

Annex K: Output glossary and collection formats for REF2 and REF3

1. An underpinning principle of the REF is that all forms of research output will be assessed on a fair and equal basis. Sub-panels will not regard any particular form of output as of greater or lesser quality than another per se.
2. All research outputs must meet the definition of research for the REF. For the purposes of the REF, research is defined as 'a process of investigation leading to new insights, effectively shared'. Please see Annex C for further detail.
3. All submissions should provide sufficient information to allow a sub-panel to understand the research process, the research insights, and the time and manner of dissemination. Often this will be evident within the materials submitted, requiring no further information. However, where this is not evident within the submission, this may be supplemented by an up to 300-word statement or supporting evidence. See 'Panel criteria', Annex B, for a summary of the additional information requirements for outputs.
4. The table below sets out categories of output types under which outputs will be submitted in REF 2021, the collection formats for the different output types, and a broad definition of each category. This includes examples, which are provided for guidance only and do not represent a definitive list.

Category	Upload to submission system	Physical output (deposit to REF warehouse)	Definition
(Parts of) books			
A – Authored book	PDF	Actual book	An authored book written entirely by a single author or by joint authors who share responsibility for the whole book. Includes: • scholarly books • research monographs • textbooks based on significant research (as defined above) by the author(s) • revisions/new editions of the above, providing this includes substantial new research material • novels, plays and screenplays • collections of plays, poems, short stories or other creative writing by the author(s).
B – Edited book	PDF	Actual book (if the edition is in multiple volumes, submit representative volume in the first instance)	A book or volume in which individual chapters or contributions have been written by different authors. To submit a work in this category the editor must have had sole responsibility, or be identified as having made a substantial contribution to the editing, choices for inclusion and underpinning process of investigation. Includes: • edited books or volumes • textbooks or encyclopaedias where significant background research is required • annotated anthologies where research informs the annotations • revisions or new editions of the above providing this includes substantial new research material • literary translations, where these contain significant editorial work in the nature of research.

C – Chapter in book	PDF upload of chapter and page(s) of the book that bear the title, publisher, editor and publication date	Actual book or hard copy of chapter including a copy of the page(s) of the book that bear the title, publisher, editor and publication date	This category includes contributions to edited books. This may include scholarly work, such as: • chapters in edited books • entries in textbooks incorporating significant research content • entries in scholarly editions • entries in revisions or new editions providing this includes substantial new research material. • translations where these contain significant editorial work which constitutes research.
R – Scholarly edition	If not available in print, PDF upload of short written description of the scholarly edition, including details of how it can be freely accessed (e.g. URL, DOI)	Actual scholarly edition	An edition of another author's original work or body of works informed by critical evaluation of the sources (such as, earlier manuscripts, texts, documents and letters) often with a scholarly introduction and explanatory notes or analysis on the text and/or original author. This may include a translation of the original text(s) where this constitutes part of the research.

Journal articles			
D – Journal article	Submit with DOI: REF team to source. If REF team is unable to source then HEI to upload PDF of article/ conference contribution	n/a (if only hard copy is available the HEI should upload a scanned PDF)	A scholarly paper, usually on a specific topic, published in an externally circulated scholarly or professional journal that has an ISSN. This may include: • full research articles • critical scholarly texts which appear in article form • review articles, where these meet the definition of research for the REF • evidence synthesis, including systematic reviews, analyses, meta-analyses, meta-syntheses, where these meet the definition of research for the REF • rapid communication (short papers, usually published swiftly, in scholarly journals presenting original material) • discussion paper (short articles in scholarly journals that critically address specific results or data provided in a published research paper) • creative articles, including photographic essays.
E – Conference contribution			A conference paper or other contribution published in conference proceedings. The conference proceedings will usually have an ISSN or ISBN and may be published in a number of formats such as: • volume of proceedings • special or normal edition of a journal • book or a monograph • website. Submitted outputs may include: • full written papers that appear in published conference proceedings • other conference contributions which meet the definition of research.

