

**SPECIFICATION  
FOR PROVISION OF**

**Collections Online  
(COL\_001)**

**FINAL**

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## 1.0 Introduction

The RAF Museum (RAFM) is seeking to appoint an agency to deliver its Collections Online project. The project will publicly launch in June 2020.

## 2.0 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.

#### **Our vision for the next ten years:**

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

### 2.2 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

### **3.0 Collections Online**

#### **3.1 Objective**

The RAFM wishes to commission an agency to build a new collections online application to allow users improved access to digital content and metadata from our collection, archive, non-accessioned<sup>1</sup> and user generated content (UGC).

Collections online will replace our archive search, see:

<http://navigator.rafmuseum.org/>

and our collections search, see:

<https://www.rafmuseum.org.uk/research/default.aspx>

#### **3.2 Scope**

Collections Online is the final component of an ambitious four year programme to expand access to our digital artefacts, and by default, support the Museum's core purpose of sharing the story of the RAF through its people and collections.

Underpinning this ambition is a content delivery infrastructure that supports online, mobile and in gallery platforms. This consists of a middleware, digital asset management (DAM) and collections management system, this is detailed in Appendix 2.

Collections Online will interface directly with our content middleware solution delivered by Knowledge Integration's CIIM platform. This interface will be provided via the Elasticsearch front-end of the CIIM (see appendix 3.1 Elasticsearch)

##### **3.2.1 Collections Online User Interface**

The Collection Online user interface will use web technologies and will provide a range of tools to allow users to search, browse, share and download content.

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<sup>1</sup> That is content that has not been formally accepted into our collection or archive

### **3.2.2 Collections Online Content Management System (CMS)**

Search results will not only feature collections artefacts, UGC and non-accessioned digital artefacts but will also feature collections that have been contextualised and interpreted in various ways.

The Collections Online application will require a simple to use CMS that allows authors to enhance collections content, for example by creating a blog around one or more items from the collection. This enhanced content is published back to the CIIM via its API. To enable this functionality the Collections Online CMS will need to conform to existing technical structures, guidelines and methodologies as detailed in this tender (see 5.1.0).

Typically the Museum uses WordPress as its core CMS to publish content to the majority of our public facing platforms. This is not a requirement for Collections Online and we are open to other solutions. However, as part of our ongoing digital transformation programme, we are keen to build upon our known ways of working, rather than create specialisms, enabling all our staff and volunteers to participate in the purpose of the Museum, namely the sharing of the RAF Story.

### **3.2.3 Collections Online - Access For All**

In addition Collections Online will need to deliver against the RAFM's Access For All guidelines (see Appendix 1) and provide meaningful engagement to a mix of audiences (see Appendix 6) incorporating a range learning styles. This is why the ability to contextualise collections content, for a variety of users, is key.

## **3.3 Approach**

The RAFM wishes to adopt an agile, audience-centred approach to developing Collections Online, helping us to achieve our overall goals through a process of learning and iteration. This will help to make the best use of resources and ensure that we are delivering the most relevant and engaging product to our audiences.

We recognise that agile projects have risks for both agency and client (See 6.0 Risks) and we are happy to work out a process with you to mitigate these. We suggest that a framework like that used in DSDM Agile is a helpful starting point and provides an outline for the overall shape of the project we think could work, as follows.

### **3.3.1 Foundation Stage.**

Having undertaken feasibility work internally, we expect collaboration with the agency to start at the "Foundation" stage (in DSDM terms). RAFM has recently completed work on audience types, approaches and engagement strategies, as well as some analysis of the collections content and gathering of potential requirements from internal stakeholders, and during the foundation stage we would expect the agency to lead this research further, identifying a core of expert and general user journeys along with some suitable engagement methods. It might include some user testing or focus groups in order to help to shape the requirements. It will result in a list of high-level functional and technical requirements, an overall technical architecture, and a delivery plan or roadmap. It will also allow us to produce more refined costings.

