

## 4 – Tender Specification

### **TENDER REFERENCE**

**AR\_INTERP\_001**

### **TENDER FOR PROVISION OF**

**AR Interpretation and Experience Project**

<b>1. INTRODUCTION.....</b>	
<b>2. BACKGROUND.....</b>	
2.1. THE ROYAL AIR FORCE MUSEUM - HISTORY AND PURPOSE.....	
2.2. OUR VISION FOR THE NEXT 10 YEARS.....	
2.3. OUR PURPOSE .....	
2.4. RAFM'S APPROACH TO INTERPRETATION .....	
<b>3. SCOPE OF WORKS.....</b>	
<b>4. AR INTERPRETATION AND EXPERIENCE .....</b>	
4.1. CHOSEN AIRCRAFT .....	
4.2. AR OPPORTUNITIES .....	
4.3. LEARNING OUTCOMES .....	
4.4. IN-GALLERY STRUCTURE .....	
<b>5. KNOWN POTENTIAL CHALLENGES .....</b>	
<b>6. PRODUCTION / TIMELINE .....</b>	
<b>7. TECHNICAL LEGACY .....</b>	
<b>8. SERVICE LEVEL AGREEMENT .....</b>	
<b>9. BUDGET .....</b>	
<b>10. DEPENDENCIES.....</b>	
10.1. TRAINING .....	
10.2. DOCUMENTATION.....	
10.3. CONTENT .....	
10.4. ANALYTICS .....	
10.5. CONNECTIVITY.....	
<b>11. AR INTERPRETATION AND EXPERIENCE PROJECT - SUMMARY.....</b>	
 <b>APPENDIX 1 RAFM INTERPRETATION STRATEGY 2020-2030.....</b>	
<b>APPENDIX 2 IMAGES / ARCHIVE EXAMPLES .....</b>	

## 1. INTRODUCTION

The RAF Museum (RAFM) is seeking to appoint an agency to create bespoke augmented reality (AR) interpretive content for two aircraft using an AR platform which can subsequently be used, for no additional platform development cost, by RAFM staff to create a range of further AR content throughout the Museum.

Each deliverable – the content and the platform – is equally important.

The AR Interpretation and Experience will be used in a new permanent display about RAF Bomber Command during the Second World War at our London and Cosford sites.

The deadline for delivery of the project is February 2022.

## 2. BACKGROUND

### 2.1 The Royal Air Force Museum – History and Purpose

The Royal Air Force has shaped our nation and our society. It has influenced how we live our lives today through its impact on world events, society and technology.

The Royal Air Force (RAF) Museum was established as a legacy of the RAF's fiftieth anniversary, opening our London (Hendon) site in 1972. From 1979, the Museum also managed the Cosford Aerospace Museum for the MOD, which had also been in operation since 1972. This was renamed the RAF Museum Cosford in 1998 when it formally became part of the Museum portfolio. The Museum also has two external stores, one in Stafford and another within RAF Cosford.

The Royal Air Force Museum is a National Museum, a Government non-departmental public body (NDPB) and a registered charity.

During the course of its last strategic plan, the Museum concentrated its efforts on being outward-focused and people-centred, exploring the history of the RAF over its hundred-year history through its incredible people and ensuring that our collection is relevant, shared and well cared for.

2018 marked the Centenary of the Royal Air Force and the Museum was privileged to support it across the year as one of the partners in a formal Joint Venture with our sister charities the RAF Association, RAF Benevolent Fund and RAF Charitable Trust. In June 2018, we opened the major transformation at our London site and, across both Cosford and London, had our most successful year since the Museum's formation, welcoming a total of 990,000 visitors, an increase of 39% on the previous financial year.

Equally importantly, our visitor profile has broadened and diversified significantly, and the partnerships – and friendships – that have developed over the period give us a firm and inspiring foundation to build on for this next chapter of the Museum's history.

In March 2019, the Trustees of the Royal Air Force Museum signed off a new Strategic Plan 2019–2030 and an associated Development Plan for the Museum.

### 2.2 Our vision for the next ten years

Inspiring **everyone** with the RAF story – the people who shape it and its place in our lives.

### 2.3 Our Purpose

To share the story of the Royal Air Force, past, present and future – using the stories of its people and our collections in order to engage, inspire and encourage learning.

At the Royal Air Force Museum, our work and our behaviour are underpinned by six guiding values:

**INtegrity:** we are open, transparent and ethical

**Sharing:** we work as a team to ensure our collections and expertise are accessible to all

**Passion:** we care deeply about sharing our collections and their stories

**Innovation:** we tell our stories and develop our business with creativity and imagination

**Relevance:** we ensure our legacy by linking our histories with today and tomorrow

**Excellence:** we are professional and strive for excellence in all we do

We will achieve our vision and purpose through five strategic priorities that focus outwards with our collections at our heart:

- Inspiring innovative engagement, debate and reflection
- Inspiring our people within a dynamic, diverse and collaborative culture
- Embedding an entrepreneurial, agile and sustainable approach
- Leading the way with brilliant basics
- Connecting with communities and partners

## **2.4 RAFM's Approach to Interpretation**

The Museum's Interpretation Strategy is attached at Appendix 1, which contains details of the Museum's audience development and audience segmentation and our approach to access for all.

### **2.4.1 Digital Interpretation**

As the world moves to become 'post-digital', the Museum continues to assess the best platforms for sharing each piece of content in our exhibitions. Research in the recently redeveloped galleries demonstrated that more successful interventions are created where digital and physical artefacts, and the experiences they engender, are seen in a holistic manner – rather than as separate acts.

The RAF Museum has invested, and continues to invest, in new technologies to become more sustainable and also to deliver effective interpretation in our galleries.

The Museum holds extensive film, photographic and document archives which can be used as resources for development of new content.

The Museum currently has no AR experiences.

### **2.4.2 Augmented Reality**

The Museum has decided to invest in developing a level of digital interpretation in the form of AR platform for a number of reasons:

- To ensure the Museum remains relevant, using innovative interpretive technologies to attract new and maintain existing audiences.
- AR can be self-led, reducing touchpoints and encouraging repeat visits
- The Bomber Command permanent displays in London and Cosford will primarily display large objects. AR will provide new ways of interpreting these objects and engaging visitors with the stories of those who flew the aircraft and the aircraft's past incarnations, uses and histories.
- Interpreting aircraft using AR can help avoid any need to re-paint collection objects in different colour schemes, helping visitors to understand aircraft history and development and avoiding cost/potential damage to objects.
- AR is an ideal way to add to the storytelling approach currently used by the Museum in an exciting, immersive way.

This project is intended to be the first step in how large objects are interpreted at both Museum sites as they are redeveloped as part of Strategy 2030

### 3. SCOPE OF WORKS

The scope of work is threefold:

- a) to develop an AR platform that:
  - is best suited to deliver AR content
  - is available for all BYOD users, regardless of device type
  - is suitable for interpreting aircraft and other large objects
  - enables AR content to be edited in the future by RAFM staff
  - enables RAFM staff to create new AR content and experiences for different aircraft using their own Collection assets
  - builds on existing RAF digital architecture
  - enables the RAFM to take full control over the digital AR assets deployed in the museum
  - is within scope of the project budget
- b) to create bespoke AR elements such as 3D models and bespoke animations to help tell the histories and stories of two aircraft (one specified below, and one to be confirmed)
- c) to create two in-gallery experiences that will enable a visitor - who doesn't want to use their personal device - to view the AR content.

### 4. AR INTERPRETATION AND EXPERIENCE

#### 4.1 Chosen Aircraft

At present, only one aircraft has been identified to pilot the AR interpretation project - the Avro Lancaster at the London site. The Lancaster is a rare survivor of the Second World War and will celebrate its 80th birthday next year. On average, a Lancaster's life expectancy was 21 operational sorties, but this Lancaster flew a total of 137.

In 1942, Q for Queenie, as it was then called, was delivered to No. 83 Squadron, RAF Scampton where it flew its first operational flight in July of that year. It subsequently flew 68 sorties with No. 83 Squadron before joining No. 467 Squadron Royal Australian Air Force in September 1943, where it changed its name to what we know it as today, S for Sugar.

