CRAEFT

care, judgment, dexterity

Quality Assurance

Project Acronym	Craeft
Project Title	Craft Understanding, Education, Training, and Preservation for Posterity and Prosperity
Project Number	101094349
Deliverable Number	D8.4 v2
Deliverable Title	Quality Assurance
Work Package	WP8
Authors	Polykarpos Karamaounas, Xenophon Zabulis, and the consortium members that provided the deliverable reviews, as mentioned in the respective subsections.
Number of pages	77

Executive summary

This deliverable presents the application of the Quality Assurance process implemented by Craeft during the first year of the project.

The deliverable is structured as follows:

- **Section 1** provides an introduction to the Quality Assurance Procedure for Deliverables

- **Section 2** provides all the review forms submitted as part of partner obligations to perform deliverable review

This is the first version of the deliverable. The next version will be submitted on M24.

Document history

Date	Author	Affiliation	Comment
12/2/2025	Polykarpos Karamaounas	FORTH	Concatenated online reviews. The authors of individual reviews are mentioned inside the document.
14/2/2025	Xenophon Zabulis	FORTH	Added introduction
19/2/2025	Xenophon Zabulis	FORTH	Formatting

Abbreviations

DoA	Description of Action
MoCap	Motion Capture
CH	Cultural Heritage
CHI	Cultural Heritage Institutions
CrO	Crafts Ontology
MNO	Museum Narratives Ontology
PC	Project Coordinator
TM	Technical Manager
WP	Work Package

Table of contents

1. Introduction

This deliverable reports on the way that we review the project deliverables and the online presence of the project's outcomes. This deliverable is to be annually updated on M24 and M36.

It is noted that part of the information presented in this introduction stems from D8.1 which reports on the project management rules adopted by the consortium during the kick-off meeting.

1.1. Project Deliverables review process

This subsection summarises the review process for deliverables followed by Craeft.

The Project Coordinator (PC) and the Technical Manager (TM) of the of the project will appoint, for each deliverable, at least one consortium members as peer reviewers no less than 30 days before the submission date for the deliverable. The Coordinator and the Technical Manager will inform the reviewers of their appointment and the partner leading the preparation of the deliverable regarding the assignment of reviewers.

The partner leading the preparation of the deliverable is responsible for ensuring that the deliverable is on-time and up to the quality requirements of the project. Specifically, the **lead participan**t should:

- Create an **outline** of the contents of the deliverable and make it available on the project internal collaboration website as soon as work begins on the associated tasks.
- Maintain a **master document** of the deliverable in the entire process.
- Collect **contributions** from all participants and integrate them to the master document.
- When the document has **reached the quality criteria** of the project initiate the internal review procedures with no delay.
- **Deliver** the deliverable on time.

The partner leading the preparation of the deliverable submits a draft of the deliverable to the reviewers, the WP leader, the PC and TM 30 days before the submission is due (the latest).

The reviewing procedure must end no later than 14 days before the submission date at which point the reviewed document is submitted to the PC and TM.

The Project Coordinator and Technical Manager of the project validate the final version of the deliverable, update the revision number to V1.0 and submit the document to the Participant Portal. In case the dissemination level of the deliverable is public, the deliverable will also be published on the public project website (https://www.craeft.eu/).

Empty documents for all deliverables and all of their versions, in the same format, are provided at

https://cloud.craeft.eu/index.php/apps/files/?dir=/Craeft_documents/Deliverables&fileid=406

The submission dates of the deliverables have been noted in the project calendar. Partners have been informed of the dates on which their deliverables are due for review and the dates that their deliverables have to be submitted to the EC.

Each deliverable leader is responsible for collecting partner contributions and compiling them according to the plan and Table of Contents. Should there be an issue or unforeseen difficulty this should be preferably raised in a QR report, in addition to any email or audio-visual telecommunication (for redundancy, in case of individual communication failures).

The plan for the review procedure of the deliverables is

Days before the deadline	Action
55	Notification to start preparing the deliverable
45	Submission of the deliverable for review
44	Quality control and deliverable review start simultaneously
40	Quality control results sent to the author
30	Review results sent to the author
14	Revised deliverable and response to review sent to COO & QAM
10	COO & QAM check posts to review and revision (Open Review)
2	Re-revised and formatted deliverable is produced by the COO
1	Submission of the deadline by the COO
Deadline	The date noted on the EC portal

The submission of deliverables is to take place by email, file transfer, or cloud submission, to FORTH, at the following persons: Xenophon Zabulis, Nikos Partarakis, and Polykarpos Karamaounas.

1.2. Review of deliverables

Deliverable reviews are to be submitted online. FORTH has created online forms for all deliverables and all their versions to avoid additional communication effort. The page with the deliverable review forms is:

http://users.ics.forth.gr/~karam/Craeft/Craeft_Reports.html

The access permissions to these reviews will be public for public deliverables and available only to the consortium for confidential ones. There will be two respective pages to access these reviews, according to permissions. The link to the public page will be provided on the Craeft website.

Reviewers can and are encouraged to provide detailed comments in MS Word comments, but an overview of the review should be provided in the above online form, which will be published with the name of the reviewer according to Open Review standards.

The online form contains several attributes that are of varying relevance to the type of deliverable. For example, a question regarding if a management deliverable advances the state of the art is irrelevant. As such, the most important fields in the review, are the "Comments" section, where you share your opinion with colleagues.

If you feel that such a field is irrelevant, please note "Not applicable", in the comments field.

1.3. Quality control

Each deliverable will be processed by the Quality Assurance Manager, which is a person designated by FORTH and an employee of FORTH. Currently, this person is Mr Polykarpos Karamaounas. To ease the task of quality control, a proofing guide with common formatting mistakes has been complied with. Partners are encouraged to verify their deliverable against this list, before submitting a deliverable. This proofing guide can be found at:

https://docs.google.com/document/d/1QJY0Z_66QciE_0OE5WfFf59d2Y1AKQMw-4OZ5NG4_TY/edit?usp=sharing

The proofing guide contains technical hints so that partners can use tools of MS Word to automatically detect most of the common mistakes. This proofing guide will be updated during the project.

In addition to the proofing guide, partners are encouraged to use spelling and grammar proofing tools.

The reviews and the responses to the reviews will be public to the consortium so that any partner can contribute with constructive criticism.

The Craeft project will use UK spelling on all documents.

1.4. Review Assignment

The assignment of reviews is proportional to the budget of each partner. The table below calculated the number of reviews per partner according to their budget.

#	Acronym	Reviews #
1	FORTH	15
2	CNR	6
3	ARMINES	6
4	KHORA	5
5	CETEM	6
6	CNAM	5
7	PIOP	6
8	CERFAV	5
9	MDE	5
10	ETH	4
	Total	63

The assignment of deliverable reviews has been assigned in the following table. The same reviewer is assigned for all versions of a deliverable.

#	Title	Delivery Date	Reviewer
D1.1	Enhanced ethnographic methods	M12, 24	CNR

D1.2	Knowledge collection and representation	M12, 24	CNAM
D2.1	Action and affordance modelling	M12, 24	CNR
D2.2	Maker-Material-Negotiation model and CAP	M12, 24	CNAM
D3.1	Craft-specific action simulations	M18, 36	ARMINES
D3.2	Advanced digitisation technologies	M18, 36	ETH
D3.3	Scene and activity monitoring	M18, 36	ETH
D4.1	Craft simulation and immersive craft training	M18, 36	ARMINES
D4.2	Haptic devices for training, simulation, and design	M18, 36	KHORA
D4.3	Toys and games for informal craft education	M18, 36	KHORA
D5.1	Craft Design revisited	M18, 36	CERFAV
D5.2	Community Portal	M18, 36	CNR
D6.1	P1 – Education & Training, methodology and results	M24, 36	FORTH
D6.2	P2 – Design, methodology and results	M24, 36	FORTH
D6.3	P3 – Valorisation, methodology and results	M24, 36	FORTH
D6.4	P4 – Community, methodology and results	M24, 36	FORTH
D7.1	Communication Plan and Activities	M2, 12, 24, 36	FORTH
D7.2	Dissemination Plan and Activities	M2, 12, 24, 36	FORTH
D7.3	Networking and Coordination	M12, 24, 36	PIOP
D7.4	Exploitation Plan and Activities	M12, 24, 36	PIOP
D8.1	Project Management	M2	KHORA
D8.2	Project reporting	M12, 24, 36	CETEM
D8.3	Innovation Management	M18, 36	ARMINES
D8.4	Quality Assurance	M12, 24, 36	CETEM
D8.5	Data Management Plan	M6, 12, 24, 36	CERFAV
D8.6	Risk Assessment	M6, 12, 24, 36	MDE

1.5. Open Review

Open peer review is the various possible modifications of the traditional scholarly peer review process. The three most common modifications to which the term is applied are [1]:

1. Open identities: Authors and reviewers are aware of each other's identity [2][3].
2. Open reports: Review reports are published alongside the relevant article (rather than being kept confidential).
3. Open participation: The wider community (and not just invited reviewers) may contribute to the review process if they wish to.