U – Working paper	PDF upload of working paper or details of how it can be freely accessed (e.g. URL, DOI) and evidence of year of publication	n/a (if only hard copy is available the HEI should upload a scanned PDF)	Research papers disseminated to encourage discussion and suggestions for revision. This may be through pre-print dissemination, lodging in an institutional repository or self-publication for distribution.
Physical artefacts			
L – Artefact	PDF upload of photographic/visual record of output, or details of how it can be freely accessed (e.g. URL, DOI)	Photographic/visual record of output (paper and/or DVD/CD/USB)	Artefacts, objects or craftworks, exhibited, commissioned or otherwise presented or offered in the public domain, for example visual arts, craft and cultural creations. This may take the form of moving image, sonic, visual or other digital media or written text, or a combination of these, as appropriate, to enable the panel to access the research dimensions and/or the researcher's contribution to the artefact and to assess its significance, originality and rigour. This can include (but is not limited to): • illustration • sculpture • media installations • ceramics • jewellery • metalwork • buildings • cultural artefacts such as large permanent public sculptures. The material submitted should provide sufficient information to allow the panel to assess the research process, research insights, and time and manner of dissemination.

P – Devices and products	PDF upload of photographic/visual record of output, or details of how it can be freely accessed (e.g. URL, DOI)	Photographic/visual record of output (paper and/or DVD/CD/USB)	An element, system or substance developed to perform a particular function, set, or combination of functions. Incorporates developing the concept and the design and development of any chemical, mechanical, electronic and software components, and where appropriate the overall system architecture. • use may be functional, aesthetic or commercial • may be physical including chemical or compound, i.e. medicines • may include digital/virtual products for particular functions, i.e. gaming, analysis, display • may include services, i.e. transportation, energy supply, public broadcasting, healthcare systems • may be associated with the manufacturing, extraction and refinement of other devices.
Exhibitions and performances			
M – Exhibition	PDF upload of photographic/visual record of output, or details of how it can be freely accessed (e.g. URL, DOI) and evidence of year of dissemination	Representation of the output (e.g. recording or photographic/visual record) and evidence of year of dissemination (paper and/or DVD/CD/USB)	A single or series of public events, or short-term, long-term or permanent installations, at which works of interest are displayed. This may take the form of moving image, sonic, visual or other digital media or written text, or a combination of these, as appropriate, to enable the panel to access the research dimensions and/or the researcher's contribution to the exhibition and to assess its significance, originality and rigour. Submissions can be: • solo exhibitions • curation of exhibitions • contributions to collaborative group exhibitions. Submissions may include: • original artistic works and/or designs • historical, political, social, technical/technological or scientific research and information • works exhibited in a gallery, museum, artist's book or electronic format • works exhibited in non-standard environments • curating an exhibition. The material submitted should provide sufficient information to allow the panel to assess the research process, research insights, and time and manner of dissemination.

I – Performance	PDF upload of photographic/visual record of output, or details of how it can be freely accessed (e.g. URL, DOI) and evidence of year of dissemination	Representation of the output (e.g. recording or photographic/visual record) and evidence of year of dissemination (paper and/or DVD/CD/USB)	A live or recorded performance (by, for example, an actor, musician, dancer, conductor, artist) to an external audience. The ‘author’ can have one (or more) of a variety of major roles (e.g. lead performer, director, writer) in the production, which should meet the REF definition of research. The role should be specified within the additional details required, with details of other participants involved in the research. This may take the form of moving image, sonic, visual or other digital media or written text, or a combination of these, as appropriate, to enable the panel to access the research dimensions and/or the researcher’s contribution to the performance and to assess its significance, originality and rigour. Includes (but is not limited to): • performance of a play, musical, opera, concert, television or radio production, performance artwork • theatre productions (stage play, mime, circus, puppet show, variety act, comedy show) • concerts and recitals (music or dance) • broadcast performances and other modes of presentation • production of an audio/visual medium (such as CD or DVD recording) • artistic direction of a staged production • input into a theatre production (for example, design, dramaturgy). The material submitted should provide sufficient information to allow the panel to assess the research process, research insights, and time and manner of dissemination.
Other documents			
F – Patent/ published patent application	PDF upload of published patent application/ granted patent	Published patent application/ granted patent (paper)	Granted patents, copyrights, trademarks, or registered designs on specific products or processes. Patents can have been granted in the UK or another patent-awarding country. The patent should have been granted for the first time during the assessment period.