Flown by Pilot Officer TN Schofield, 'Sugar' flew its 100th sortie in May 1944, prior to which Hermann Goring's boast that 'No enemy plane will fly over the Reich territory' was inscribed on the side of the fuselage.

The painted bomb symbols on the nose represent missions flown and the names of No. 467 Squadron pilots who flew the Lancaster are inscribed on the engine cowlings.

Its final operational flight took place against shipping in Flensburg harbour on 23 April 1945. Its remarkable story meant that S for Sugar was saved for preservation four months later.

At present there is no clear decision which of the aircraft in Cosford will be chosen for the AR Experience. However, currently discussions are around the Avro Vulcan B2, which is located in the Cold War Exhibition and has its own unique and equally rich life history.

Photographs of the Lancaster and Vulcan in situ, in the Hangars, can be found in Appendix 2.

Appendix 2 also contains:

- information about the crew and their positions within the Lancaster;
- a small example of drawings taken from: Air Publications, Engineering Drawings and Air Diagrams – all from the archives.

## 4.2 AR Opportunities

Audiences will explore the physical structure of the aircraft's fuselage, with the 'skin' of the aircraft, featuring bullet holes, insignia, colour schemes etc., acting as a palimpsest of the many stories that inform the aircraft's narrative.

Peeling away this 'skin' can reveal a range of technologies as well as the operational roles and personal stories of the aircrew.

Adding detail can show the complete aircraft on the ground and in flight.

## 4.3 Learning Outcomes

Visitors will:

- gain an understanding of how the appearance of an aircraft has changed during its service
- gain an understanding of the roles of aircrew and the conditions inside an aircraft
- be able to share stories of aircrew that flew that particular aircraft or type of aircraft.

## 4.4 In-Gallery Structure

The in-gallery experience, which could be podium-mounted tablets or similar, must be included to ensure accessibility and must comply with the Museum's Access for All policy as set out in the Interpretation Strategy in Appendix 1.

Tenderers should submit costs for two aircraft in-gallery experiences.

The physically installed system will need to be:

- maintainable by the inhouse team
- robust, able to withstand daily mishandling
- accessible without BYOD
- accessible to people of differing heights.

## 5. KNOWN POTENTIAL CHALLENGES

- There is occasional dropout of gallery wifi
- There is challenging lighting within the galleries
- There is limited space around the aircraft
- The AR platform must be high quality, flexible and usable by non-experts
- Any costs per use must be specified
- The onsite equipment must be robust and able to be maintained.

## 6. DEVELOPMENT / PRODUCTION / DELIVERY

Provisional timeline for the delivery of the AR Interpretation and Experience Project is:

Development/Production/Delivery

- Kick Off July 2021
- Development August 2021 - January 2022
- Soft launch February 2022
- Full launch March 2022.

## 7. TECHNICAL LEGACY

All technical solutions should - where possible - build on the core skills and understandings of the RAF Museum's IT, Exhibition and Visitor Experience teams.

The platform should expose a fully documented API which the initial experiences should use to provide content.

Where possible the product should employ robust and open standards, ideally using web technologies that are device and platform agnostic, allowing the user to decide how and through what means they wish to engage.

To allow the Museum to update content elements all production source files and code for the AR content and the platform should be uploaded to the Museum's GitHub/Lab account upon delivery and granted a non-exclusive licence.

## **8. SERVICE LEVEL AGREEMENT**

The successful agency will manage the technical aspects of the AR platform and experience via a Service Level Agreement. The initial year-long SLA will cover the technical management of the AR Platform and experiences. The agreement will include details of response times and hardware replacement strategy. It will also cover platform management, in terms of any upgrades, permissions and certificate changes.

The SLA will be designed to be managed by a non-technical support team at the RAFM.

## **9. BUDGET**

The total budget for this AR Platform and Experience is in the region £120,000, to include the designer's fee, and travel and subsistence costs. It also includes costs for all associated hardware, which the designer should identify and specify.

Please show how these elements are costed within the total budget.

The payment schedule will be agreed at the start up meeting.

Not included within the budget is the ongoing running costs, including the SLA, however these costs should be provided and itemised as part of the Tender.

## **10. DEPENDENCIES**

### **10.1 Training**

The successful agency will be responsible for the training of staff at the RAFM site in London and Cosford. This training will relate specifically to the setting up, optimisation, management of the AR platform and in-gallery experience.

### **10.2 Documentation**

The successful agency will be responsible for creating user appropriate, non-technical and technical documentation, relating to the setting up, optimisation and management of the AR platform.

### **10.3 Content**

RAFM can provide – as required for the build of the AR experiences and on request from the successful agency - any relevant content from their Photographic, Archival, Film and Sound Collections.

Content Management within the AR product will need to be covered within the documentation.

#### **10.4 Analytics**

The RAFM is constantly looking to enhance our understanding of visitor behaviour across all our public facing platforms, in particular we are keen to understand how different approaches to storytelling perform across our digital real estate. With this in mind the RAFM would work with the successful agency to integrate a method of recording and sharing metrics around usage, either using our existing GA account or via a third-party service.

#### **10.5 Connectivity**

Whilst network coverage in the galleries is fairly robust, the in-gallery AR Experience should not rely on it to function.

### **11. AR INTERPRETATION PROJECT - SUMMARY**

The AR Interpretation Project represents a real opportunity for the RAFM to explore the creative possibilities that augmented reality can bring to deepen the relationship between visitors and the stories of large objects. Balanced against this is a need to develop a product that is robust, manageable and through this delivers lasting value to the Museum's brand as defined in the RAFM's Corporate Strategy 2030.





## **Interpretation Strategy**

**2020–2030**

**Final**

**SLT approved 2 June 2020**

## 1. Executive Summary

### 1.1 Background

The Royal Air Force (RAF) Museum was established as a legacy of the RAF's fiftieth anniversary, opening our London (Hendon) site in 1972. From 1979, the Museum also managed the Cosford Aerospace Museum for the MOD, which had also been in operation since 1972. This was renamed the RAF Museum Cosford in 1998 when it formally became part of the Museum portfolio. The Museum also has two external stores, one in Stafford and another within RAF Cosford.

During the course of the last strategic plan, the Museum concentrated its efforts on being outward-focused and people-centred, exploring the history of the RAF over its hundred-year history through its incredible people and ensuring that our collection is relevant, shared and well cared for.

In March 2019, the Trustees of the Royal Air Force Museum signed off a new Strategic Plan to 2030. This Interpretation Strategy has been developed to support and drive forward the delivery of this Plan.

### 1.2 Our vision

Inspiring **everyone** with the RAF story – the people who shape it and its place in our lives

### 1.3 Our purpose

To share the story of the Royal Air Force, past, present and future – using the stories of its people and our collections in order to engage, inspire and encourage learning.

### 1.4 Our Values

Our work and our behaviour are underpinned by six guiding values:

- Integrity: we are open, transparent and ethical
- Sharing: we work as a team to ensure our collections and expertise are accessible to all
- Passion: we care deeply about sharing our collections and their stories
- Innovation: we tell our stories and develop our business with creativity and imagination
- Relevance: we ensure our legacy by linking our histories with today and tomorrow
- Excellence: we are professional and strive for excellence in all we do.

### 1.5 Strategic Objectives

We will achieve our vision and purpose through five strategic priorities that focus outwards with our collections at their heart.

1. Inspiring innovative engagement, debate and reflection
2. Inspiring our people within a dynamic, diverse and collaborative culture
3. Embedding an entrepreneurial, agile and sustainable approach
4. Leading the way with brilliant basics
5. Connecting with communities and partners.

## **2. Exhibitions and Interpretation Responsibilities**

The Exhibitions and Interpretation team within the Content and Programmes Group will lead the Museum's development and delivery of physical and digital gallery, exhibition and display programmes, in support of the RAF Museum's vision, purpose and strategic objectives.

The department will consult widely and work across internal teams and with external partners and communities to deliver agreed projects.

### **2.1 Exhibitions and Interpretation Objectives**

The following have been developed to support delivery of the Strategic Objectives outlined above.