These modifications are supposed to address various perceived shortcomings of the traditional scholarly peer review process, in particular its lack of transparency, lack of incentives, and wastefulness [1].

Open identities. Open peer review may be defined as "any scholarly review mechanism providing disclosure of author and referee identities to one another at any point during the peer review or publication process" [4]. Then reviewer's identities may or may not be disclosed to the public. This is in contrast to the traditional peer review process where reviewers remain anonymous to anyone but the journal's editors, while authors' names are disclosed from the beginning.

Open reports. Open peer review may be defined as making the reviewers' reports public, instead of disclosing them to the article's authors only. This may include publishing the rest of the peer review history, i.e. the authors' replies and editors' recommendations. Most often, this concerns only articles that are accepted for publication and not those that are rejected.

Open participation. Open peer review may be defined as allowing self-selected reviewers to comment on an article, rather than (or in addition to) having reviewers who are selected by the editors. This assumes that the text of the article is openly accessible. The self-selected reviewers may or may not be screened for their basic credentials, and they may contribute either short comments or full reviews [1].

As described in the GA, Craeft will be using Open Review for the public deliverables. Open review will be also used for the rest of the deliverables, but these will be open only to consortium members.

In Craeft we will use the first two principles, that is open identities and open reports. Both reviews and reports will be publicly available along with the deliverables. Open participation will be limited to a few deliverables and will regard only the consortium. More specifically, for deliverables that are of pertinence to the entire consortium (such as this one), the opinion of all consortium partners will be asked for. This subsection was the result of such a process as it was asked by non-academic partners who were not familiar with the concept and process of Open Review.

1.6. Quarterly Reports

Quarterly reports will be provided in online forms. The content of these reports will be used in the Periodic Report of the project and, thus, determine the acceptance or not of the claimed costs by the EC.

All partners are to provide every four months with a brief report of their research and a detailed report of their travel and overall cost activities.

All partners are to provide every four months with entries regarding their activity in Communication and Dissemination efforts. This input will be formalised in an online spreadsheet document.

All WP leaders are to provide every four months with a brief online report of their research and development activities. This report will be in an MS Word document that elaborates its contents on the reported topics.

The online forms for the quarterly reports can be found at

http://users.ics.forth.gr/~karam/Craeft/Craeft_Reports.html

The contents of the quarterly reports can be found in the Annual Periodic Report of the project.

2. Deliverable reviews

This section contains the deliverable reviews of the project. These reviews have been authored by consortium partners in the online page mentioned in Section 1. In addition, in some cases, MS Word files with comments were provided along with the online reviews; these documents are available upon request.

It is noted in this section does the conventional numbering of subsections is not followed. Instead, subsections are enumerated and named by the names of the deliverables and version they correspond to.

WP1

D1.1 Enhanced ethnographic methods - M24

The deliverable outlines the Craeft Ethnographic Protocol, a methodological framework designed to document and analyze traditional craft practices through an interdisciplinary approach. It integrates insights from anthropology, cognitive sciences, material studies, and computer sciences, aiming to preserve and understand both the tangible and intangible aspects of craftsmanship. The document is structured into key sections, beginning with an introduction to the project's objectives and followed by an in-depth discussion of the protocol, its interdisciplinary rationale, and its application to various craft instances across Europe.

The methodology emphasizes digital ethnography, including video documentation, motion capture, and knowledge modeling, to create structured datasets that enable comparative studies. The document highlights the importance of inclusivity, ensuring gender-sensitive and context-aware approaches in craft documentation. It also discusses ethical considerations, including GDPR compliance and intellectual property rights, ensuring responsible collaboration with craft communities.

Representative craft instances, such as glassblowing, marble carving, silversmithing, and weaving, are examined in detail, with an emphasis on historical and cultural contexts, data collection strategies, and practical applications of the protocol. The ethnographic methodology includes operational sequences, professional biographies, and video elicitation techniques to capture tacit knowledge and practitioner expertise. The conclusions reflect on the impact of the protocol in fostering digital preservation, knowledge transmission, and sustainability in the craft sector, aligning with UNESCO' s framework for safeguarding intangible cultural heritage.

Based on the above, the description contains all the required information, updated to map the progress achieved.

There are some issues to improve:

1. Consistency in Terminology and Formatting

- Ensure uniformity in the use of key terms (e.g., "Craeft Ethnographic Protocol" vs. "Craeft protocol," "Intangible Cultural Heritage" vs. "ICH").
- Formatting inconsistencies exist in abbreviations and their usage—some terms are written in full in certain places but abbreviated in others without initial introduction.

2. Grammar and Syntax Adjustments

- Minor grammatical inconsistencies, especially in long sentences, could be improved for readability. Some examples:
- -"Built on this new category, Mingei [11] proposes a first protocol for representing the ICH of traditional crafts, offering practical tools for its implementation."
- "Building on this new category, Mingei [11] proposes an initial protocol for representing the ICH of traditional crafts, offering practical tools for implementation.
- Subject-verb agreement issues appear in a few places (e.g., "These descriptions would be useful because they can provide a deeper and more detailed description of the actions of the practitioner."). Consider rewording for clarity.

3. Repetition and Redundancy

- Some sections repeat concepts already introduced, particularly regarding the interdisciplinary nature of the project. Example: The roles of Anthropology, Material Culture Studies, and Cognitive Science are discussed multiple times across sections.
- The connection between the Craeft protocol and AI appears in both the methodology and conclusions—consider streamlining.

4. Table of Contents Alignment.

- Some section numbers appear misaligned with the actual content. For example:
    - -"3.1.5 Limoges Porcelain" appears twice.
    - -"3.3.3 Ioannina Silversmithing" is listed under two different subsections.
- Ensure all subsections in the Table of Contents match the section titles in the document.

5. Clarity in Methodology

- The methodological approach is comprehensive, but some parts could be more structured to enhance clarity.
- The transition from "operational sequences" to "representative gestures" is explained, but the justification for selecting gestures over full sequences could be more explicit.

6. Figures and References

- Ensure all figures are correctly referenced in the text.
- Some in-text references are incomplete or appear to have placeholders
- Ensure all citations follow a uniform style.

7. Final Proofreading for Minor Typos

- Some minor typos are still present.

Assessment of Deliverable D3.1

1. States its objectives, related subtask(s), and dependencies as specified in the Description of Work (DoW)

Rating : 5

Comments: -

2. Meets the deliverable description and objectives as specified in the DoA

Rating : 5

Comments: -

3. Closely addresses the specific technical areas that the DoA describes for this deliverable

Rating : 5

Comments: -

4. Can be used by dependent deliverables as stated in the DoA

Rating : 5

Comments: -

5. Can be used for further outputs (papers, standards contributions, etc.)

Rating : 5

Comments: -

6. Advances the state-of-the-art

Rating : 5

Comments: -

D1.2 Knowledge collection and representation – M24

This deliverable, part of Work Package 1 (WP1), details the knowledge collection and representation processes for eight Representative Craft Instances (RCIs) within the Craeft project. Its primary objective is to preserve and formalize craft knowledge, integrating both tangible and intangible aspects into a structured digital format. The methodology follows the Mingei Representation Protocol, extending it with additional elements specific to Craeft, such as elementary crafting actions, practitioner insights, and multiple visual examples for training.
The document is structured into key sections:

1. Introduction: Provides an overview of the knowledge collection framework and its importance in craft preservation. It discusses the transition from heritage knowledge to structured formal representation and the role of digital tools in this process.
2. Formal Models in Craft Practice: Reviews existing ontological and semantic models in cultural heritage (CH), highlighting Semantic Web technologies and their applications in craft representation. The Craeft ontology, an extension of Mingei, is introduced.
3. Methods: Outlines the data collection process, combining secondary research (archives, literature, museums) and ethnographic fieldwork (craft practitioners, digital recordings, and interviews).
4. Description of Collected Knowledge Elements: Provides an in-depth breakdown of classified knowledge elements, covering locations, materials, tools, products, persons, social groups, narratives, and processes across Glass, Porcelain, Clay, Marble, Wood, Silver, Wool (Aubusson tapestry), and Wool (cotton textiles).

The deliverable underscores the need for ongoing knowledge updates, ensuring future integration into the Craeft Authoring Platform (CAP). It aims to bridge traditional craft expertise with digital tools, enabling future applications in education, research, and heritage management.

