the bits that...look seamless” (Fiona Morris, CEO, The Space).

This challenge also informed thinking about how people could be imaginatively engaged with the project beyond the stage.

BALANCING INNOVATION WITH QUALITY

“Ultimately you’ve got to remember that audiences won’t have missed something that didn’t work” (Sarah Ellis, Director of Digital Development, RSC)

There was understandable anxiety in the project team about deploying such new technology in a live event, and not only once, but 8 times a week for more than 2 months. This challenge of balancing the extent of the innovation and creative ambition with the need for robustness and technical quality was addressed through testing, prioritising deliverability, and sticking to Doran’s “ruthless logic” for the use of technology.

A more technologically innovative or extensive intervention could have been possible, but not without compromising the audience’s experience, and the team’s ability to deliver consistently.

For the RSC in future and for other organisations exploring their own arts/tech collaborations, this focus on the outcomes for audiences is a useful starting point.

SPECIFIC TECHNOLOGY CHALLENGES OF THIS PRODUCTION

There were, of course, specific challenges related to the technology needs of this project. For example, from the start of the project, the teams grappled with core challenges including how to do Live Motion Capture, how to design Ariel and the suit worn by Mark Quartley, and how to connect technical systems including lighting.

RSC Director of Design, Stephen Brimson Lewis, likened the process to doing “post-production on a film that hadn’t even been made yet.”

Other fundamental technology challenges included the need for a 2D surface for projection. Silvia Bartoli (2D 3D Character Artist, The Imaginarium) described projection as “the big unknown” in the project. This challenge was addressed through the use of a cloud-like column so as not to flatten projections to a filmic experience, while still being technically possible.

BACK TO CONTENTS PAGE
This 22-day research project took a three-stage approach, exploring the impact of *The Tempest* 2016 on the RSC’s ways of working, audiences and use of technology, and sharing the findings.
**KEY FINDINGS**

**METHODOLOGY**

The approach taken to this research mirrors the approach the RSC took to developing *The Tempest 2016* collaboration. Namely, the collaboration and this impact research both focus on what is done as well as how it is done. This means exploring what was made and delivered, as well as the processes, relationships and resources that enabled this delivery.

To more fully understand the ‘what’ and ‘how’ of this project, and share findings of most relevance and use to the RSC, partners, audiences, and sector, this research has been informed by Design Thinking techniques and processes including observations, visualising insights, and prototyping ideas to iterate them. Many of the appendices and recommendations are also informed by these Design Thinking approaches and IDEO Field Guide to Human-Centred Design.

The research framework was updated during the research project to maximise the relevance and usefulness of findings for RSC, partners, stakeholders and arts sector.

**INTERVIEWS**

Between January and April 2017, 23 members of *The Tempest 2016* team and specialist stakeholders were interviewed. The purpose of these interviews was to understand people’s reflections on the project’s impact, and what they thought about how it was developed and delivered.

21 OF THESE INTERVIEWS WERE WITH THE PEOPLE RESPONSIBLE FOR DEVELOPING THE PROJECT, AND FOCUSED ON LEARNING ABOUT:

- Their role in the project
- Elements of the project they found most exciting and challenging
- The impact of *The Tempest 2016* project on their use of technology, creative and professional practice, and for audiences
- The impact of *The Tempest 2016* project beyond their organisation
- Their wishes for the legacy of the project

2 OF THESE INTERVIEWS WERE WITH LEADING ARTS AND TECHNOLOGY PRACTITIONERS AND COMMISSIONERS CLARE REDDINGTON (WATERSHED) AND FIONA MORRIS (THE SPACE) WHO HAD BEEN INVOLVED IN STRATEGIC DISCUSSIONS WITH THE RSC ABOUT THE PROJECT’S DEVELOPMENT AND POTENTIAL LEGACY. THESE INTERVIEWS FOCUSED ON LEARNING ABOUT;

- Elements of the project they found most exciting and challenging
- The impact of *The Tempest 2016* on arts organisations’ use of technology and collaboration with technology companies
- The impact of *The Tempest 2016* on audience expectations and engagement
- Learning from the project that would be most useful to share with the sector, and the most useful ways in which this could be shared
- Their wishes for the legacy of the project
OBSERVATIONS
Between November 2016 and January 2017, six sets of observations about people’s engagement with The Tempest 2016 were gathered:

- Theatre Production
- Live to Cinema broadcast 11 January 2017
- Pre-Show Director’s Talk
- Creating The Tempest Talk: Brave New Digital World
- Conduct the Storm, Prospero’s Cell and The Play’s the Thing Exhibitions
- The Imaginarium Studios visit

Observations were captured on a simple canvas, with prompts including:

- Which elements of the project are people interested in?
- Which aspects of the project are challenging people?
- Key words / themes in discussions (and how/ do these differ between different types of people/ expertise/topics/exhibition formats?)
- What is the apparent effect of the project on/for people and their use of technology?