- To share the story of the RAF through representation and interpretation of the RAF Museum's collection and the stories of its people, inspiring innovative engagement, debate and reflection using both physical and digital interventions
- To partner with the RAF, community groups, companies and individuals through cocuration and co-design to develop our exhibitions and interpretation
- To support the Museum's Strategic Plan, London and Cosford Master Plans and associated fundraising through the delivery of an agreed programme of permanent and temporary exhibitions, displays, site transformation and online content
- To ensure there are no barriers to engagement by delivering Access for All: Intellectual, Social, Physical, Aesthetic and Emotional.

## **3. Key Principles of 'Access for All' Interpretation**

### **3.1 Intellectual Access**

- To enable all our audiences to feel welcome at our sites and online and connected to our stories
- To enable our audiences to discover, not to be instructed
- To challenge audiences to make connections and debate issues
- To deliver engaging interpretation appropriate for all visitors, from casual to specialist
- To share the whole story – developing and delivering activities including people stories and subjects from the earliest days of the formation of the RAF to the modern day and that look ahead to the future
- To incorporate activities that engage all the senses into the galleries, understanding that visitors have a variety of preferred learning styles.

### **3.2 Social Access**

- To ensure that all visitors are welcomed regardless of their background or social situation and that everyone can find a variety of stories and relatable experiences at the Museum
- To provide free access to all main galleries and permanent exhibition spaces
- To monitor price points for additional activities to ensure a wide range are accessible to low-income households.

### 3.3 Physical access

- To ensure that there is a clarity of communication throughout the visitor journey
- To ensure that our sites, galleries, displays and online content are physically accessible to the widest range of visitors
- To ensure that developments are renewable and sustainable.

### 3.4 Aesthetic Access

- To ensure that all visitors are offered opportunities to enjoy a purely aesthetic experience through their encounters with our people, sites and collection
- To deliver key 'wow' factors supported by high quality displays and interpretation that make use of modern technology. .

### 3.5 Emotional Access

- To offer visitors opportunities to engage personally and emotionally with our stories and collections, delivering memorable learning experiences

## 4. Audience Development

This strategy will evolve alongside and in response to audience development research and agreed targets. Target audiences for growth for display and exhibition development in the short term will continue to be selected from the following:

- Leisure magpies – for London
- Fun-focussed – for Cosford
- Total Culture – for London
- Women
- Black, Asian and minority ethnic visitors
- 13–19 year olds
- Families with children under 11
- Local communities
- School groups
- Enthusiasts

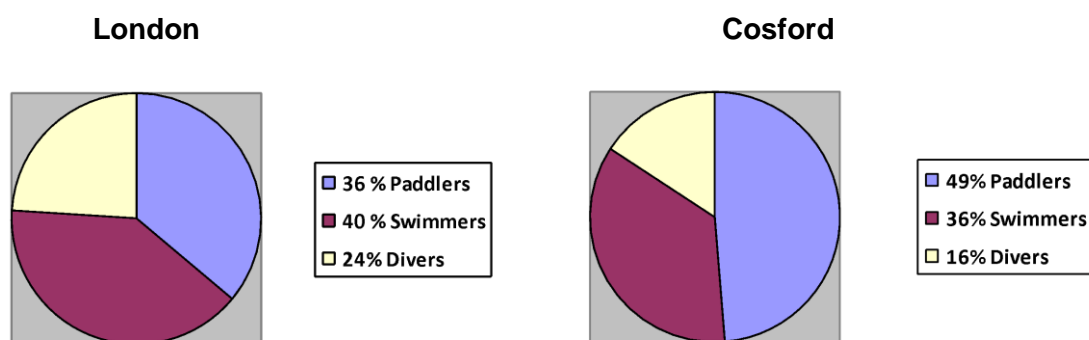
### 4.1. Intellectual Access: definitions

The RAF Museum divides visitors into three levels of interest/knowledge, regardless of their age:

- **Paddlers** – first-time visitors, days-out visitors, visitors with no prior knowledge of the collection or the history of the RAF
- **Swimmers** – repeat visitors, visitors with some prior knowledge or a particular interest in the collection driving their visit
- **Divers** – specialist and expert visitors, visitors with a good knowledge of the collection and/or historical periods

While some audiences to the Museum are motivated by the subject matter of the RAF story and the collection, the majority of physical visitors are looking for a leisure day out (62% London/74% Cosford) – especially as entry is free.

Surveys carried out by Jura in 2018/19 show that visitors self-classify as:



## 5. A Chapter Approach

As part of the consultation and development of the RAF Centenary Programme and the 2014– 19 Strategic Plan, the Museum decided to use a chapter structure to tell the story of the RAF at both its public sites. This was confirmed by the Board in discussions for the Strategic Plan to 2030.

These chapters are broken down as follows:

Introduction                      The First 100 Years of the RAF

Chapter 1                          Early Aviation and the First World War (the formation of the RAF)

Chapter 2                          Interwar and the Second World War

Chapter 3                          The Cold War

Chapter 4                          Post-Cold War

Chapter 5                          Now and the Future  
(please note, these are working, descriptive titles only)

It was agreed that our London and Cosford sites will represent and interpret the core story, while offering complementary experiences through 'highlight' chapters at each – for example, the First World War gallery in London and the Cold War gallery in Cosford. Visitors will be given clear information about how to find context through a timeline – or dip into specific periods of interest. Site history that helps to engage visitors with the RAF story will also be interpreted and shared, for example through the 'Historic Hendon' initiatives in London.

The next phase of chapter development (part of the Cosford and London Master Plans) will deliver to the following framework:

Year	Date of delivery	Site	Project
The balance of physical and digital interventions/engagement will be considered and tested with our defined target audiences at each project stage.			

1/2	Summer / Autumn 2020	London and Cosford	Re-displays of the Battle of Britain story introducing an overarching contextual timeline, personal stories and objects, focusing on the events of 15 August 1940, bringing our aircraft and wider collections to life through physical and digital interpretation and experiences.
2	2020-2021	London	Re-display of the Bomber Command story including the move of the restored Hampden to H5 with a new AR experience.
5/6	2023–2025	Cosford	Co-curated programme of engagement linked to new innovative and inspirational exhibitions covering the First World War, Interwar, Second World War chapters and introduction to the Cold War chapter in Hangars 2 and 3.
7	2025–2026	Cosford	Co-curated programme of physical and digital enhancements to our Cold War gallery (H4), introducing a layer of personal stories across the interpretation.
7/8/9	2025–2028	London	Co-curated programme to support the phased redevelopment of the Interwar, Second World War and Cold War chapters in Hangars 3,4,5. Learning from previous projects in Cosford will be embedded in exhibition development.
11	2029–2030	Cosford	A new-build hangar housing a highly interactive, immersive experience for the 'future' chapter including the RAF's role in space and cyberspace and new technologies.

For the development of Hangars 3, 4 and 5 in London, we may need to make incremental changes through a number of smaller projects (such as those planned for Battle of Britain and Bomber Command) for these to be affordable/manageable within available resources. We will develop an interpretation framework to ensure these

projects deliver a coherent narrative and displays across the Inter War, Second World War and Cold War chapters.

Smaller displays linked to anniversaries and gallery updates and enhancements will also form part of the programme and will be incorporated in annual Business Plans.

### **5.1. Temporary exhibitions**

Temporary exhibitions are initiated by our internal team or proposed by external partners and organisations. Temporary exhibitions may explore a theme or story in more detail, mark anniversaries and partnerships, share the result of new research, showcase new acquisitions or conservation projects.

Currently (2020) our sites use the following spaces for hosting temporary exhibitions, each of them with a different identity and aim:

#### **London**

- Art Gallery in H3: A new agreement with the Commercial Development Group enables use of the space primarily for art exhibitions, with the possibility of concurrently hosting catered commercial events. With the Curator of Fine Art joining the curatorial team, the Museum now has the capacity, knowledge and ambition to share our fine art collection to attract new audiences, especially Leisure Magpies and Total Culture, as identified in the Commercial Strategy.
- Temporary exhibition space in H2: This space is used to host temporary exhibitions cocurated and co-designed with different communities.
- Mezzanine in H6: This space is part of the Learning Centre and it hosts an annual exhibition curated, designed and installed by our Youth Panel. Given the ambition of the timeline placed within the exhibition on the ground floor to present current stories, there is potential to use this space to occasionally host displays about more contemporary topics. The proximity of the Learning Centre could also encourage the use of this space for exhibitions that spark debate.
- Ex Aeronauts: This space has been proposed as a temporary exhibition space and it has been refurbished to host the travelling exhibition Maths Alive, a highly interactive experience aimed at 7 to 14-year-old visitors. We are using this opportunity to test our visitors' appetite for temporary exhibitions as well as for paid ones. Attendance suggests that our visitors are not willing to pay to access this type of exhibition at our London site.
- Outdoor spaces: We are using external boards to present RAF Photographer of the Year content, updated annually. These structures could be used to present and share other content.