The deliverable successfully meets its objectives and aligns with the DoA. Minor refinements in terminology consistency, citation formatting, and methodological clarity will enhance readability and coherence. Let me know if you need further refinements! Please consider the following comments before preparing the final version:

1. Consistency in Terminology and Formatting

- The terms Knowledge Collection and Representation, Knowledge Documentation, and Knowledge Encoding are used interchangeably standardize terminology.
- The abbreviation CAP (Craeft Authoring Platform) should be consistently defined at its first mention.
- Ensure uniformity in references to ontological frameworks (e.g., CIDOC CRM, AAT, EDM)—some sections provide full names, while others use acronyms without prior definition.

2. Grammar and Syntax Adjustments

- Some long sentences could be revised for clarity. Example: "The Craeft project builds upon the Mingei approach, adding specific refinements to enhance craft knowledge representation and ensure broader accessibility for future research and education." Suggestion: "Craeft extends the Mingei approach by refining craft knowledge representation for improved research and educational accessibility."
- Subject-verb agreement errors: "The collected knowledge are categorized into..." Should be "The collected knowledge is categorized into..."

3. Repetition and Redundancy

- Discussions on Mingei's Representation Protocol appear in multiple sections. Consider consolidating them.
- The importance of Semantic Web technologies is repeatedly emphasized in different contexts. Streamline explanations to avoid redundancy.

4. Table of Contents Alignment

- Section numbering inconsistencies:
    - 2.1.1 and 2.1.2 should be reviewed for alignment with the Table of Contents.

    - Verify subsections in Section 5 match their references in the introduction.

5. Clarity in Methodology

- The methodology for bridging heritage knowledge and formal representation could be structured into clearer phases for readability.
- The role of multilingualism in data representation is mentioned but lacks a structured discussion how does the system accommodate multiple languages in CAP?

6. Figures and References

- Some figures lack clear references in the text. Eall figures are explicitly cited.
- Several citations appear incomplete or duplicated (e.g., "[6] [6]"). Check formatting consistency.
- Verify reference list formatting. Some ontology sources lack full citations.

7. Final Proofreading for Minor Typos

- Example typos: "The process of collecting data is vital in ensuring its integrity and accurate representation." Should be "The process of collecting data is vital for ensuring integrity and accuracy in representation."
- Check spacing and alignment issues in bullet points and tables.

Deliverable assessment

1. States its objectives, related subtask(s) and dependencies, as specified in the Description of Work
5
Comments
This deliverable aligns with Work Package 1 (WP1)

2. Meets the deliverable description and objectives as specified in the DoA
Rating: 5
Comments:
Yes, this deliverable meets its objectives by:

- Detailing the knowledge collection process for eight RCIs.
- Defining ontological models for structuring craft knowledge.
- Providing a clear methodology for integrating ethnographic and archival sources.
- Laying the groundwork for further digitization and formal representation efforts.

3. Closely addresses the specific technical areas that the DoA describes for this deliverable
Rating: 5
Comments:
The deliverable effectively covers:
Craft knowledge collection methodologies.

- Integration of knowledge into formal ontologies.
- Use of the Semantic Web for interoperability.
- CRAFT ontology development and expansion of Mingei models.

4. Can be used by dependent deliverables as stated in the DoA
Rating: 5
Comments:-

5. Can be used for further outputs (papers, standards contributions etc.)

Rating: 5
Comments: This deliverable supports:

- Academic research on digital heritage, ontologies, and cultural informatics.
- Standards development for heritage documentation and metadata structuring.
- Policy recommendations for EU cultural heritage initiatives.

6. Advances the state-of-the-art
Rating: 5
Comments: D1.2 introduces innovations by:

- Expanding ontology-based craft knowledge representation.
- Integrating ethnographic and semantic approaches in a unified framework.
- Providing a scalable, multilingual knowledge representation model for crafts.
- Ensuring interoperability with Semantic Web standards for future research and applications.

WP2

D2.1 Action and affordance modelling – M24

The deliverable D2.1 - Action and Affordance Modelling presents the methodology and implementation for simulating crafting actions within the Craeft project. It aims to create digital representations of craft techniques for education, training, and preservation by leveraging computational models, particularly the Finite Element Method (FEM), to analyze and predict the outcomes of crafting actions.

The document begins with an introduction outlining its purpose: to move beyond phenomenological descriptions of craft processes and develop a mechanistic understanding of material transformations. This understanding is achieved through digital simulation, enabling both predictive modeling of craft actions and the development of interactive training applications.

The second section reviews the state of the art in craft simulation, including theoretical models, existing craft simulators, visual and scientific simulation techniques, and robotic reenactments. It identifies gaps in current approaches, particularly in the detailed mechanical simulation of craft actions. Section 3 defines key elements for simulation, such as affordances, environmental conditions, material properties, object characteristics, and forces. Actions are classified into four categories: additive, subtractive, interlocking, and shaping, each with its corresponding computational model. The fourth section focuses on action modeling, linking the simulation approach to the semantic framework developed in D2.2. It details the ontology of crafting actions and provides a structured methodology for modeling them using templates that capture their mechanical and semantic properties.

Section 5 discusses the implementation of the simulations, emphasizing the use of FEM to create mechanical models that accurately replicate the forces, deformations, and transformations occurring during crafting. The section also outlines the integration of these simulations with third-party software, particularly Unity, to support virtual and immersive training environments.

The deliverable concludes by addressing the interface between Simulia Abaqus and Unity for visualization, ensuring that simulation outputs can be used effectively in interactive learning applications. The final section outlines the next steps, including expanding simulations to incorporate cognitive decision-making in craftsmanship.

Overall, this deliverable lays the foundation for a systematic approach to craft action simulation, combining mechanical analysis, digital representation, and interactive visualization to enhance understanding and training in traditional crafts and can be submitted.

Some issues to check include:

1. Consistency in Terminology and Formatting

- -Ensure uniform terminology usage throughout the document. Some sections refer to 'simulation archetypes,' while others use 'archetypal simulators.' Consider aligning these terms for consistency.
- The numbering of subsections is inconsistent in some parts. For example, 2.5 and 2.6 appear detailed but should be cross-checked with the Table of Contents for accuracy.

2. Grammar and Syntax Adjustments

- Minor grammatical inconsistencies, particularly in long sentences, should be reviewed for readability.
  - o Example: "We use the FEM approach, that allows accurate modeling of material deformations." -> "We use the FEM approach, which allows for accurate modeling of material deformations."
- Subject-verb agreement issues appear in a few places.
  - o Example:
    "The models that is used for simulation..." should be "The models that are used for simulation..."

3. Repetition and Redundancy

- Some concepts are repeated across multiple sections, particularly in methodology and literature review.
  - o Example: The differentiation between affordances and causing entities is introduced more than once.
- The discussion on FEM appears in both literature review and methodology. consider merging or streamlining.

4. Table of Contents Alignment

- Some section numbers appear misaligned with the actual content. Example: Ensure numbering between subsections in Section 3 is consistent with the Table of Contents.
- Verify that references to subsections (e.g., 3.1, 3.4.2) correctly match their respective headings.

5. Clarity in Methodology

- The methodological framework is detailed, but some transitions could be smoother.
  - o Example: The rationale behind choosing force-oriented vs. motion-oriented simulations could be clarified further.
- The justification for prioritizing specific craft simulations over others (e.g., textiles omitted due to industrial coverage) should be stated earlier.

6. Figures and References

- Ensure all figures are correctly referenced in the text.
- Some in-text references appear incomplete or have placeholder citations (e.g., "[7] [7]").
- Verify uniform citation formatting throughout the document.

7. Final Proofreading for Minor Typos

- A few minor typographical errors remain. Example:"The materials that has been selected..." should be "The materials that have been selected..."
- Double-check link formatting for external references, particularly the Zenodo dataset citation.

Deliverable assessment:

1. States its objectives, related subtask(s) and dependencies, as specified in the Description of Work

Rating: 5

Comments: The deliverable aligns with the objectives outlined in the project's DoW, focusing on the formal modeling and simulation of crafting actions. It directly supports Work Package 2 (WP2) by defining affordances, actions, and material transformations in crafts. Dependencies on prior work, such as semantic modeling in D2.2 and data collection in WP1, are acknowledged, ensuring coherence within the overall project framework.

2. Meets the deliverable description and objectives as specified in the DoA

Rating: 5

Comments:
The document meets its intended purpose by:

- Establishing a systematic framework for action and affordance modeling.
- Reviewing state-of-the-art simulation approaches in crafts.
- Implementing Finite Element Method (FEM) simulations for different craft processes.
- Linking theoretical models with practical applications in training and education. This coverage ensures compliance with the objectives stated in the Description of Action (DoA).

3. Closely addresses the specific technical areas that the DoA describes for this deliverable

Rating: 5

Comments:

The deliverable effectively addresses the key technical areas outlined in the DoA:

- The classification of crafting actions into additive, subtractive, shaping, and interlocking.
- The computational modeling of actions using force-oriented and motion-oriented approaches.
- The integration of finite element analysis (FEA) for high-fidelity simulations.
- The mapping of simulations to semantic models in D2.2 for knowledge representation.