After the final development increment and launch, we expect the product will be managed internally, and to that end, we expect that part of the legacy will be a development infrastructure, codebase (source code) and documentation that facilitates this.

During foundation we will, therefore, agree a development and testing approach with you that supports this objective, covering functional, technical and regression testing and documentation, and ensuring that these evolve alongside the product.

### **3.3.2 Evolutionary Development Stage**

The evolutionary development stage would then implement the delivery plan. We would expect that it would entail multiple increments, each of them containing design, development and testing work through one or more sprints/timeboxes, followed by the deployment of increments of the product for evaluation. This will allow us to ensure those firm foundations are in place early and then to iterate on the basis of user and stakeholder feedback, with design and development closely coordinated. The agency will lead the Museum in this process.

The final increment from the Evolutionary Development stage should result in a product that can be deployed live, along with the handover of a codebase, associated documentation and assets that enable development to be continued, ideally by our in house team.

This outline is not to be prescriptive, rather an indication of the sort of process we believe will work for us, and we wish to hear how you would want to run the project and the respective roles.

### **3.4 Timeline**

Provisional timeline for the delivery of Collections Online is:

- Kick Off Oct 2019
- Development Nov 2019 - Jan 2020
- Soft launch in Feb 2020
- Full launch March 2020

### **4.0 Collection Online – Success Criteria**

Below are some thoughts on various concepts, challenges, outcomes, risks and behaviours that the RAFM team think are particularly relevant to the success of Collections Online.

#### **4.1 Outcomes**

Collections Online will be delivered against key outcomes for both public and Museum.

##### **For user, to:**

Easily engage with the RAF Story, offering different levels of access (Appendix 1– Access For all) – or knowledge level (Appendix 3 – Audience)

##### **For the Museum staff & volunteers, to:**

Incorporate Collections Online within their workflow  
Enhance and share collections content

#### **4.2 Behaviours**

Using Collections Online we are looking to encourage the following behaviours for both visitors and RAFM staff/ volunteers.

**For visitors, to:**

- Browse, Search, Share, Download and Create - stories and content

**For Museum staff/volunteers, to:**

- Use Collections Online as a collaborative platform
- Use Collections Online to publish and share content with our public
- Use new and existing story sharing techniques to engage different audiences with Collections Online content
- Use Collections Online as a tool to mark anniversaries, festivals and themes.

**What new communities is the RAFM trying to engage via Collections Online ?**

- genealogy community – (family tree etc.)
- the maker community – (engineers, modelers, designers)
- the art community (our art collections)
- the design community – (our uniform collection)

This is not a fixed list, more a reflection of the conversation that is occurring within the project team and across the Museum. We would look to the appointed agency to lead the RAFM team (see Appendix: 5 Project Team) on exploring the context within which Collections Online is located at the RAFM. A list of projects/approaches by other organizations that we particularly liked is also found at Appendix 4.

**5.0 Dependencies & Affordances****5.1.0 CIIM Middleware Solution**

The RAFM operates a middleware solution (Knowledge Integration's CIIM) that will act as a central hub for all RAFM online content and metadata. The CIIM integrates with our DAMS (Portfolio) and VCMS (Vernon Collections Management System). It provides an API that can be used to push web content into the RAFM's content ecosystem and an Elasticsearch instance to query for content (See Appendix 3.1). Therefore users will be able to enhance collections content, for example using the Collections Online CMS to publish a blog relating to collections items, this blog in turn will feature in collection searches via the Elasticsearch index.

The CIIM also includes provision for zoomable images, therefore appointed agency will need to be comfortable working with IIP image to serve this media.

As a result of this core dependency the successful agency will be required to work closely with Knowledge Integration to ensure technical integration between Collections Online and the CIIM. Specifically posting content into the CIIM, as structured JSON files, via its API, and querying the Elasticsearch index. Knowledge Integration will provide documentation and support to facilitate this. This may take the form of a brief to Knowledge Integration to model the data required to deliver Collections Online. Costings for this work will be defined during the foundation stage of project development.