It is likely that the Master Plan for the London site will not include a medium to large temporary exhibition space.

#### **Cosford**

- Temporary exhibitions gallery in H1: This space is used to host temporary exhibitions previously presented in London, as well as exhibitions that are specific to the Cosford site.
- Art Gallery in H1: This space is currently curated by the Guild of Aviation Artists to share and promote their work, which is for sale.
- Outdoor spaces: We are developing external boards to present RAF Photographer of the Year content, updated annually, to match the London site. These structures could be used to present and share other content.

## **6. Sharing 'People' Stories**

Through sharing 'people' stories, the RAF Museum can play a role in supporting visitors to explore their own sense of identity; we can offer a safe space to experiment with and explore multiple viewpoints. Exhibition research has demonstrated that learning is more effective when it is developed through affective experiences. By integrating 'people' stories across our interpretation, our exhibitions will enable visitors to feel empathy, to engage both cognitively and emotionally with the subject matter as they find relatable experiences in the displays and are, thus, able to make deep, personal connections. We will, therefore, explore innovative ways of sharing 'people' stories with our visitors both onsite, using physical and digital experiences, and online.

## **7. Permanent Exhibition Content Frameworks**

### **a. Introduction**

At the entrance of each permanent exhibition, visitors will be offered a defining vision statement to sum up the overall theme of the collection on display and its interpretation. They will receive information about the choices they can make to create their own journey through the gallery as well as being able to pick up items such as trails and large print guides.

### **b. Gallery Overview**

The gallery framework will be based on key themes/messages, with each area of interpretation exploring items of the collection to create a network of themes and stories. The visitor will be able to devise their own experience in each gallery – making choices about whether they follow the timeline, dip into certain time periods or explore a particular theme of interest.

### **c. Using the Collection**

The diagram below outlines the themes/stories each object or collection of objects may reflect. The most appropriate will be selected for each area of display with a particular emphasis on telling 'people' stories, as above. Additional strands may be added during exhibition development.





## 8. Interpretation Techniques

### 8.1 Intellectual, Aesthetic and Emotional Access

We will develop content using a wide range of interpretative techniques, whether physical or digital, to ensure that audiences are able to engage with the collection in their preferred learning style as defined in the Gardner multiple intelligence theory (see appendix B).

In new exhibition development, the selection of a range of appropriate techniques for each theme/story/object will consider the overall pace of the visitor's journey around the displays, offering a balance of high-energy areas with more reflective spaces.

We understand that meaning is made in the connections between artefacts, interpretation and visitors. Therefore, visitors will be given the opportunity to discover information about the collection for themselves, building an individual experience at every visit.

Visitors will be encouraged to enjoy both social and introspective experiences and to respond to content through both emotional and intellectual meaning-making. The success of this strategy relies on both the presentation of personal stories and the provision of space for visitors to share their own stories and feelings and to enter into a democratic debate. Through interpretation designed to enable this debate, visitors may participate in dialogue with the authors of what they see.

## **8.2 Physical Access**

Development of RAF Museum sites will follow best practice guidelines from the Arts Council<sup>1</sup> to ensure our spaces are accessible to all visitors. Physical design of the exhibitions will also follow these guidelines, meet the requirements of the Equality Act (2010) and strive to promote best practice. Virtual access and online content will comply with W3C WAI level 2 (A) at a minimum and aim to meet the AA standard<sup>2</sup>.

## **8.3 Digital Experience**

As the world moves to become 'post-digital', it is essential that we consider the best platforms for sharing each piece of content in our exhibitions. Research in the Centenary galleries demonstrated that more successful interventions are created where digital and physical artefacts, and the experiences they engender, are seen in a holistic manner - rather than as separate acts.

The RAF Museum has invested, and continues to invest, in new technologies to become more sustainable and also to deliver effective interpretation in our galleries. This has included the 'digital octopus' – the system by which we ensure content can be shared and stored effectively across all our platforms.

The Museum holds extensive film, photographic and document archives which will become available to our audiences through the digitisation of our collections on a project-by-project basis, and the installation of digital technology throughout our sites.

The selection of digital content (whether archival or new) and the appropriate sharing platform will be identified and developed as part of exhibition/display design. Where possible, software will be acquired and distributed as Free Libre Open Source (FLOSS) or Open Source (OS) to enable collaborative projects with commercial partners and the public. All public-facing platforms will be developed for non-technical users.

Where appropriate, we will build in the opportunity to collect, analyse and share data derived from digital experiences to ensure a growing, responsive understanding of our audiences.

Details of our Museum standards for the design and delivery of AV/other digital content can be found in our Interpretation Guidelines.

### **8.3.1 Audio-visual**

Films, audio clips and animations will be delivered alongside objects to illuminate key themes and stories. They will be developed to be visitor-driven and will be non-invasive in the gallery space. AV displays provide a unique opportunity to introduce human faces and voices into each gallery.

Development of interpretative films and sound clips will include a selection of:

- archive footage
- interviews
- demonstrations of objects in use

---

<sup>1</sup> Andrew Holdsworth-Wild, Jayne Earncliffe and Jo Verrent, 'Building Inclusion', [http://www.artscouncil.org.uk/media/uploads/pdf/Building\\_inclusion\\_access\\_guidance\\_updated\\_May2013.pdf](http://www.artscouncil.org.uk/media/uploads/pdf/Building_inclusion_access_guidance_updated_May2013.pdf)

<sup>2</sup> 'Web Accessibility Initiative', <http://www.w3.org/WAI/>

- scans and diagrams showing the integral and working parts of an object
- personal accounts
- bespoke animations.

### **8.3.2 Website / online content**

The continued development of the RAF Museum main website and social media platforms including Twitter and Facebook offer opportunities to deliver interpretation and evaluate visitor experience including the provision of information both pre- and post- visit and the collection of feedback and questions from visitors, encouraging an ongoing dialogue with users.

The Museum will continue to develop content online, in particular through the digital programme 'RAF Stories' and a new 'Collections Online' platform. Our online content will play a key part in our audience development and community engagement plan. We will:

- Encourage the public to record their experiences and thoughts
- Use our team of paid staff and volunteers, and the wider RAF family to interpret our collections and share them online in a meaningful and compelling manner
- Add content focused on the collection in each gallery and for key anniversaries
- Use online content to keep our sharing of the RAF story up-to-date and relevant
- Develop links between museum-generated content and user-generated content, to create a meaningful conduit for dialogue with the public.

### **8.4 Interactives**

Through testing a wide range of gallery interactives over both RAF Museum sites, we will develop robust, relatively low-tech hands-on activities as well as digital experiences accessed through visitors' own technology (smart phones, tablets), on display-based technology and through devices carried by our Visitor Experience team.

Interactives will be developed to add a layer of understanding of the collection which is not possible through handling the objects themselves for health and safety and/or conservation reasons. They will be integrated throughout the gallery, linked to key themes, stories and objects.

Interactives will appeal to a range of senses – including smell pots, tactiles, sound pods and visual/physical challenges.

Interactives will be fully accessible and will be particularly developed and tested to ensure they are constructed in a way that enables use by children and wheelchair users. They will offer, where appropriate, an immersive and emotional experience for the full age and interest range of RAF Museum visitors.

We will consider the future sustainability and maintenance of both physical and digital interactives when making design and investment decisions.

We will respond to opportunities for collaborations between compatible heritage partners and commercial agencies to create tools and experiences that can be shared, and built upon over time - sharing cost and revenue.

## 9. Co-curation and co-design

Co-curation and co-design describe the process of Museum staff and communities working together to interpret and share stories with current and prospect visitors, onsite and online. It emphasises idea of co-operation in working between equal parties, for example, a museum and its local community.