4. Can be used by dependent deliverables as stated in the DoA

Rating: 5

Comments: The methodologies and models presented in D2.1 are foundational for subsequent project tasks

5. Can be used for further outputs (papers, standards contributions etc.)

Rating: 5

Comments: The research and methodologies presented are suitable for dissemination in:

- Academic publications on digital heritage, computational craft modeling, and immersive training.
- Standards development related to digital craft preservation and ontology-based modeling.

- Workshops and industry applications where simulation-driven training in traditional crafts is relevant.

The structured approach to affordance modeling and FEM-based simulation could contribute to discussions in fields such as digital heritage, human-computer interaction (HCI), and computational craft studies.

6. Advances the state-of-the-art

Rating: 5

Comments:
This deliverable significantly advances the field by:

- Combining semantic modeling and FEM simulations to enhance the digital representation of crafts.
- Introducing a systematic taxonomy of craft actions with direct computational implementation.
- Bridging the gap between mechanical simulation and educational VR applications.
- Enhancing reproducibility and transparency by storing simulation inputs/outputs in an open-access repository (Zenodo).

These contributions position D2.1 as a critical step forward in computational heritage research and digital craft education.

D2.2 Maker-Material-Negotiation model and CAP – M24

The deliverable D2.2 presents the updated Maker-Material-Negotiation Model (MMNM) and the CRAEFT Authoring Platform (CAP), reporting work completed in Tasks T2.3 and T2.4 during the project's second year. It is an extension of the first version released at M12, with all updates being backward-compatible, ensuring seamless integration with previous work.

The first part of the document elaborates on the CRAEFT Ontology (CrO), a formal representation of craft knowledge, structured around three levels: schema, virtual, and real. It introduces generalized properties, a new top class structure, and refinements in process representation, ensuring better alignment with real-world craft instances. The ontology integrates standards such as CIDOC CRM, OWL Time, and RDF Turtle, ensuring maximum interoperability.

The second part describes the CRAEFT Authoring Platform (CAP), an enhancement of the Mingei Online Platform (MOP), designed for documenting traditional crafts. New features include multilingual support, cross-referencing automation, and digital asset storage via Zenodo, enabling wider accessibility and usability.

The deliverable demonstrates conceptual, technical, and usability advancements, refining the ontology and platform to better support craft representation, simulation, and knowledge preservation.

There are some issues to improve:

1. Consistency in Terminology and Formatting

- Ensure consistent use of CRAEFT Ontology (CrO) throughout the document. Some sections refer to it as Craeft Ontology' or CRAEFT schema inconsistently.
- The abbreviation MMNM (Maker-Material-Negotiation Model) is not introduced early in the text but appears later. Define it clearly at the first mention.
- The term CAP (CRAEFT Authoring Platform) is occasionally written as Craeft Platform or Craeft Authoring System. Ensure consistency.

2. Grammar and Syntax Adjustments
Some long and complex sentences could be restructured for better readability. Example:

- For self-containedness and readability, the present document does not merely report the updates, but it is structured as its first version so that a reader can find in here all the information without having to read the first version. -Suggestion: To ensure readability, this document does not just report updates but follows the structure of the first version, allowing readers to access all information without referring to the previous release.
- Subject-verb agreement issues appear in some places, such as: The ontology have been enriched-> Should be: The ontology has been enriched

3. Repetition and Redundancy

Several concepts are repeated, particularly regarding:

- The three levels of the ontology (schema, virtual, and real).
- The relation between CAP and MOP, which appears in multiple sections. Consider merging these discussions.
- The mention of CIDOC CRM, OWL Time, and RDF standards is repeated multiple times without new insights. It could be streamlined in one dedicated section.

4. Table of Contents Alignment

Some section numbers are inconsistent with the Table of Contents.

- Section 2.7 (which previously covered craft process representations) has been removed but is still referenced in parts of the document. Update references accordingly.
- Ensure the subsections under 3.7 (Other Enhancements) are correctly numbered in alignment with previous sections.

5. Clarity in Methodology

- The ontology's three levels (schema, virtual, and real) are well-defined, but their interaction with the CAP platform could be more explicitly linked.
- The description of ' generalized properties' could include a simple example before diving into formal definitions, making it easier to grasp.
- The decision to remove Section 2.7 is briefly mentioned but lacks justification. Consider adding a rationale for this change.

6. Figures and References

- Some figures (e.g., those illustrating ontology structures) lack clear captions or figure numbers.
- Citations in some sections use inconsistent formats, e.g., "[6] [6]" appears twice.
- Ensure all references, especially to external repositories (e.g., Zenodo), are correctly formatted and accessible.

7. Final Proofreading for Minor Typos

- Ensure all Zenodo links are active and properly formatted.

1. States its objectives, related subtask(s) and dependencies, as specified in the Description of Work

Rating: 5

Comments:

This deliverable aligns with Tasks T2.3 and T2.4, focusing on refining the Maker-Material-Negotiation Model and extending the CRAEFT Authoring Platform. Dependencies on prior work, including D2.1 (Action and Affordance Modelling) and WP1 (Data Collection), are acknowledged.

2. Meets the deliverable description and objectives as specified in the DoA

Rating: 5

Comments:

Yes, the deliverable meets its objectives by:

- Expanding the ontology to support real-world craft representations.
- Improving semantic structuring and generalization of properties.
- Extending CAP with new functionalities, including multilingual support and cross-referencing.

3. Closely addresses the specific technical areas that the DoA describes for this deliverable

Rating: 5

Comments:

The deliverable directly supports the key technical areas:

- Ontology development: Enhanced with new generalized properties, a structured top class, and improved process schemas.
- Digital platform enhancements: Integration with Zenodo and Europeana, adding structured cross-referencing and metadata validation.

4. Can be used by dependent deliverables as stated in the DoA

Rating: 5

Comments: -

5. Can be used for further outputs (papers, standards contributions etc.)

Rating: 5

Comments:

This deliverable provides a solid foundation for:

- Academic publications on ontology-based craft representation and digital preservation.
- Standardization efforts, particularly in cultural heritage data interoperability (CIDOC CRM, OWL Time).
- Workshops and knowledge-sharing initiatives focusing on semantic craft documentation.

6. Advances the state-of-the-art

Rating: 5

Comments:

D2.2 advances digital heritage research by:

- Introducing a structured three-level ontology that balances expressivity, usability, and interoperability.
- Establishing a formal model for generalized properties, streamlining ontology development.
- Enhancing documentation and knowledge-sharing platforms, fostering broader adoption and accessibility.

WP3

D3.1 - Craft-specific Action Simulations – M18

This deliverable presents craft-specific action simulations developed within the CRAEFT project. It introduces computational tools designed to simulate physical interactions in traditional craft processes, integrating physics-based rendering, real-time simulations, and AI-driven approximations to enhance digital craft modeling.

The document is structured as follows:

1. Related Work – Reviews existing literature on craft-related simulations, including light interaction with objects, physics-based simulations, and game engines for real-time rendering.
2. Visualization Toolbox – Introduces a Mitsuba 3-based rendering engine, enabling realistic material simulations, photorealistic previews, and interactive visualizations.
3. Action Simulation Toolbox – Describes a software interface to NVIDIA PhysX, allowing for real-time physics simulations, interaction with tools, and material deformation modeling.
4. Real-time Simulations with AI – Discusses an AI-driven approach that approximates FEM-based physics simulations in real-time, reducing computational complexity.
5. Application in Digital Crafting – Demonstrates how these tools create realistic digital objects, supporting pottery, woodturning, and glassblowing simulations.

The deliverable emphasizes bridging traditional craftsmanship with computational tools, ensuring that craft processes are digitally replicated while maintaining physical realism. It provides a foundation for further studies in digital craft education, virtual prototyping, and AI-enhanced material simulations.

Review Comments

1. Consistency in Terminology and Formatting

- The terms "action simulation toolbox," "physics-based simulation," and "real-time simulation" are used interchangeably—ensure a single, consistent term.
- Material property descriptions (e.g., elasticity, yield stress) should use uniform units and formatting.
- The abbreviation AI (Artificial Intelligence) should be defined clearly at first mention and consistently used.

2. Grammar and Syntax Adjustments

- Some long and technical sentences could be simplified for readability. Example:
  - *"The PhysX engine enables real-time physical interactions, providing an immersive simulation environment."*
  - Suggestion: *"The PhysX engine supports real-time physics simulations, enhancing interactivity."*
- Subject-verb agreement errors:
  - *"The AI-based approximation were tested under different material conditions."* → Should be *"The AI-based approximation was tested..."*

3. Repetition and Redundancy

- Physics-based rendering concepts are explained multiple times across sections—consider consolidating discussions.
- The role of AI in real-time simulations is repeated in both Sections 4 and 5—clarify distinct contributions of each section.