**5.1.1 Analytics**

Collections Online will post analytics data back to our GA account. We are looking to enhance our understanding of visitor behaviour across all our public facing platforms,



in particular we are keen to understand how different content types perform across our digital real estate and we would look to the appointed agency to assist in this. We would anticipate working with the agency to further develop the outcomes discussed above (4.1) and to consider how they can be converted into performance indicators in our analytics.

#### **5.1.2 Access**

All back end technical solutions will - where possible - build on the core skills and understandings of the RAF Museum's IT/Digital team. Use of proprietary and, therefore, expensive to maintain software solutions should be avoided where possible.

#### **5.1.3 Open Source**

The CIIM software is licensed as Open Source. The expectation is that all Collections Online software will be supplied via an open licence and will be stored in the RAFM's publicly accessible GitHub account. Where this is not possible, we would want delivered software to conform to a widely adopted, stable and established framework or web standard. Training and/or support to be included for both approaches.

End user and code documentation will also need to be supplied to support use and further build of this software by other agencies. If proprietary software is used then the agency will be required to supply the source code of all software deliverables, under a non-exclusive licence.

#### **5.1.4 Content Licence**

Where possible content and metadata will featured in Collections Online be made available under an Open Data licence. Communication of all content licences to the user will be managed via the Collections Online user interface.

#### **5.1.5 Create Once, Publish Everywhere - COPE**

The general principles of COPE complement the hub and spoke architecture inferred in this document. With this architecture in place the Museum is able to deliver digital content to and from its networked platforms, be that exhibition, web, shop or mobile, in the process modifying existing silos and resisting the temptation to build more.

Collections Online must therefore employ robust and open technology standards, ideally using web technologies that are device agnostic, allowing the user to decide how and through what means they wish to engage with Collections Online.

#### **5.1.6 Hosting**

At this stage it is assumed that Collections Online will be hosted by the RAFM and integrated as part of its website at [www.rafmuseum.org](http://www.rafmuseum.org) - typically this would be under the URL: <https://www.rafmuseum.org.uk/search/>.

#### **5.1.7 Media Types**

Collection Online will offer access to content and metadata derived from both our collections and archives. In addition content from non-accessioned sources, for

example user generated content (UGC), blogs or stories that reference collections or archive content or content from other institutions, available as Open Data, may feature in search, browsing and download activities.

At present the list of artefacts that may be featured by Collections Online includes:

- Text
- Photography
- Video
- Audio
- 3D
- Large Scale Zoomable Images
- Imagery
- Stories
- UGC

## **6.0 Risks**

The RAFM is an organisation currently undergoing substantial cultural change, based upon its five strategic priorities that focus upon the sharing of the RAF story. This change includes a significant expansion of its retail, physical and digital operations.

Through this expansion, typified by last year's RAF Centenary Programme, we recognise that the RAFM is strong across some aspects of delivery, and less so in other areas. Our approach to developing Collections Online is indicative of our ambition, and therefore shares some of the risks encountered in delivering the Centenary Programme, namely:

- Communication of and engagement with organisational change by staff, volunteers and visitors
- Variance of digital literacy across departments
- The adoption internally and externally of different project management methodologies (for example the agile development process detailed in this tender) in delivering solutions in-gallery and online
- The appetite, for both public and staff/volunteers, to test ideas in public as a considered part of a Museum programme
- The need to consider digital, physical and participatory experiences in a holistic manner, to ensure the coherence of the visitor journey across these channels.

## **7.0 Budget**

Budget for the total project is £60,000 (including all fees).

## **8.0 Schedule**

We expect the discovery phase to run between to October - November 2019. Soft launch will be in February 2020, with an official launch in March 2020.

## **9.0 Location**

Project meetings will take place at Royal Air Force Museum, Grahame Park Way, London NW9 5LL.