Co-curation and co-design enable us to:

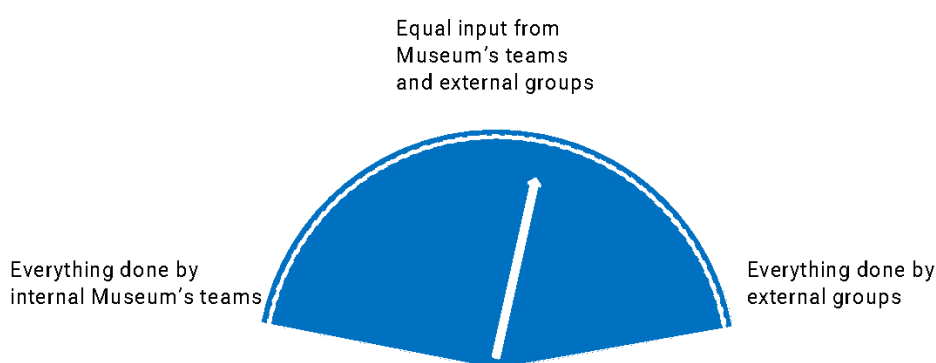
- Go a level deeper, with a wider input from people with varied skillsets, both within and outside the Museum
- Develop a project that has mutual benefit for the Museum and the partner community
- Develop the skills and experiences of our staff and the community partner
- Act in a manner that includes our local audiences as a key community stakeholder
- Develop a more engaged audience base.

We define a community as a group of people with a shared characteristic with which each member identifies. Communities could be local or international, based on a shared religion, past experiences, interests, provenance, political beliefs, sexual orientation, or health issues.

For each project, the level of input provided by the communities will be defined at the outset, using the 'participatometer'.

## The Participatometer

Where do we want or need to be for each project?



The co-curation and co-design level can vary, for instance, from choosing objects for a new display, writing interpretation and designing the layout of their display, to responding creatively by producing new objects for an exhibition. This is a route being used now by many museums, including the RAF Museum in some of our First World War and Historic Hendon projects.

We will build for success by:

- Involving active participation from staff across a wide range of departments in cocuration workshops and meetings
- Bringing individual and collective expertise to the process to work together with our identified co-curating community
- Understanding that we are looking to support and develop contributions of people from outside the Museum
- Providing support to develop content and resources that enhance the co-curation and co-design process
- Exploring the benefits and experiences (including any issues) of a new way of working, to bring this learning to future projects.

## **10. Discovering the RAF Story**

The Exhibition and Interpretation team will support Museum-wide programmes including volunteering, events and lifetime-learning through active consultation with staff and visitors around how gallery design and development can be used to complement and enhance them.

### **10.1 Visitor Experience Interaction**

New programming will include hands-on opportunities through personal interaction with members of the Visitor Experience team.

Activities will include handling sessions, talks and tours. Areas will be built through our permanent exhibitions that can be used by the team to provide instant 'flash mob' style handling and information to visitors based on their particular interests.

## **11. Evaluation**

### **11.1 Exhibition Evaluation**

The Exhibition and Interpretation team is committed to project-long evaluation for major gallery and display works as well as more general market research style surveys. The Museum uses both quantitative and qualitative evaluation carried out through a range of methodologies including desk research, exit surveys, phone surveys, interviews, focus groups and prototype testing. Evaluation will be carried out with visitors, non-visitors and stakeholders during three project stages:

1. **Front-end evaluation at concept design:** designed to provide a baseline of information as well as to test early ideas/assumptions.
2. **Formative evaluation at technical design and development:** designed to test reactions to proposed ideas informing the next stages of development/design sign off.  
This stage will include focus groups and prototype testing.
3. **Summative evaluation at post-opening:** designed to test whether objectives of the project have been met and look at what further developments need to/could be made. It will make comparisons with the baseline data collected. It will be used to inform future project initiation.

## **12. Commercial opportunities and focus**

The team will consider the impact of and opportunities arising from all new displays and gallery redevelopment. This will include potential new product ranges, paid-for experiences such as Sims and creating exciting spaces for corporate hire.

### 13. Key and Other Performance Indicators

#### Key Performance Indicators:

KPIs	2018-2019 Yr 0	2019-2020 Yr 1	2020-2021 Yr 2	2021-2022 Yr 3	2022-2023 Yr 4	2023-2024 Yr 5	2024-2025 Yr 6	2025-2026 Yr 7	2026-2027 Yr 8	2027-2028 Yr 9	2028-2029 Yr 10	2029-2030 Yr 11
% of people whose visit made them feel inspired by the RAF / RAF story	98%	98%	98%	99%	99%	99%	99%	99%	99%	99%	99%	99%
% of people who have learned (more) about the RAF	94%	94%	94%	96%	96%	96%	97%	97%	98%	98%	99%	99%

#### Other Performance Indicators:

- Projects are delivered to agreed budgets and timescales
- A number of objects refreshed twice a year
- A number of digital stories added/changed in gallery annually

### 14. Headline Risks

The Museum's Strategic Risk Register contains the principal risks to the Museum's sustainability and is regularly reviewed by the Audit and Risk Committee. The register includes an assessment of the likelihood of occurrence, an impact evaluation and proposed mitigation action.

Risk registers are developed at programme, project and departmental level with an Exhibition and Interpretation Risk Register owned by the Head of Exhibitions and Interpretation.

### 15. Strategy Evaluation

The Exhibition and Interpretation team will review this strategy and supporting documentation annually. This assessment will cover areas including:

- Impact and effect
- Monetary value
- Awareness and advocacy

The entire strategy will be re-worked as required by the overarching Strategic Plan.

### 16. Links

The Interpretation Strategy is a top-level document underpinned by the following:

- Strategy 2030
- Cosford and London Master Plans
- Audience Development Research
- Exhibition and Interpretation Risk Register
- Exhibition project risk registers
- Exhibition and Interpretation Procedures and Guidelines.

## Appendix A

### **Background to development of the RAF Museum Interpretation Strategy**

This strategy draws on work carried out with consultants and audiences 2012 –14 and evaluation, lessons learned and experience from developing and delivering four permanent exhibitions as part of the RAF Centenary Programme, completed in 2018.

#### **1. Strategy Planning Review, Stephen Feber, February 2014**

- How to tell the RAF story
  - The team – internal and external
  - Collection review
  - Training in story telling
- Becoming a cultural business
- Site development focus
- Collection strategy

#### **2. Audience consultations, Susie Fisher Group, July – November 2013**

- Formative evaluation of First World War in the Air Gallery concepts and activities

#### **3. Interpretation Strategy, Haley Sharpe Design, July 2012 - March 2013**

- A review of the current visitor experience and interpretive provision at Hendon and Cosford
- Definition of interpretation and interpretation techniques ● What stories to tell
- How to tell them
- Tone of voice
- Use of chronology
- Collection review
- Use of interpretation media
- Wayfinding

#### **4. Strategic purpose consultations, Susie Fisher Group, Autumn 2012 ●**

Workshops with staff and Trustees in London and Cosford ● Who are we?

- What are we for?
- Who are we for?
- What is our Ambition?
- Response: agreed Purpose and Ambition

#### **5. Transforming the RAF Museum: Access, Archives, Buildings, Wilkinson Eyre Architects, 2011**

- Analysis of the RAF Museum physical site, Hendon
- Identification of the issues
- Options appraisal
- Response: the Master Plan

#### **6. RAF Centenary Programme 2018**

- Lessons Learned: Capital projects and exhibitions

#### **7. Jura Audience Research**

- Reports from 2015, 2018 and 2019

## **8. Digital Experience Research, Frankly, Green and Webb, 2019**

- Report from October 2019 on visitor experience with digital content/interactives in gallery

## **9. NLHF reports**

- First Word War in the Air final evaluation, 2019
- Phase 2A interim evaluation 2019
- Phase 2B final evaluation 2019

## **Appendix B**

### **Gardner's definitions of multiple intelligences**

	<b>Intelligence Type</b>	<b>Description</b>	<b>Preferred learning style clues</b>
<b>1</b>	Linguistic	words and language	Text and talking
<b>2</b>	Logical-Mathematical	logical thinking	numbers and logic
<b>3</b>	Musical	musical ability	music, sounds, rhythm
<b>4</b>	Bodily-Kinesthetic	body movement control	physical experience and movement, touch and feel
<b>5</b>	Spatial-Visual	visual and spatial perception	pictures, symbols, diagrams, 3D space
<b>6</b>	Interpersonal	perception of other people's feelings	human contact, discourse, debate, communications, cooperation, teamwork
<b>7</b>	Intrapersonal	self-awareness	self-reflection, self-discovery



## APPENDIX 2 – Images / Archive Examples

### Images of the Lancaster in situ in London







## Archive Collection Image of the Lancaster and its crew



### 360° image inside our Lancaster

You can take a tour of the cockpit and bomb aimer position inside our Avro Lancaster. The aircraft is on display in London, in Hangar 5.