4. Table of Contents Alignment

- Some subsections (e.g., "3.2.1. Simulated Objects") appear under incorrect headings—verify their placement.
- The Table of Contents does not match the document's final structure—ensure section numbers and titles are accurate.

5. Clarity in Methodology

- The methodology for generating AI training data should include a step-by-step breakdown of how simulations were parameterized and validated.
- The rationale for choosing specific craft simulations (e.g., pottery, woodturning, glassblowing) should be clearly stated.
- The comparison between FEM-based and AI-driven simulations could benefit from tabular summaries of accuracy vs. computational efficiency.

6. Figures and References

- Some figures lack captions or clear references in the text—ensure all visual elements are properly labeled.
- Several citations appear incomplete or duplicated (e.g., "[6] [6]")—verify consistency in reference formatting.
- Ensure all external references (e.g., software libraries, previous research papers) are properly cited.

7. Final Proofreading for Minor Typos

- Example typos:
  - *"The physics-based simulator facilitates crafting interactions in a virtual environment"* → Should be *"The physics-based simulator enables crafting interactions..."*
- Check for missing spaces in formulas and parameter descriptions.

Assessment of Deliverable D3.1

1. States its objectives, related subtask(s), and dependencies as specified in the Description of Work (DoW)

Rating : 5

Comments: This deliverable aligns with Work Package 3 (WP3) by developing craft-specific action simulations.

---

2. Meets the deliverable description and objectives as specified in the DoA

Rating : 5

Comments: Yes, this deliverable fulfills its objectives by:

- Developing AI-assisted physics simulations for craft-specific modeling.
- Providing a scalable method for approximating high-computation simulations in real-time.
- Integrating digital craft simulations with interactive tools and physics-based rendering.

3. Closely addresses the specific technical areas that the DoA describes for this deliverable

Rating : 5

Comments: The deliverable effectively covers:

- Physics-based simulation techniques (PhysX, FEM, AI approximations).
- Material property modeling for traditional craft simulations.
- Real-time visualization and interactivity enhancements.

4. Can be used by dependent deliverables as stated in the DoA

Rating : 5

Comments: Yes

5. Can be used for further outputs (papers, standards contributions, etc.)

Rating : 5

Comments: This deliverable contributes valuable findings for:

- Research publications on AI-enhanced physics simulations for craft modeling.
- Standardization efforts in digital craft simulation methodologies.
- Industry applications in virtual prototyping, craft preservation, and VR training.

6. Advances the state-of-the-art

Rating : 5

Comments: D3.1 introduces innovations by:

- Integrating AI to approximate physics simulations in real-time.
- Developing real-time craft-specific simulations for digital training.
- Enhancing physics-based rendering for realistic material visualization.
- Bridging traditional craft modeling with computational tools.

D3.2 - Advanced digitisation technologies – M18

Comments for transparent scanning

Firstly, in the abstract, we recommend providing the full English name of Optical Projection Tomography (OPT) to ensure everything is clear and familiar with the term. Additionally, providing a brief explanation of OPT may be helpful to ensure clarity.

Secondly, we suggest adding "non-adaptive refractive index matching liquid" as a keyword, as this is a unique aspect of this work.

Thirdly, considering the current research on THz imaging in 3D reconstruction of transparent objects, it may be appropriate to include some related work in the introduction.

Fourthly, in section 3.2, we recommend clearly explaining the proposed reconstruction algorithm and how it differs from Fourier slicing. Furthermore, while the authors explain the use of Astra Toolbox Filtered Backprojection (FBP) algorithm, they should clarify how their work improves upon existing methods. Astra Toolbox is a powerful MATLAB and Python toolbox that utilizes GPU acceleration for basic forward and back-projection operations. However, it is unclear whether GPUs were used in the experimental tests conducted by the authors. Therefore, we recommend clarifying whether GPU acceleration was utilized in the experiments. Additionally, the formula for the calibration scaling factor mentioned in section 3.1 is missing from the original text and should be provided.

Since commercial or open-source software was used extensively in the experimental tests, it is important to determine whether these tools significantly impacted the final 3D reconstruction of transparent objects. We suggest conducting comparative experiments to evaluate the effectiveness of the proposed method against other commonly used tools. Moreover, we recommend including phase imaging and binocular ranging control experiments in the reconstruction experiments to enhance their persuasive power. These control experiment groups could also help further validate the proposed method's effectiveness in solving the problem of high-precision optical three-dimensional reconstruction of transparent objects in industry settings.

Are there any limitations or challenges associated with using the OPT method without the use of refractive index-matching liquid? How does this affect the accuracy or reliability of the measurements? Can you provide more information about the resolution or accuracy of the reconstructed object shape? How does it compare to other 3D reconstruction methods?

Some works related to the 3D reconstruction reflection, and refraction in transparent objectscan be referred in the background or introduction part. For example, Cryst. Growth Des. 2023, 23, 11, 7992–8008, DOI: 10.1021/acs.cgd.3c00780.

Are there any plans for future research or improvements to the OPT method? Are there any limitations or areas that need further investigation?

How does the OPT method compare to other non-contact optical metrology tools in terms of cost, speed,

and automation? What are the advantages and disadvantages of using OPT in manufacturing and cultural heritage applications?

The experimental setup and procedure are well-described, but it would be beneficial to include some images or diagrams to help visualize the setup.

It would be useful to provide more justification for why these objects were chosen and how they represent the types of objects that this measurement principle is most suited for.

Were there any specific applications or industries that were targeted for this research? How could the findings be applied in real-world scenarios?

What is the maximal possible deviation from the circular shape which can be measured and what will happen with the accuracy for large deviations?

The accuracy has to be represented in 1 or at most 2 figures, i.e. instead of +/- 0.32, 0.85 or 1.47 we are to see +/- 0.3, 1.0 or 1.5 mm

Comments for low-cost scanner

The deliverable presents an interesting low-cost solution for multi-resolution scanner. The results seem interesting and promising if following flaws (on the way to describe the data) can be corrected: All the images' data author presented from page 9 to page 18 are not properly labeled. I cannot figure out the thumbnail image and 25% optical resolution image are a single tile image captured at moderate and close distance with middle and high resolution or stitched image from multiple tiles. The former cannot support the deliverable's conclusion. If it is later case, the author should give details on how many tiles used for the stitching. It looks like only two tiles are used in the 25% optical resolution stitching from the sand images in page 14. Such tile number is too few to prove the results, the author should show a 3X3 or at least 2X2 image to show the stitching effect.

Low cost is major feature claimed in the deliverable. However, it seems they not include all elements in the table such as slide stroke and motor shaft etc, which are not ignorable on the cost. Also, maybe they should include the partial cost of Cartesian 3D printer to make the comparison more fare. The deliverable should be carefully revised to make it approach the basic standard of the journal deliverable. Not only the grammar and typo error but also some issues like all pic should have scale bar (not only the first one with some hard to see ruler photo) and all picture has proper caption for the reader to identify them in the text undoubtedly.

The major weakness is its very limited scanning area 5cmx5cm or at most 40cmX4cm. The authors mention that they evaluate qualitatively and quantitatively the scanner but the quantitatively section is not clear.

In the Introduction section, the authors present the challenges and possibilities related to the scanning of flat surfaces, the solutions that can be implemented by overlapping, and the presence and effect of distortions and scanning errors that occur during scanning.

The authors present the scanning features and limitations of proprioceptive image registration, flatbed scanners, large-format scanners, and book scanners.

In the Material section, the authors present their self-developed interface scanner device, along with an accurate description of the part, subassembly, operating functions, communication, and control aspects. The Method section provides a detailed description of the scanning process, matrix scanning, image combination, overlap handling, and the lens and optical sensor used to maintain the quality of the scan layers.

The Results section summarizes the environment designed for testing the scanner device, analyzing in detail the in-process temporary and final image storage resource needs. The authors present the surface samples used during testing (painting, textiles, deliverable money, coins, biological sample, fabrics, etc.) and illustrate the results of scanning and imaging by scanning layers. An examination of performance and its results in terms of resolution, image structure, and the correctness of the image registration process for repetitive samples are presented. A separate study was also performed on the scan of only approximately flat surfaces.

The Discussion section summarizes the results and makes observations about the limitations of the physical size of the scanner. In addition, the Conclusions section states that the scan gives satisfactory results, in addition to a cost-effective solution, but there are also a number of engineering and computational tasks that are worth researching and developing on the device. The description of the development, the testing process, and the results achieved are clear, well usable, and are expected to be of great interest.

The scope, structure, and language of the deliverable correspond to the standard of publication related to scientific research and development.

The amount of literature used in the preparation of the deliverable is adequate, the referenced literature is related to the current topic discussed.