J – Composition	Details of how audio recording (if available) can be freely accessed (e.g. URL, DOI), and/or PDF upload of score and evidence of year of dissemination	Audio recording (if available) and/or score and evidence of year of dissemination (paper and/or DVD/CD/USB)	An original published/publicly available score, first performance or first recording by a record label of a musical composition. Can include (but is not limited to): • compositions created while being played for example, electronic compositions, jazz improvisation • published/publicly available score • recordings • sound component of a film or video, lyrics, multimedia composition • commissioned works • combinations or developments of the above. The material submitted should provide sufficient information to allow the panel to assess the research process, research insights, and time and manner of dissemination.
K – Design	PDF upload of photographic/ visual record of design or details of how it can be freely accessed (e.g. URL, DOI) and evidence of year of dissemination	Photographic/ visual record of design and evidence of year of dissemination (paper and/or DVD/CD/USB)	A creative research/problem-solving output in the form of design drawings, books, models, exhibitions, websites, installations or built works. This may take the form of moving image, sonic, visual or other digital media or written text, or a combination of these, as appropriate, to enable the panel to access the research dimensions and/or the researcher's contribution to the design and to assess its significance, originality and rigour. This can include (but is not limited) to: • fashion design • textile design • graphic design • interior design • industrial design • architectural design • multimedia design • sound design • exhibition design (i.e. not the content of the exhibition) • theatre design • other designs. The material submitted should provide sufficient information to allow the panel to assess the research process, research insights, and time and manner of dissemination.

N – Research report for external body	PDF upload of report or details of how it can be freely accessed (e.g. URL, DOI) bearing year of publication/ dissemination	Hard copy of report bearing year of publication/ dissemination.	Non-confidential reports, commissioned and/or funded by an external organisation, including reports for private companies, government departments and non-governmental organisations. May also include non-commissioned reports.
O – Confidential report for external body	PDF upload of report and evidence of year of receipt (e.g. letter, email, delivery notice)	Hard copy of report and evidence of year of receipt (e.g. letter, email, delivery notice)	Confidential reports commissioned and/or funded by an external organisation, including reports for private companies, government departments and non-governmental organisations. For clarity, confidential material is not in scope of the open access requirements (see main text, paragraphs 223 to 224 for details of in-scope outputs).
Digital artefacts			
G – Software	PDF upload of written description of the software and details of how the software, and if relevant, the source code, can be accessed (e.g. URL, DOI)	n/a	Originally researched, created and published software (computer programs and their associated documentation, consisting of a set of instructions written by a programmer) or database products of commercial quality, which has been made publicly available. May include (but is not limited to): • operating systems • utilities • application programs • interactive multimedia • video games • logic systems. The material submitted should provide sufficient information to allow the panel to assess the research process, research insights, and time and manner of dissemination.

H – Website content	PDF upload of content as at date of publication (e.g. a date certified electronic copy of content) or details of how it can be freely accessed (e.g. URL, DOI)	Content as at date of publication e.g. a date certified electronic copy of content (DVD/CD/USB) or date-stamped printout of content (paper)	A collection of material which embodies research and is undertaken on a systematic basis specifically for dissemination through a website and/or as an interactive approach to allow users to engage directly with the process or products of the research. Web content is the textual, visual, or aural content encountered as part of the user experience on websites. It may include – among other things – text, images, sounds, videos and animations. May present factual information, analysis or data, or fictional, imaginative and/or creative work, using pictorial, video, audio, etc.
Q – Digital or visual media	Details of how it can be freely accessed (e.g. URL, DOI) and evidence of year of dissemination	Either a copy of the published DVD, CD or other visual output; or for outputs that were broadcast, a digital or other visual copy of the content and evidence of year of dissemination	Research outputs presented in digitised and/or audio-visual format. This may take the form of moving image, sonic, visual or other digital media or written text, or a combination of these, as appropriate, to enable the panel to access the research dimensions and/or the researcher's contribution to the output and to assess its significance, originality and rigour. Includes but is not limited to: • films • documentaries • audio-visual presentations • computer games • animation. Encoded in digital format, machine readable and presenting information and forms of communication not limited to verbal and text-based means. The material submitted should provide sufficient information to allow the panel to assess the research process, research insights, and time and manner of dissemination.