The purpose of these observations was to gather insights into how people behaved and talked about the project when they were actually engaged in it, rather than reflecting on it. This provided snapshots of live, unguarded action from the project team and reactions from audiences.

Combining these observations with interviews, enables us to learn both from what people said afterwards when reflecting on the project, as well as what they did during their engagement with project.

DATA GATHERING
The following data was collated from across departments at the RSC:

- RSC audience insights and ticketing
- Prospero’s Island Marketing Campaign summary
- Production workflows
- Project conception to delivery workflow
- Project team expertise and timing of contribution
- Partnership meeting notes
- Partnership Plan documents
- Marketing and Communication plans

Gathering project data held in different departments provided a third lens through which to view the project. Perhaps unsurprisingly, the insights into the impact of The Tempest 2016 that draw on all three sources of knowledge about the project provided the deepest insights into the process.

The research was managed using a shared Trello Board and Google Drive.
DEFINITIONS

IMPACT

This research explores the effect of The Tempest 2016 on the people and organisations who made the production possible, their creative or professional practice, their use of technology, their audiences or customers, and their ways of working.

When the teams at the RSC, Intel and The Imaginarium were asked to describe the impact of The Tempest 2016, all of the various effects in their responses referred either to outputs or outcomes. For the purposes of this report, impact is defined as the combination of outputs (assets for all partners) and outcomes (benefits for partners, audiences, sectors) resulting from the collaboration.

R&D

This research draws on the Nesta definition of R&D proposed by Hasan Bakhshi and Elizabeth Lomas.15

Research and experimental development (R&D) comprise creative and systematic work undertaken in order to increase knowledge – including knowledge of humankind, culture and society – and to devise new applications of economic, cultural or social value of available knowledge:

- Basic research is experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena, observable facts and behaviours, without any particular application or use in view.

- Applied research is original investigation undertaken in order to acquire new knowledge. It is, however, directed primarily towards a specific intended aim or objective.

- Experimental development is systematic work, drawing on knowledge gained from research and practical experience and producing additional knowledge, which is directed to producing new products, experiences or processes or to improving existing products, experiences or processes.

Within this definition, The Tempest 2016 is analysed as an ‘experimental development’ directed to producing a new production and audience experience, as well as developing the technical and collaborative processes necessary to enable this.

INNOVATION

In keeping with established innovation definitions, the outputs and outcomes of The Tempest 2016 project indicate “ideas successfully applied.”16 In order to contextualise the RSC’s experience of innovation in established frameworks and provide insights that are relevant and translatable across sectors, this research draws on the Nesta definition of innovation proposed by Professor Fiona Patterson, Dr Maura Kerrin, Geraldine Gatto-Roissard and Phillipa Coan.

This definition encompasses new models and processes as well as products. Within this definition, innovation is “change associated with the creation and adaptation of ideas that are new-to-world, new to nation/region, new-to-industry or new-to-firm.”17

The Tempest 2016 project is an example of innovation – new-to-world technology, new-to-industry application and integration, and new-to-firm collaborative processes. It is innovation made possible by relationships and a collaborative process of R&D.

As design thinking leader Tom Kelley notes of approaches to innovation, “success depends on both what you do and how you do it.”18

Mapping the delivery of The Tempest 2016 against Nesta’s seven stages of innovation highlights how the partnership team applied their ideas and developed new ways of working to move from scoping the opportunity to delivering and implementing. As The Tempest 2016 project moved to the Barbican and worldwide screenings, the RSC and partners focused on the challenge of growing and scaling innovation and changing systems to enable this.