- missing explanation on the first use of the abbreviation C3Dp

- typing error: on 3rd page „frontal posture of te volume-> frontal posture of the volume

- typing error: on 3rd page „ pertain only to inrement -> „ pertain only to increment

- What kind of micro-controller can be used to control the device? Please give additional information about the used micro-controller earlier (it was mentioned at the bottom of 3rd page, but was defined later, on the 4th page)

- There is a brief description of the power supply on the 5th page. What is the minimum and what is the optimal capacity of the usable power supply in this construction? Is it different from the 3D printer' s original power supply? On which parameters depend the selection of the power supply?

- on the 5th page it was mentioned: „However, image acquisition failures and delays are part of the mechanic problem to solve. Is it solved or is it a further task during the development?
- Acquired files' names contain X-Y-Z coordinates. The transfer from the memory card is made manually, but the renaming process is automated. What ensures that the file name contains the correct coordinate data?
- Question to this statement (on 6th page): „camera locations are precomputed and stored in a tree-shaped data structure - Does the inaccuracy due to the physical nature of the stepper motor not negatively affect the image overlapping and image registration?

- The following texts are not required, I suggest deleting it: „ Let i enumerate the set of all images Ii. Image points ci are their image centers and world points Ci the locations of these centers in 3D space. and „ Let fki be the kth feature in Ii. As there is no detailed formal description in the deliverable, no formal definition is required in the text. In the following, I suggest placing them in Figure 5. as an explanation of the marking or place them in the 3.3 subsection.

Results section: near this content „ Results are presented in three columns. The left shows... please refer to the concrete figure instead of „ left. E.q. „ ..presented in Figure X. Please add figure numbering and figure captions to the three-column figures.

please clarify the measure units in the 4. subsection, because it is hard to decide what does the mm2 means.   Maybe   a   quadratic   or   a   cubic   unit?
Please introduce the main attributes of the computer that was used to perform a computational task.

Comments for photogrammetric scanning

The proposed method is a surface scanner for photogrammetry, where the main contributions involve the use of low-cost, consumer-grade equipment and a feature tracking technique to reduce the effects of long-range error propagation. The structure of the deliverable is well-defined and easy to follow, the motivations for this work are clear and the mathematical rigor is followed correctly. The information provided makes the experiments reproducible and the method is evaluated both qualitatively and quantitatively.

In the qualitative results, the reconstructions are compared with off-the-shelf generic-purpose software (Pix4D) to assess the improvements with respect to a program that does not implement feature tracking. This is fair, but are there any other software or specialized systems that can do that, to provide an extended comparison? Moreover, you state that (L536) "Stereo vision and photogrammetry are usually incapable of reconstructing even moderately shiny surfaces": is there the possibility of comparing your results with tools other than yours (Fig 11), or providing a reference/quote to other studies where these results are visible over shiny surfaces?

For quantitative results, instead, is there the possibility to compute the reconstruction error with one of the off-the-shelf software?

Figure 7: this is ambiguous both in the text (you start talking about it at L470, then jump back to Fig. 6,

and finally back again on Fig. 7), and in the caption. Overall, it is clear to me that the reconstruction is made difficult by the fact that the acquisition is top-view only, but the disposition of the figures, the caption, and the way it is introduced in the text are a bit convoluted. What does the red-dotted box represent in the third image of the first row of Fig.7? Is the bottom right image (the no-texture patch) necessary?

The work is interesting but it is difficult to understand how this is different from other methods. The authors should have explicitly mentioned that this is the only way of photogrammetric surface scanning if no such similar technique is available. The related work is poorly drafted without providing good insight into the specific domain. The quantitative results are only provided for the coin. Is it a benchmark? If there exist similar methods, how this one is better. There is no clue. Many questions are left unanswered. The list of the reference section shows that the information about the recent state-of-the-art methods is either not provided or not available. In either case, this is not explicitly mentioned by the authors.

D3.3 - Scene and activity monitoring – M18

This deliverable presents the scene understanding and activity monitoring methodologies developed within the CRAEFT project. It focuses on how machine learning (ML) and motion capture can enhance the preservation, transmission, and training of traditional crafts by analyzing craft environments, human movement, and gesture recognition.

The document is divided into the following key sections:

1. Motion Capture – Describes datasets collected from various craft practices (e.g., glassblowing, marble carving, silversmithing) using GoPro cameras, microphones, and sensor fusion.
2. Scene Understanding – Explores 3D scene reconstruction using Neural Radiance Fields (NeRFs) and 3D Gaussian Splatting (3DGS) to convert 2D video data into dynamic 3D representations.
3. Activity Monitoring – Discusses gesture recognition challenges and solutions, using Meta-Learning (MetaL) and Multi-Task Learning (MultiTL) to analyze movement primitives and human motion hierarchies.
4. Experimental Results – Presents comparative evaluations of NeRFs vs. 3DGS and the effectiveness of multi-task learning for recognizing craft-specific gestures.
5. Conclusions and Future Work – Highlights the potential of ML models in vocational training and future optimizations for dynamic action recognition.

This deliverable contributes to cultural heritage preservation, vocational training, and AI-driven craft modeling, demonstrating how scene reconstruction and activity monitoring can modernize craft documentation.

Some issues can be corrected before submission:

1. Consistency in Terminology and Formatting

- The terms "scene understanding," "scene reconstruction," and "scene monitoring" are used interchangeably—ensure uniform terminology.
- "Motion capture" is sometimes written as "activity capture"—standardize phrasing.
- Ensure that ML-related terms (e.g., "NeRF," "3DGS," "MetaL," "MultiTL") are consistently formatted across sections.

2. Grammar and Syntax Adjustments

- Some long and technical sentences could be rewritten for clarity. Example:
    - *"The 3D Gaussian Splatting model is able to reconstruct craft scenes dynamically, making it a useful tool for interactive applications."*
    - Suggestion: *"3D Gaussian Splatting dynamically reconstructs craft scenes, enhancing interactive applications."*
- Subject-verb agreement errors:
    - *"The data collected are used for evaluating gesture models."* → Should be *"The data collected is used..."*

3. Repetition and Redundancy

- The advantages of using NeRFs and 3DGS for scene reconstruction are repeated across different sections—consider consolidating.
- The importance of gesture recognition for vocational training appears in multiple areas—streamline for better readability.

4. Table of Contents Alignment

- Some subsections (e.g., 3.3.2, 4.5) are misaligned with the Table of Contents—ensure consistency.
- The titles of methodology subsections should match exactly across sections and the Table of Contents.

5. Clarity in Methodology

- The motion capture methodology could benefit from a clear step-by-step description of data collection protocols.
- The differences between NeRF and 3DGS applications should be explicitly stated in a comparative table.
- The gesture recognition process using MultiTL could be clarified with illustrative diagrams showing the hierarchy of movement primitives.

6. Figures and References

- Some figures lack captions or proper numbering—ensure that all images are referenced in the text.
- Some citations are duplicated (e.g., "[6] [6]") or missing full details—verify reference consistency.

7. Final Proofreading for Minor Typos

- Example typos:
    - *"The camera position estimation is critical for ensuring the accuarcy of 3D reconstruction."* → Should be *"accuracy."*
- Ensure that mathematical expressions and equations are correctly formatted.

Assessment of Deliverable D3.3

1. States its objectives, related subtask(s), and dependencies as specified in the Description of Work (DoW)

Rating : 5

Comments: This deliverable aligns with Work Package 3 (WP3) and supports:

- T3.3 (Scene and Activity Monitoring) by developing real-time gesture analysis and scene reconstruction tools.
- T3.1 (Physics-based Simulations) by providing 3D scene data for interactive simulations. Dependencies include:
- WP2 (Semantic Modeling) for linking action recognition with ontology representations.

- WP6 (Educational Applications) for applying motion capture and gesture recognition in training environments.

2. Meets the deliverable description and objectives as specified in the DoA

Rating : 5

Comments: Yes, this deliverable successfully:

- Develops AI-driven scene reconstruction models (NeRFs and 3DGS).
- Implements gesture recognition using Meta-Learning and Multi-Task Learning.
- Provides a structured methodology for capturing craft-specific movement data.

3. Closely addresses the specific technical areas that the DoA describes for this deliverable

Rating : 5

Comments: The deliverable effectively covers:

- Scene reconstruction through NeRFs and 3DGS.
- Gesture recognition using Multi-Task Learning.
- AI-driven approaches to craft training and digital heritage preservation.

4. Can be used by dependent deliverables as stated in the DoA

Rating : 5

Comments: Yes

5. Can be used for further outputs (papers, standards contributions, etc.)

Rating : 5

Comments: This deliverable provides valuable insights for:

- Research publications on scene reconstruction, AI-driven gesture recognition, and craft simulations.
- Standardization efforts in digital craft preservation and AI-driven vocational training.
- Industry applications in VR-based craft education, motion capture, and interactive design.