Bomber Aimers Position:

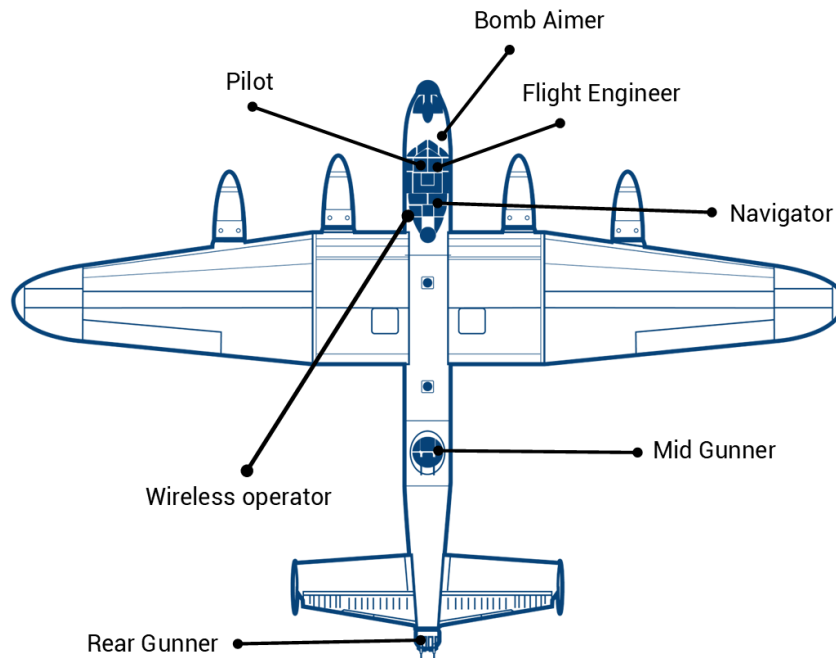
<https://www.facebook.com/rafmuseum/photos/10158267257957612/>

Cockpit:

<https://www.facebook.com/rafmuseumcosford/photos/a.447151031532/10156944194796533/?type=3&theater>

## Information about the Lancaster Crew

Most Lancaster crews consisted of seven men who had to work together to undertake the mission given to them and return home safely.



### Pilot

The pilot of a Lancaster crew had the most responsibility. He had to show and install confidence in the six other men of his crew and fly the aircraft. He was automatically captain (regardless of the rank held by him or the other members of his crew). He had to show leadership but also take advice from those on board. Through example he led his men undertaking dangerous missions and worked on returning them and his aircraft home safely. The captain was located in the cockpit with good visibility all around him so he would know what he was flying his men and machine into. Sitting next to the pilot forward of a blackout curtain in their own cramped concentrated world was the flight engineer.

### Flight engineer

Introduced in 1942, the flight engineer was expected to know his aircraft inside and out and be able to cope with any emergency through either mechanical faults or enemy action. A flight engineer was practically minded and able to make split second decisions. A delay could result in the crash of the aircraft and injury or death for the crew. He had to monitor full-time the four-engines via some twenty gauges, propeller and throttle controls as well as the fuel and electrical systems. He also assisted the pilot when necessary which could include flying the aircraft if the pilot was killed or wounded. In front of him and the pilot crouched in his position at the very front of the Lancaster was the bomb aimer.

### Bomb Aimer

With the introduction of the four-engine bomber and the growing complexity of the observer role, it was decided in 1942 to separate it out between the bomb aimer and navigator. The bomb aimer had a dual role. He did not just release bombs at the correct time and allotted target. He was also responsible for ensuring the safety of the aircraft by acting as a look-out for enemy aircraft and manning the Browning machine guns located in the front gun turret. Training consisted of high level and low-level bombing runs and gunnery skills. Night familiarisation flying over blacked out wartime Britain was also key. A bomb aimer had to

have excellent map tracking and navigational skills and would work closely with the navigator pre-flight. He checked the bombs to ensure the correct type had been loaded pre-flight and signed for them. He also programmed the bombing mechanical computer to ensure the correct settings for the bomb load and weather conditions.

### **Navigator**

Sat behind the pilot in his curtained off compartment, lit by one simple angle-poised lamp was the navigator. Next to the pilot he was the busiest man in the Lancaster. He would be constantly working, plotting the course of the aircraft, and adjusting this if poor weather or enemy action called for a change of plans. A navigator had to be adaptable and the pilot relied on them to find the target and bring the aircraft and men safely home. His radio communications to the pilot would be restricted to simple directions. His tools were not bombs or machine guns but a chart, protractor, dividers, ruler and pencil and as the war went on radar equipment and analogue computers.

### **Wireless operator**

The wireless operator sat near the navigator and his job was also a multi-purpose one. He was responsible for monitoring the wireless and communications. Part of this role would involve him activating the Identification Friend or Foe signal and giving false signals to the enemy to help suppress searchlights and the constant terror of flak. He had to check the bomb bay to ensure it was operating correctly and act as look-out through the observation dome directing the pilot and gunners in the event of enemy aircraft attack. When a bombing run was in progress, he would spend most of his time there. He also had to have a working knowledge of the navigator's role so he could take over if necessary and was expected to give first aid to members of the crew.

### **Air gunner**

The air gunner was located in the last third of the aircraft. His world was not the blacked-out interior of the Lancaster but the small Perspex mid-upper turret – vulnerable to night fighters and flak. This bubble contained two Browning 0.303in machine guns each with 1000 rounds of ammunition. When strapped into the hammock-type seat the air gunner could rotate this through 360 degrees to enable a wide field of fire to defend the Lancaster. Experienced air gunners would often remove a section of the Perspex for a better view and to combat the misting that could occur. The air gunner was recognised as a specialist in his field.

### **Air gunner: 'Tail-End Charlie'**

At the rear of the Lancaster in the most exposed position of all was the rear gunner nicknamed 'Tail-End Charlie'. Like his fellow air gunner he had undergone training in areas of air gunnery, bullet trajectory, deflection and aircraft recognition. His location was in a small Perspex bubble in the rear gun turret armed with four Browning machine guns. Maintaining night vision was vital in his position. Other experienced gunners would have shared the advice not to stare at fires or bright lights; to never fire unless seen and to always look for aircraft making odd movements as these could be enemy fighters. Of all the positions on the Lancaster 'Tail-End Charlie' was the least likely to survive due in part to being physically separate from his parachute.