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15 Nesta, Hasan Bakhshi and Elizabeth Lomas, ‘Policy Briefing: Defining R&D for the creative industries’ (March 2017)  
17 Nesta, Professor Fiona Patterson, Dr Maura Kerrin, Geraldine Gatto-Roissard and Phillipa Coan ‘Everyday innovation: How to enhance innovative working in employees and organisations’ (December 2009)  
CONCLUSION
MAKING COLLABORATIVE R&D WORK

PRINCIPLES & RECOMMENDATIONS
CONCLUSION

PRINCIPLES FOR ENABLING INNOVATION

Three key principles inform how this project – and collaborative R&D more broadly – can benefit ways of working, audiences, and use of technology:

1. **People First**
   Recognise and celebrate expertise, motivate and support people to build skills and connect

2. **Culture Shift**
   Enable risk, delegate and empower across hierarchies, provide time and space to play, and measure innovation beyond financial outputs

3. **Transformational Leadership**
   Provide motivation and mandate, develop traits and behaviours, invest in capacity and planning

PEOPLE FIRST

Recognising and enabling people to use and develop their expertise is key to enabling collaboration, whether this is within teams, across departments, or between organisations. Understanding what each individual has to contribute unlocks the time and energy of leaders to make decisions, develop the vision, and drive the project forward.

A recurring theme in interviews was that of the project providing opportunities for people’s interests beyond their usual job to be translated into skills development and responsibilities for The Tempest 2016. This was hugely motivating for the individuals involved and undoubtedly elicited ‘above and beyond’ contributions from the team. For example, Bren Jordan (The Imaginarium) described how content creation is “what I want to do” so it “was a really big deal” to be given the opportunity to apply and develop his skills in this area.

Underpinning this specialist expertise is another key enabler for collaboration; attitudes and behaviours. Nesta’s Everyday Innovation report identifies “motivation, openness to ideas, and original problem solving” as the top three employee characteristics and behaviours for innovative working. Tawny Schlieski (Intel) characterised the attitudes and behaviours shared by members of The Tempest 2016’s multidisciplinary team as follows;

- A high level of trust
- Pride in newness
- Generosity
- Forgiveness of chaos
- Resoluteness to deliver

This combination of individual specialist expertise being recognised and utilised, people’s interests being translated into new skills for the team, and the cultivation of some key shared behaviours, enabled the collaboration to succeed.

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19 Nesta. Professor Fiona Patterson, Dr Mauro Kerrin, Geraldine Gatto-Roissard and Philippa Coan ‘Everyday innovation: How to enhance innovative working in employees and organisations’ (December 2009). The report provides practical suggestions and case studies for measuring innovative working, behaviours and performance within the innovation process. These include suggestions for how organisations can increase these characteristics and behaviours among employees through selection and development practices.
**CULTURE SHIFT**

Organisational culture is crucial to enabling innovation to flourish. The characteristics which enabled *The Tempest* 2016 R&D to be effective could be developed further and expanded to other projects and across the organisation over time. These characteristics include enabling risk, delegating and empowering across hierarchies, providing time and space to play, measuring innovation, and telling stories about the process as well as the products of the R&D.

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### 5 CULTURE SHIFTS TO ENABLE INNOVATION

<table>
<thead>
<tr>
<th>ENABLE RISK</th>
<th>DELEGATE AND EMPOWER ACROSS HIERARCHIES</th>
<th>MAKE TIME &amp; SPACE TO PLAY WITH PURPOSE</th>
<th>MEASURE INNOVATION</th>
<th>KEEP STORYTELLING FOR CHANGE</th>
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<tr>
<td>Value risk taking, tolerate failure, and enable honesty to embed innovative working.</td>
<td>Empower individuals to share and connect their expertise, irrespective of seniority. This can be enabled by empowering and delegating to people with expertise across organisational structures for R&amp;D projects, and beyond.</td>
<td>Create spaces that are conducive to experimentation and creativity, and power the pipeline to take R&amp;D into production. Make time for teams to come together and test thinking in these spaces. This “playing space” (Fiona Morris, CEO, The Space) is necessary to research and develop innovative projects, processes and practices.</td>
<td>Measure innovative ways of working as well as usual outputs such as revenue growth or project reach. These measures can inform storytelling to engage teams and partners, highlight impacts of R&amp;D across organisations, and indicate potential for future development and innovation.</td>
<td>Tell stories about the outcomes and outputs of innovation, the ideas for development that it prompts, and the new practices that are prototyped as a result. Sharing as openly as possible about the process as well as the outcomes can motivate teams, potential new partners, and different types of audiences.</td>
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20 Time devoted to developing ideas is among “the most effective initiatives for promoting innovation,” and this requires “tolerance of failure and valuing risk taking.” Nesta. Professor Fiona Patterson, Dr Maura Kerrin, Geraldine Gatto-Roissard and Philippa Coan: *Everyday innovation: How to enhance innovative working in employees and organisations*.