6. Advances the state-of-the-art

Rating : 5

Comments: D3.3 introduces innovative methodologies by:

- Applying Neural Radiance Fields (NeRFs) and 3D Gaussian Splatting (3DGS) for craft scene reconstruction.
- Developing AI-driven gesture recognition models tailored to craft movement analysis.
- Enhancing scene understanding for digital heritage through egocentric vision approaches.

WP4

D4.1. Craft simulation and immersive craft training – M18

This deliverable, D4.1 - Craft Simulation and Immersive Craft Training, presents the progress achieved in Work Package 4 (WP4) over the first 18 months (M1-M18) of the CRAEFT project. The deliverable focuses on integrating digital training methodologies for traditional craft practices, leveraging eLearning, immersive simulations, and Cognitive Load Theory (CLT) to enhance craft education and preservation.

Key contributions include:

- Applying CLT to craft eLearning, ensuring digital learning materials minimize cognitive overload and enhance skill acquisition.
- Developing structured eLearning modules using Moodle, enabling flexible, scalable, and interactive craft training.
- Introducing the Apprentice Studio, an immersive training platform that allows learners to engage in realistic craft simulations.
- Developing the Craft Studio, a lesson-authoring tool for craft masters to design, manage, and evaluate digital craft training content.
- Providing guidelines for immersive learning experiences, integrating VR, AR, and haptic devices into craft education.

The document highlights the challenges of craft education, including skill transmission, declining interest, and competition from mass production. It proposes digital solutions that balance authentic craft practices with modern pedagogical methods. The deliverable also presents practical case studies, including glassblowing eLearning modules, to demonstrate the feasibility of its proposed framework.

1. Consistency in Terminology and Formatting

- The terms "Apprentice Studio," "Immersive Studio," and "Craft Studio" appear interchangeably—ensure consistent naming conventions.
- The phrase "Cognitive Load Theory (CLT)" is sometimes abbreviated without prior definition—define it clearly at first mention.
- Ensure uniform formatting of headings and numbering in methodology sections.

2. Grammar and Syntax Adjustments

- Some long and technical sentences could be rewritten for clarity. Example:
  - *"Moodle provides a centralized approach to eLearning, ensuring effective digital content dissemination while supporting diverse learning needs."*
  - Suggestion: *"Moodle centralizes eLearning, facilitating effective content dissemination and supporting diverse learners."*
- Subject-verb agreement errors:
  - *"The guidelines provides a framework for instructional design."* → Should be *"The guidelines provide a framework for instructional design."*

---

3. Repetition and Redundancy

- Discussions on the importance of Moodle and CLT appear multiple times—consider consolidating these sections.
- The role of immersive technologies (VR, AR, haptics) is explained in separate sections—streamline for better readability.

4. Table of Contents Alignment

- Some subsection numbers (e.g., 5.2.6, 6.2.2) are inconsistent—verify against the Table of Contents.
- Ensure that figures and tables referenced in the text match their corresponding captions and placements.

5. Clarity in Methodology

- The CLT implementation guidelines could be more structured, using a step-by-step format for clarity.
- The process of lesson authoring in Craft Studio needs more concrete workflow diagrams or screenshots.
- The rationale for selecting glassblowing as a case study should be explicitly justified in the introduction.

6. Figures and References

- Some figures lack captions or are not referenced in the text—ensure all visual elements are clearly described.
- Some citations are duplicated or appear as placeholders (e.g., "[6] [6]")—standardize references.
- Ensure all external sources (e.g., Moodle documentation, prior research on CLT) are properly cited.

7. Final Proofreading for Minor Typos

- Example typos:
    - *"The craft simulation methodology aims to facilite hands-on learning."* → Should be *"facilitate."*
- Check for missing spaces in section titles and bullet points.

Assessment of Deliverable D4.1

1. States its objectives, related subtask(s), and dependencies as specified in the Description of Work (DoW)

Rating : 5

Comments: This deliverable aligns with Work Package 4 (WP4) by developing simulation-based craft training methodologies.

2. Meets the deliverable description and objectives as specified in the DoA

Rating : 5

Comments: Yes, this deliverable achieves its objectives by:

- Developing CLT-based eLearning strategies for craft education.
- Designing immersive training platforms (Apprentice Studio, Craft Studio).
- Providing practical case studies (e.g., glassblowing training) to validate methodologies.

3. Closely addresses the specific technical areas that the DoA describes for this deliverable

Rating : 5

Comments: The deliverable effectively covers:

- Cognitive Load Theory (CLT) applications in eLearning.
- Integration of VR, AR, and haptics into craft education.
- Development of interactive lesson authoring tools (Craft Studio).

4. Can be used by dependent deliverables as stated in the DoA

Rating : 5

Comments: -

5. Can be used for further outputs (papers, standards contributions, etc.)

Rating : 5

Comments: This deliverable provides insights for:

- Research publications on cognitive learning in craft education, immersive training, and VR-based pedagogy.
- Standardization efforts in digital craft training methodologies.
- Industry applications in heritage preservation, craft documentation, and virtual training programs.

6. Advances the state-of-the-art

Rating : 5

Comments: D4.1 introduces key innovations by:

- Integrating CLT-based eLearning with immersive technologies (VR, AR, haptics).
- Developing structured digital lessons for traditional craft training.
- Bridging cultural heritage preservation with interactive digital education.
- Providing scalable and platform-agnostic digital craft education frameworks.

D4.2. Haptic devices for training, simulation, and design – M18

This deliverable, D4.2 - Haptic Devices for Training, Simulation, and Design, details the development of a hand-held haptic controller designed to enhance virtual reality (VR) craft training by simulating tactile sensations in digital environments. The goal is to improve dexterous skill acquisition and enable users to experience force, texture, and material resistance when interacting with virtual craft tools.

Key contributions include:

- Introduction of a haptic controller that provides realistic tactile feedback for grasping, tool manipulation, and material interactions.
- Adaptive haptic rendering that dynamically adjusts feedback based on grip and interaction mode.
- Integration with Meta Quest for VR-based craft simulations, allowing users to experience immersive, hands-on digital training.
- Dual API system (low-level and high-level APIs) enabling developers to incorporate haptic interactions into Unity applications.
- Evaluation of tactile accuracy and interaction realism, ensuring the controller effectively replicates real-world craft experiences.

This deliverable highlights the importance of haptic feedback in craft education and how it bridges the gap between physical and digital training environments.

Review of Deliverable D4.2

1. Consistency in Terminology and Formatting

- The terms "haptic controller," "hand-held haptic device," and "haptic interface" are used interchangeably—ensure consistency.
- The phrase "Adaptive Haptic Rendering" appears with different capitalization and formatting—standardize throughout the document.
- API-related terminology (e.g., "low-level API," "high-level API") should be used consistently across sections.

2. Grammar and Syntax Adjustments

- Some long technical sentences could be restructured for better readability. Example:
  - *"The controller is designed to provide tactile sensations that mimic real-world interactions, enabling users to engage in craft activities with enhanced realism."*
  - Suggestion: *"The controller delivers tactile sensations that replicate real-world interactions, enhancing realism in digital craft training."*
- Subject-verb agreement errors:
  - *"The haptic feedback system allow users to feel material textures."* → Should be *"The haptic feedback system allows users to feel material textures."*

3. Repetition and Redundancy

- The benefits of haptic feedback in VR training are discussed multiple times—consider merging related sections.
- The explanation of force control and feedback appears in both Sections 2.5 and 3.1—streamline to avoid duplication.

4. Table of Contents Alignment

- Some subsection numbers (e.g., 2.4.1, 3.2.2) are misaligned—verify accuracy in the Table of Contents.
- Ensure that all figures and tables referenced in the text match their actual numbering and captions.

5. Clarity in Methodology

- The design process for the haptic controller could be presented in a step-by-step format for better clarity.
- The technical specifications table should include a comparison with existing haptic solutions to highlight improvements.
- The integration workflow between the controller and Unity could be expanded with a visual diagram.

6. Figures and References

- Some figures lack captions or are not properly referenced in the text—ensure all visual elements are clearly described.
- Some citations appear incomplete or duplicated (e.g., "[6] [6]")—standardize references.
- Check all software/library references (e.g., Meta Quest SDK, Unity API) for proper citation formatting.

7. Final Proofreading for Minor Typos

- Example typos:
  - *"The device simualtes the feeling of holding craft tools."* → Should be *"simulates."*
- Check for missing spaces in section titles and bullet points.

Assessment of Deliverable D4.2

1. States its objectives, related subtask(s), and dependencies as specified in the Description of Work (DoW)

Rating : 5

Comments: This deliverable aligns with Work Package 4 (WP4).

2. Meets the deliverable description and objectives as specified in the DoA

Rating : 5

Comments: Yes, this deliverable successfully:

- Develops a novel haptic feedback system for VR craft training.
- Enables force, texture, and material simulation for digital craft education.
- Provides APIs to facilitate haptic interaction integration into VR applications.