## **Appendix 1– Access For all.**

### **1.1 Intellectual access**

- To enable all our audiences to feel welcome at our sites and connected to our stories
- To enable our audiences to discover, not to be instructed
- To deliver interpretation that engages and includes all visitors at different levels, from casual to specialist
- To incorporate activities that engage all the senses into the galleries, understanding that visitors have different preferred learning styles.

### **1.2 Social access**

- To ensure that all visitors are welcomed, regardless of background or current social situation
- To provide free access to all main galleries and permanent exhibition spaces
- To monitor price points for additional activities including temporary exhibitions to ensure a wide range are accessible to low-income households.

### **1.3 Physical access**

- To ensure that there is a clarity of communication from routing, signage to content
- To ensure that all galleries, displays and online content are designed to be physically accessible to the widest range of visitors
- To ensure that developments are renewable and sustainable.

### **1.4 Emotional access**

- To enable our visitors to experience personal and emotional reactions
- To deliver key 'wow' factors supported by high quality displays and interpretation making use of modern technology.

### **1.5 Aesthetic Access**

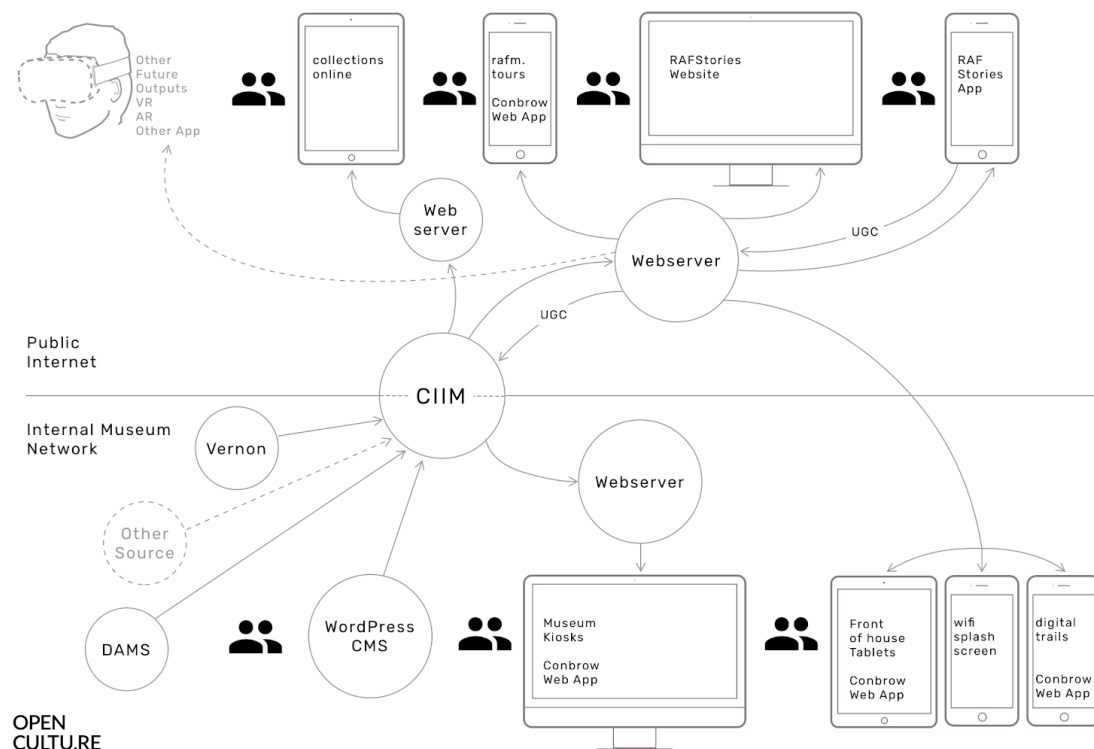
- To ensure that all visitors are offered opportunities to enjoy a purely aesthetic experience whether through encounters with our site or our collections.

## **Appendix 2 – Existing Digital Content Platforms and Channels**

### **Content Infrastructure**

As part of our RAF Centenary Programme the Museum commissioned an extensive gallery infrastructure that enables content to be distributed to our in-gallery and online digital platforms (listed below). This content infrastructure will be used to deliver content to Collections Online.