21 Analysing data on demographics, particularly for social media and online engagement, can elicit insights to tell stories of the people engaging with the project. These insights in turn can provide ideas for future collaborations, collaborators, and new ways of engaging audiences.

22 The storytelling approach taken by the RSC’s communications team during *The Tempest* highlights the value and potential of this approach for future projects. See Appendix 7 for summary of the RSC commo story for *The Tempest* 2016, which focused on inspiration, innovation and collaboration.
TRANSFORMATIONAL LEADERSHIP
The role of leadership was as crucial to the successful delivery of The Tempest 2016, as it is in promoting innovative working more broadly.23

With autonomy, a key set of collaborative behaviours, and the capacity to develop new ideas, transformational leadership of this project ensured that expertise was connected, the team was motivated, and delivery of R&D was possible.

3 LEADERSHIP MOVES TO ENABLE INNOVATION

ENABLE AUTONOMY
Provide freedom to develop new relationships and a mandate and resources to experiment.

PRACTICE COLLABORATIVE BEHAVIOURS
“Understand...it’s us being curious...wanting to experiment with our work and find the right fit.” Sarah Ellis (Director of Digital Development, RSC)

Leadership characteristics and behaviours that promote innovation and enabled The Tempest 2016 include confidence, courage, honesty, curiosity, openness to ideas, open communication and storytelling, problem-solving, flexibility, emotional intelligence, encouragement of risk-taking, and optimism.

DEDICATE CAPACITY
Leaders need time, resources, and networks to develop new ideas, and explore how these might be planned and delivered creatively. Everyday Innovation notes that leadership “development interventions” could “promote the behaviours that enhance innovative working.”24

CONNECTED EXPERTISE
Expertise needs connecting to have impact. Leaders who connect people across teams, organisations, and disciplines are crucial to unlock isolated expertise, motivate people, and achieve a shared goal.

MOTIVATED TEAM
Leadership across The Tempest 2016 project partners maintained momentum, kept people motivated, and balanced experimentation with the need to deliver.

DELIVERY OF R&D
The delivery and reach of The Tempest 2016 project was made possible by its leaders having the capacity and characteristics to scan the horizon for new ideas and reach out to develop new relationships.

23 According to the Nesta Everyday Innovation survey, one of the top three catalysts for innovative working is, “Leaders modelling behaviours that encourage innovation.” Nesta. Professor Fiona Patterson, Dr Mauro Kerrin, Geraldine Gatto-Roissard and Phillipa Coan: Everyday innovation: How to enhance innovative working in employees and organisations (December 2009)

24 “60 per cent of organisations from the survey reported using leadership/management training to promote innovative working.” Nesta. Professor Fiona Patterson, Dr Mauro Kerrin, Geraldine Gatto-Roissard and Phillipa Coan: Everyday innovation: How to enhance innovative working in employees and organisations (December 2009)
RECOMMENDATIONS

Research is underway for a Tempest VR experience, and the launch of this report and sharing of the learning about the projects impact to date is expected to inform future activity with partners and within the RSC. These steps could also be adapted and tailored to the needs of other arts organisations across artforms and scales to inform how they enable innovation and collaborative R&D in their work.

PROTOTYPE NEW WAYS OF WORKING

Building on learning from The Tempest 2016, prototype approaches across the RSC to embed principles that enable collaboration and innovation to flourish in the organisation. The organisation could do this by considering 3 questions;

1. **People First:** How can the RSC recognise and celebrate expertise, and motivate and support people to build skills and connect across teams?

2. **Culture Shift:** How can the RSC enable risk, delegate and empower across hierarchies, provide time and space to play, and measure innovation beyond financial outputs?

3. **Transformational Leaders:** How can the RSC provide motivation and mandate for its leaders at all levels, develop traits and behaviours that enable them to catalyse innovation, and invest in leadership capacity and planning?

For example, to contribute to Culture Shift and measure innovation beyond financial outputs, the RSC could use data from their existing analytics tools to inform plans for audience engagement with future collaborative or R&D projects.

PROCESSES FOR COLLABORATIVE R&D

Introduce and continue to iterate a **Checklist** for project initiation. This could include the following:

- Who is the team and what expertise do we have/need to develop?
- Who are the project leaders and how will they enable risk taking?
- Where/when is the space to play?
- How will we share stories about the project and with/for whom?