S – Research data sets and databases	PDF upload of written description of the data set or database and details of where it can be accessed (e.g. URL, DOI) where relevant. Do not submit copies of actual data sets or databases	n/a	Submissions may include: • Data sets: May come in a variety of formats, for instance in spreadsheet, but also any collection of data on which analysis can be performed. Most commonly a data set corresponds to the contents of a single database table, or a statistical data matrix, where every column of the table represents a particular variable, and each row corresponds to a given member of the data set. • Databases: Collections of data specifically organised and presented for the ease of viewing, retrieval and analysis. May comprise multiple data sets. Often characterised by data field structuring and searchability tools. The material submitted should provide sufficient information to allow the panel to assess the research process, research insights, and time and manner of dissemination.
Other			
V – Translation	PDF upload of output or description of the output, or details of how it can be freely accessed (e.g. URL, DOI)	The actual output (paper or USB)	A translation of a work or body of works by another author or authors, informed by critical evaluation of the sources (such as earlier manuscripts, texts, documents and letters), and by critical analysis of the work's original cultural context for the new readership. Translations may also include a scholarly introduction and explanatory notes or contextual analysis. Translation may enhance existing understanding of the material in question, and may provide evidence of creativity in its own right.

T – Other	PDF upload of representation of the output or details of how it can be freely accessed (e.g. URL, DOI) and , if not clear from the output, evidence of year of dissemination	Either the actual output or a representation of the output; and , if not clear from the output, evidence of year of dissemination (paper and/or DVD/CD/USB)	Other forms of assessable output meeting the definition of research but not captured within any of the above categories. This may include (but is not limited to): • new materials • structures • images • buildings • food products and processes • published geological and/or geomorphological maps • creative bodies of enquiry • design processes / programme of research • multi-platform projects • curatorial projects • a creative writing collection (a number of related works that were published in forms other than a book length collection) • a collection of creative and/or critical work (for example, related articles, books, choreographic materials, essays, dramaturgical works, films, recordings etc.) on a related topic that address different aspects of a single project and are collectively greater than the sum of their parts • substantial dictionary or encyclopaedia entries and groups of short items including groups of entries.
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Notes

- The table sets out the requirement for providing either a copy of the output itself or a representation of the output (e.g. a visual record or recording of the output). In addition:
 - For non-text outputs, practice-based outputs or any other output where the research dimensions are not evident within the output/representation of the output itself: a written description of the research process and/or content should be provided. Wherever possible this should be submitted in REF2 in the 'additional information' field (maximum 300 words). Only where necessary to enable the panel to assess the research dimensions of the output, a fuller written description of the research process and/or content should be provided instead of the written description in REF2. The fuller written description should be included as part of an uploaded PDF, or on paper together with a physical output.
 - For outputs submitted in UOAs within Main Panel C: non-text and practice-based outputs should be submitted either as a PDF or on paper, and a written description provided. Where the form of the output makes this essential, it may be supplemented by limited additional visual material in an accessible format. Further information can be found in 'Panel criteria', paragraphs 259 to 262.
 - For outputs submitted in the UOAs within Main Panel D: an output will either consist of a single item (e.g. a journal article, a book etc.), or an integrated presentation of a range of material that makes clear the research dimensions of the submitted work. Further information can be found in 'Panel criteria', paragraphs 263 to 269, and Annex C.