All user facing platforms have analytics, which can be used to test deliverables against use, and to contribute these findings to post-delivery documentation.



*Schema 1 Showing overview of digital content infrastructure*

## 2.1 RAF Stories ([www.rafstories.org](http://www.rafstories.org))

RAF Stories is an NLHF funded story collecting platform that was delivered as part of our RAF Centenary Programme in 2018. The aim of the project is to collect the tangible and intangible heritage that animates the RAF story via a publicly accessible online platform. To achieve this the RAF Stories platform has an app that enables public users to submit stories, this is complemented by an in-house CMS (WordPress) that enables our staff and volunteers to easily push stories to the RAF Stories website.

## 2.3 Content Browser

Across our Centenary exhibitions we have 40 touch screens that provide our team, using a central CMS (WordPress), to publish content to location specific kiosk. This in-gallery content is replicated for mobile devices at [www.rafm.tours](http://www.rafm.tours).

## 2.4 Digital Trails

Using the same CMS that publishes to the kiosk and RAF Stories, our teams are able to easily publish digital trails, providing different interpretations of our in-gallery collection, for example our 601 trail (<https://rafm.tours/601-trail>)

## 2.5 Collections Online (Currently out to tender)

This document relates to the replacement of our existing Collections Online platform. The project will be delivered using the same underlying content infrastructure that serves RAF

Stories, Content Browser and the Digital Trails. We will integrate this Collections Online in-gallery and online with a remit to provide open access to our content across all levels of visitor engagement.

### **Appendix 3 – Audience**

The RAF Museum divides its on-site audience into three levels:

- Paddlers – first time visitors, day-out visitors, visitors with no prior knowledge of the collection. These represent 69% of our audience
- Swimmers – repeat visitors, visitors with some prior knowledge or a particular interest in the collection driving their visit. These represent 24% of our audience
- Divers – specialist and expert visitors, visitors with a good knowledge of the collection and/or historical periods, often making full use of the Museum's opportunities as researchers, volunteers, donors and supporters. These represent 7% of our audience.

The Museum's intention is to offer interpretation to cater for all levels of learning and engagement.

### **3.1 Elasticsearch Documentation**

Search templates

<https://www.elastic.co/guide/en/elasticsearch/reference/current/search-template.html>

And the general search guide

<https://www.elastic.co/guide/en/elasticsearch/reference/current/search.html>

Within the content infrastructure as a whole, all metadata is delivered from an Elasticsearch (either internal or external) index and all media is delivered from internal and external media stores utilising references within the Elasticsearch data.

The appointed agency will need to be confident working with Elasticsearch, Elasticsearch is also being used as the data store as well as an index, so that all collections and authority data to be rendered on collections online will be delivered direct from the Elasticsearch responses. Knowledge Integration will support the appointed agency of the integration between the Collections Online front end and the Elasticsearch end point.

Knowledge Integration are also working on an API that sits in front of the Elasticsearch instance, and this may also be used to deliver Collections Online for the RAFM. This API is based on Elasticsearch search templates and again Knowledge Integration will support in the delivery of this solution.

### **Appendix 4 Inspiration**

Below is a list of projects and approaches that the team have found inspiring when considering the delivery of Collections Online.

- <https://artuk.org/>
- <https://www.europeana.eu/portal/en>
- <https://collection.barnesfoundation.org/>
- <https://www.rijksmuseum.nl/en>
- <https://www.cooperhewitt.org/>
- <https://artsandculture.google.com/>

- <https://www.sciencemuseum.org.uk/>

### **Appendix 5 Project Team.**

The Collection online team consists of:

- Director of Content & Programmes
- Head of Digital Experience
- Gallery Network Manager
- Lead Curator
- Assistant Curators
- Digital Product Manager
- Internal IT Team

### **Appendix 6 – Audience**

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The Museum's intention is to offer interpretation of the RAF Story to cater for all levels of learning and engagement.