## Images of the Vulcan in Cosford

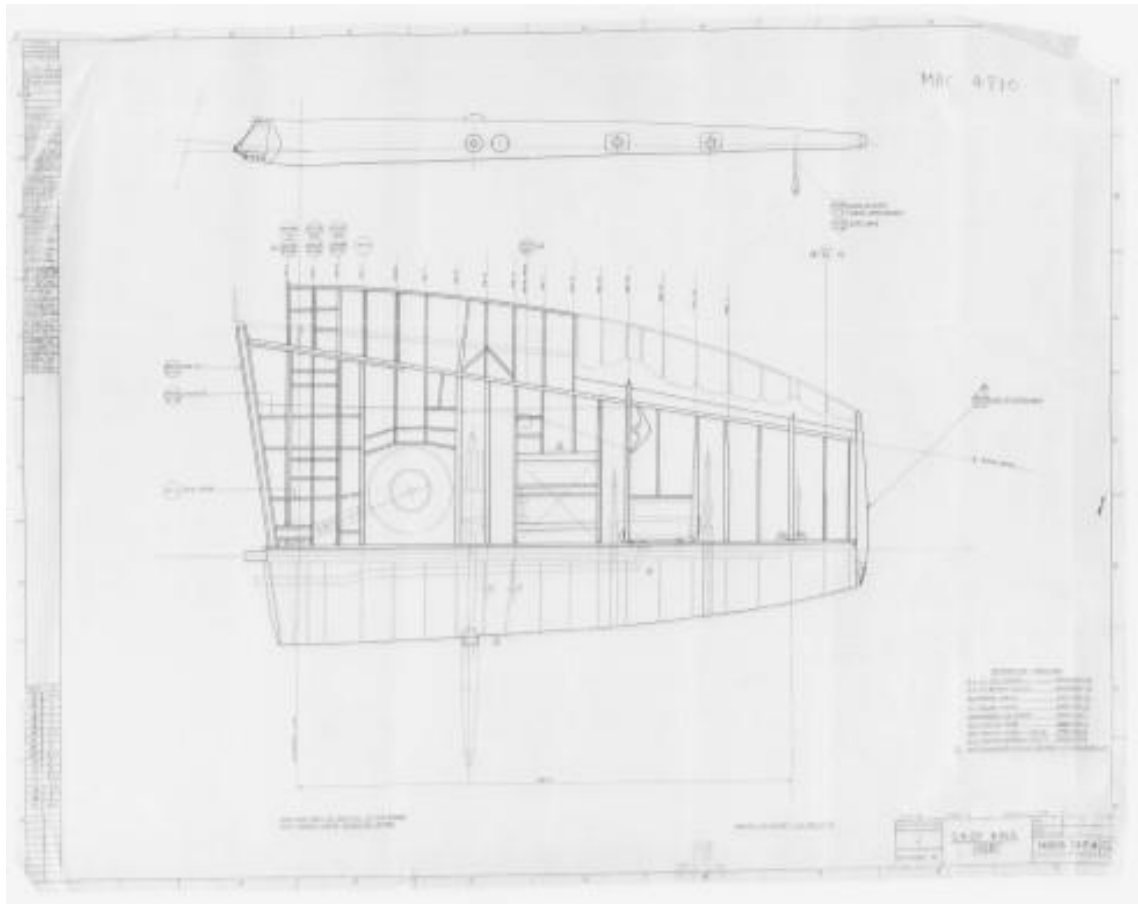






## Engineering Drawing

We have a small number of Lancaster engineering drawings produced by the A.V. Roe & Company. Those we have are listed here [Lancaster engineering drawings list.PDF](#) They include only one general arrangement drawing.



Above: Representative general arrangement engineering drawing. This one is a Supermarine drawing showing a Spitfire's port wing



## Air Publications

Air Publications (APs) are instruction manuals produced for use by the RAF. Many APs contain black-and-white photographs and drawings showing aircraft interiors, equipment and armanent. In addition to our APs on the Lancaster airframe, we have separate APs on its engines, gun turrets, bombs, radios, radar equipment, bombsight, dinghy and the aircrew's flying clothing and parachutes.

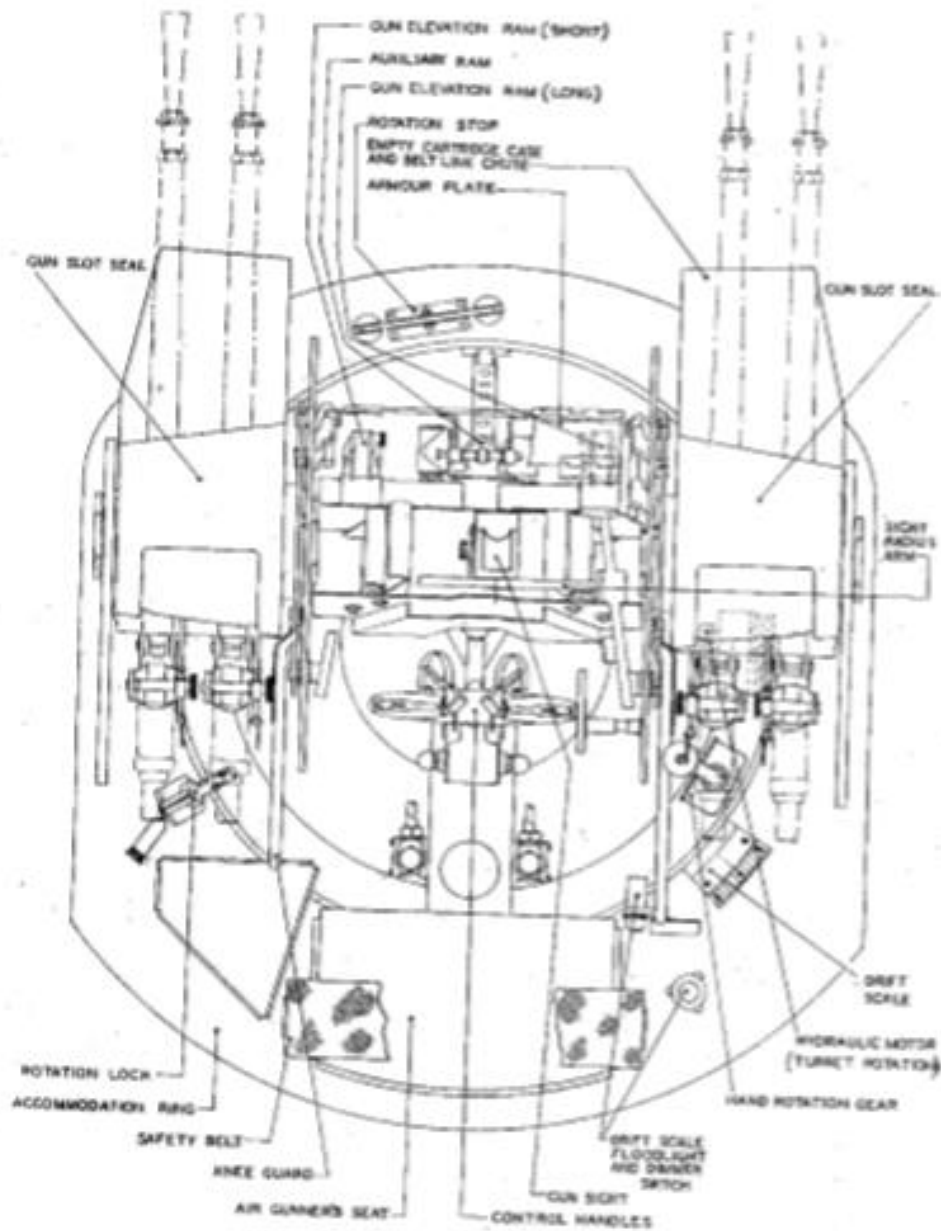
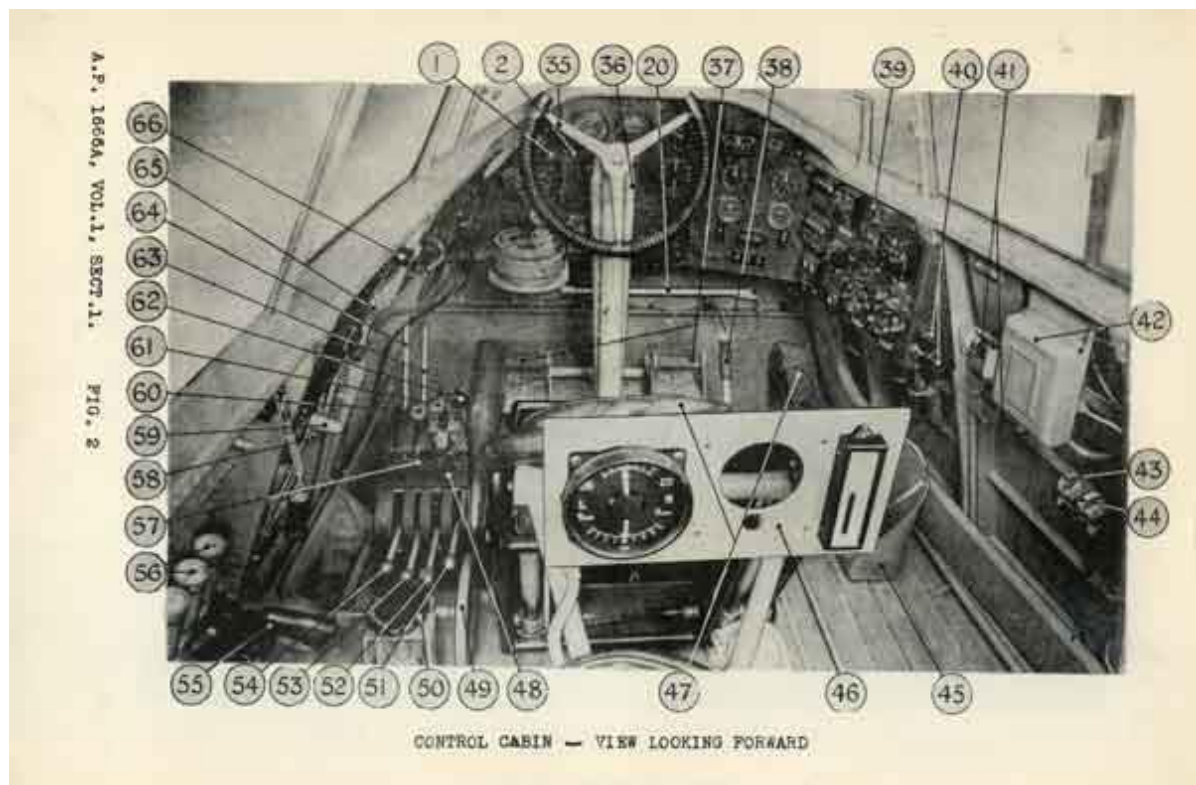
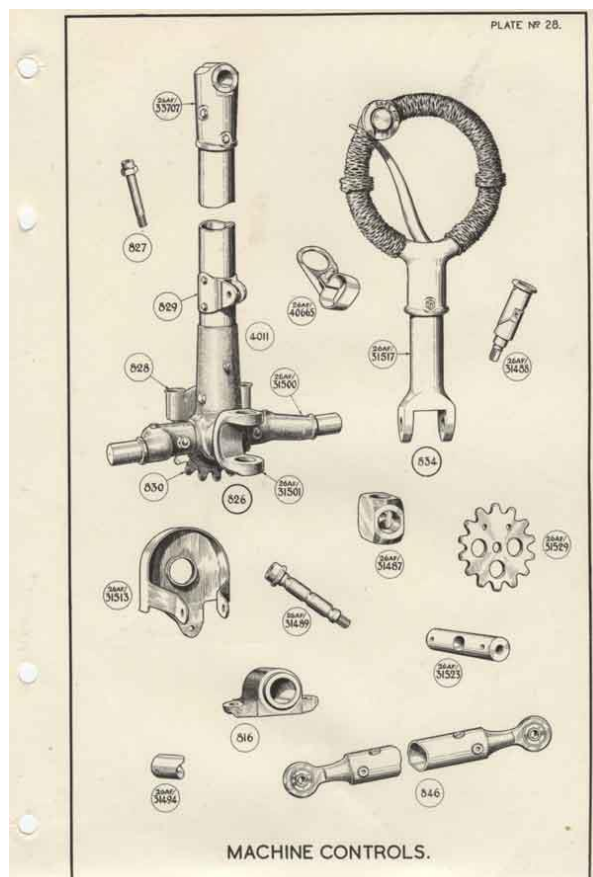