As part of **project initiation**, share and agree;

- Milestones spreadsheet to be updated throughout
- Partners expertise mapping to identify gaps and synergies for staff development adjacent to project
- Evaluation framework – agree metrics and milestones
- Partnership plan to identify shared goals, key contacts
- Shared language for hashtags and urls to enable tracking and analytics for digital engagement

**Build evaluation** into the process from the very beginning of each project, so learning can spin off into new ideas for ways of working or use of technology that can be tested during the project, not only at the end.

KNOWLEDGE BANK

For all R&D or partnership projects, create a ‘Knowledge Bank’ for digital storage of all project files. Collating all project following data in one place and sharing it across all teams working on the project, enables collaboration and provides data that could be used and adapted for future projects.

Data collected could include;

- Roles and responsibilities across partners – who was involved, what did they do. This could be accompanied by a network diagram.
- Shared vision and goals
- Workflows
- Technology pipelines
- Partnership plans
- Agreed deliverables and KPIs
- Audience and ticketing
- Social media and website data
- Marketing reports
- Press and PR reports

There is potential to build on this Knowledge Bank to collate key learning resources for specific teams that could be shared internally and with peers as specialist toolkits, for example for actors around working with motion capture technology or for technical teams working with stage and motion capture software.
CONCLUSION
The technology and ideas presented in *The Tempest*, the RSC’s final production in Shakespeare’s anniversary year, responded to the innovation and ambition of Shakespeare’s own time through the lens of 21st century technologies. This report was commissioned to capture a moment in the RSC’s history and measure how we collaborate with partners to make the most of these new technologies for all our audiences. The overwhelming lesson at the heart of any innovation process is how a strong creative vision can mobilise people, capturing the best of their skills and combining it with technologies across sectors to enable everyone to learn new things about their craft.

What we have learnt over the past few years will carry us forward into new productions, collaborations and partnerships, allowing new audiences to experience and celebrate Shakespeare’s plays. We will continue to give ourselves the time and space to explore new ideas, now we know what is possible when we collaborate. We are confident that the exploitation of the technology in *The Tempest* will have a wider application across the arts and culture sector, at a variety of scales. As technology and computing capabilities increase, tools such as motion and performance capture, projection mapping, content creation in games engines will expand and grow. So will our stages, from the Royal Shakespeare Theatre to the classroom, from a mobile phone to Virtual or Augmented reality headsets. We will need to develop new skills, explore further engagement with our audiences, collaborate with different sectors, trial new approaches and seek out opportunities to experiment at all levels - all fired by an ambition for what can be achieved.

That brings us back to the purpose of this report. As these technologies become more accessible, we want to share our learnings. We hope these tools will help others push the boundaries of the technology itself and extend the craft of theatre making. Theatre has always had a relationship with technology – whether it has been the use of candlelight, the ‘Pepper’s ghost’ illusion, or projection mapping. This collaboration with Intel and The Imaginarium has championed that thread of innovation, as we continue to look towards the future and its possibilities.

Sarah Ellis
DIRECTOR OF DIGITAL DEVELOPMENT,
RSC
APPENDICES

1. The Tempest 2016 Creative Credits
   - Direction: GREGORY DORAN
   - Production Design: STEPHEN BRIMSON LEWIS
   - Digital Character Creation: THE IMAGINARIUM STUDIOS
   - Video: FINN ROSS
   - Lighting: SIMON SPENCER
   - Music: PAUL ENGLISHBY
   - Sound: JEREMY DUNN AND ANDREW FRANKS
   - Movement: LUCY CULLINGFORD

2. Interview Questions (pdf)

3. Observation Canvas (pdf)

4. Interviews and Observations List (spreadsheet)

5. Partnership Implementation Plan Template (pdf)

6. Tempest Evaluation Framework (spreadsheet)

7. Tempest Live from Stratford-Upon-Avon Audience Research, March 2017 (slides)
REFERENCES & FURTHER READING


Fielding, Alyson. ‘Digital is about People’ https://medium.com/@alysonf/technology-is-about-people-nesta-s-digital-culture-panel-922276128d70 (2.5.17)

Gawande, Atul. The Checklist Manifesto: How to get things right. (Profile, 2011)

GDS. The Government Digital Service Blog https://gds.blog.gov.uk/ (2.5.17)


IDEO. Field Guide to Human-Centred Design http://www.designkit.org/resources/1


Nesta. DIY Toolkit http://diytoolkit.org/ (2.5.17)


Nesta. Professor Fiona Patterson, Dr Maura Kerrin, Geraldine Gatto-Roissard and Phillipa Coan ‘Everyday innovation: How to enhance innovative working in employees and organisations’ (December 2009)