Fig. 4--Plan of turret

Above: Lancaster rear gun turret illustration from AP1659A Volume 1 Frazer-Nash gun turrets (011409)



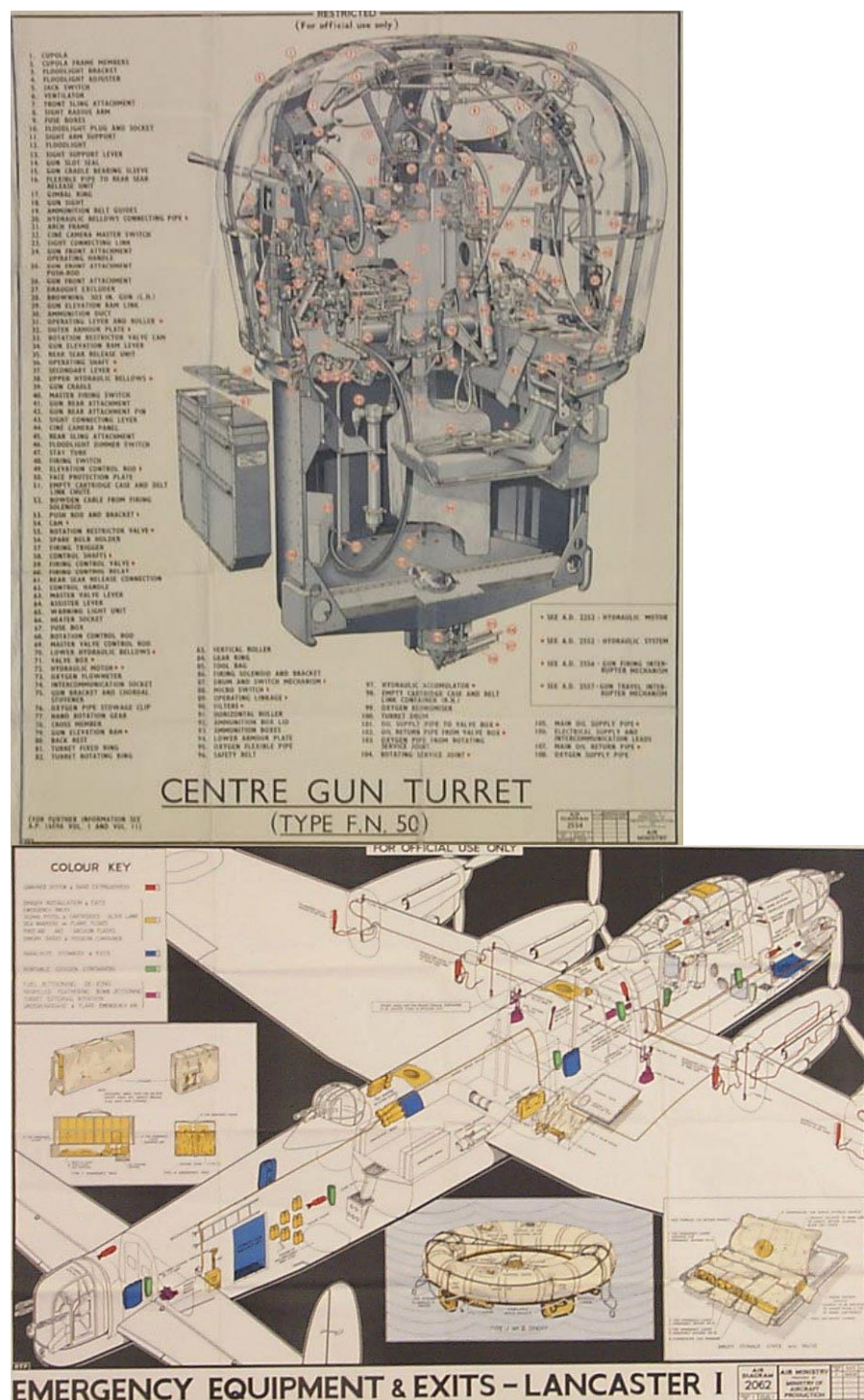
Above: This illustration of a Saro Lerwick cockpit is typical of the type of photograph found in a 1940s general description or pilot's notes AP



Above: This is a typical page from an illustrated parts schedule AP showing the component parts of a Hawker Typhoon's control column

## Air Diagrams

Air Diagrams (ADs) are large instructional posters used by the RAF and we have over 70 in our collection relevant to the Lancaster. Subjects covered include the aircraft's hydraulic and pneumatic systems, emergency equipment, engines, radios, guns and gun turrets, bombs, bombsight, parachute drill, ditching drill and aircrew flying clothing and survival equipment. The artwork includes monochrome technical cutaways, colourful schematic drawings, detailed circuit diagrams and simplified explanatory drawings.







## RAF Stories



RAF Stories is a digital online project that collects and shares engaging historical and contemporary stories related to the RAF.

Stories about the Lancaster:

<https://www.rafstories.org/stories/search?fulltext=lancaster>