3. Closely addresses the specific technical areas that the DoA describes for this deliverable

Rating : 5

Comments: The deliverable effectively covers:

- Development of a haptic controller tailored for craft training.
- Force feedback and adaptive tactile response mechanisms.
- Integration with existing VR hardware (Meta Quest, Unity API).

4. Can be used by dependent deliverables as stated in the DoA

Rating : 5

Comments: Yes

5. Can be used for further outputs (papers, standards contributions, etc.)

Rating : 5

Comments: This deliverable contributes valuable insights for:

- Research publications on haptic feedback in craft education and VR simulations.
- Standardization efforts in digital haptic interaction and simulation-based learning.
- Industry applications in VR-based craft education and virtual prototyping.

6. Advances the state-of-the-art

Rating : 5

Comments: D4.2 introduces key innovations by:

- Bringing high-fidelity haptic feedback to VR-based craft training.
- Developing adaptive force and texture simulation mechanisms.
- Bridging traditional craftsmanship with immersive, hands-on digital experiences.

D4.3 - Toys and games for informal craft education – M18

Assessment of Deliverable D4.3

1. States its objectives, related subtask(s) and dependencies, as specified in the Description of Work
Rating :5

Comments: The deliverable is well-written and its content corresponds to the DoA in T.4.4: The Craft Studio (T4.1) and Apprentice Studio (T4.3) will be used to design creative digital games and physical toys for craft introduction, recreation, and development of crafting capacities. Both will be based on a simplification of the represented crafts and techniques and both will have a digital and a physical component. The digital gaming component will be implemented on simplified adaptations of the Apprentice Studio and will be available in online mode for desktop computers or mobile devices. The games will implement a scripted training course based on sanctions, warnings and rewards. The physical toys will contain 3D-printed tools from recyclable plastic. They will contain the essential elements of a craft instance and enable `playing the practitioner' and create physical artefacts, along with instructions and designs of ranging difficulty.

2. Meets the deliverable description and objectives as specified in the DoA

Rating :5

Comments: The deliverable is in appropriate format for submission (report).

3. Closely addresses the specific technical areas that the DoA describes for this deliverable

Rating :5

Comments: The deliverable reflects on the potential of digital, physical, and hybrid games in teaching traditional crafts. It highlights with concrete examples and provide justifications when needed stating relevance.

4. Can be used by dependent deliverables as stated in the DoA

Rating :5

Comments: -

5. Can be used for further outputs (papers, standards contributions etc.)

Rating :5

Comments: -

6. Advances the state-of-the-art

Rating :4

Comments: -

WP5

D5.1. Craft Design revisited – M18

This deliverable, D5.1 - Craft Design Revisited, presents the design, development, and validation of the Design Studio software suite under the CRAEFT project. The objective is to create an advanced virtual workspace for craft professionals, integrating computer-aided design (CAD), artificial intelligence (AI)-driven tools, and virtual reality (VR) simulations to enhance craft design and production.

The deliverable is structured in two phases:

- Phase 1 (M18): Conceptualization, preliminary analysis, and initial wireframes/prototypes.
- Phase 2 (M36): Evaluation, updates based on feedback, and final software release.

Key contributions in this first phase include:

- Defining the Design Studio's purpose as a tool to help craft practitioners tackle challenges like design complexity, high experimentation costs, and limited access to advanced manufacturing technologies.
- Developing technical capabilities for integrating 3D printing and additive manufacturing to create physical prototypes.
- Linking with WP3 Craft-Specific Simulators, ensuring that digital designs are physically feasible.
- Analyzing innovation, market potential, and intellectual property (IPR) to ensure the long-term exploitation of the Design Studio.

The ultimate goal is to provide craft professionals, students, and small businesses with an accessible, innovative digital workspace that streamlines design processes, supports sustainable production, and bridges traditional craftsmanship with modern technology.

1. Consistency in Terminology and Formatting

- The terms "Design Studio," "Craft Design Studio," and "CRAFT Studio" appear inconsistently— ensure a uniform naming convention.
- The phrase "Representatives of Craft Instances (RCIs)" should be consistently formatted across the document.
- Abbreviations like VR, CAD, FDM, SLA, CNC should be defined on first mention and used consistently thereafter.

2. Grammar and Syntax Adjustments

- Some long technical sentences could be restructured for better readability. Example:
  - *"The Design Studio integrates AI, CAD, and digital fabrication tools to enable efficient, cost-effective craft production."*
  - Suggestion: *"The Design Studio combines AI, CAD, and digital fabrication to streamline craft design and production."*
- Subject-verb agreement errors:

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o   *"The virtual workspace enable designers to experiment freely."* → Should be *"The virtual workspace enables designers to experiment freely."*

3. Repetition and Redundancy

- The challenges of craft design (cost, complexity, technology access) are repeated in multiple sections—consider consolidating.
- The importance of integrating with WP3 Craft-Specific Simulators is mentioned multiple times—streamline for clarity.

4. Table of Contents Alignment

- Some section numbers (e.g., 2.3.2, 3.2.5) do not match their corresponding titles in the Table of Contents—verify for consistency.
- Ensure figures, tables, and references are correctly numbered and consistently placed in the text.

5. Clarity in Methodology

- The methodology for user needs assessment (questionnaires, workshops, RCI interviews) could be structured in a clearer, step-by-step format.
- The rationale for choosing glassblowing as a test case should be stated explicitly in the introduction.
- The workflow of integrating CAD with 3D printing could benefit from workflow diagrams or visual explanations.

6. Figures and References

- Some figures lack captions or proper references in the text—ensure all visuals are correctly labeled and explained.
- Some citations appear incomplete or duplicated (e.g., "[6] [6]")—standardize the reference format.
- Check all software/library references (e.g., Unity, Blender, Meta Quest SDK) for proper citation formatting.

7. Final Proofreading for Minor Typos

- Example typos:
  o   *"The system allows users to create and test their designs in a virtual enviroment."* → Should be *"environment."*
- Ensure consistent spacing in section titles and bullet points.

Assessment of D5.1

1. States its objectives, related subtask(s), and dependencies as specified in the Description of Work (DoW)

Rating :5

Comments: This deliverable aligns with Work Package 5 (WP5).

2. Meets the deliverable description and objectives as specified in the DoA

Rating :5

Comments: Yes, this deliverable successfully:

- Defines the scope, objectives, and technical foundation of the Design Studio.
- Develops initial wireframes and prototypes for validation.
- Integrates AI-driven design tools with craft-specific simulations.

3. Closely addresses the specific technical areas that the DoA describes for this deliverable

Rating :5

Comments: The deliverable effectively covers:

- Digital craft design workflows (CAD, AI, interactive simulations).
- 3D printing and manufacturing integration for prototyping.
- Design evaluation through immersive technologies (VR, AR).

4. Can be used by dependent deliverables as stated in the DoA

Rating   :5
Comments: -

5. Can be used for further outputs (papers, standards contributions, etc.)

Rating   :5
Comments: This deliverable contributes valuable insights for:

- Research publications on AI-driven craft design and digital fabrication.
- Standardization efforts in digital craft education and CAD integration.
- Industry applications in sustainable craft production and digital prototyping.

6. Advances the state-of-the-art

Rating   :5
Comments: D5.1 introduces key innovations by:

- Developing AI-powered CAD tools tailored for craft professionals.
- Integrating real-time simulation with 3D printing workflows.
- Enhancing craft design through immersive VR/AR interactions.
- Bridging digital design methodologies with traditional craftsmanship.

D5.2. Community Portal -M18

Assessment of D5.2

1. States its objectives, related subtask(s) and dependencies, as specified in the Description of Work

Rating :5

Comments: 4
Section 1

There is no mention of the portal being responsive. We tested the portal on a mobile device and recommend a review (the first menu with white font is not very visible). Generally, we suggest rethinking the presence of two menus, integrating the second one as a sub-menu of the first one.

Section 2.3

We suggest to better clarify the difference, if present, between the Community Portal and Craeft.

Section 2.4

It would be important to elaborate on how the users' needs were identified. Was a requirements analysis conducted with various user communities? If so, it should be described. Additionally, it should be specified whether a User-Centered Design approach was adopted. If so, it should be explicitly mentioned and described; if not, the reason for not adopting it should be explained. Generally speaking, we suggest providing more details on the design rationale. The sections of the portal are well described, but there is no explanation for why they were created in this particular way.

Section 3.1

From a usability point of view, it would be advisable to include the "side menu" as a submenu of the main menu. The following link provides heuristics for creating usable menus: https://www.nngroup.com/articles/menu-design/. We recommend a review of the site in this regard.

Section 3.2

When clicking on the Objectives link, the Metodology link is mistakenly highlighted.

Section 3.4

The period at the end of the sentence is missing.

Section 3.7

In the "Crafts" menu, some pilots (e.g., Clay, Marble) lead to pages with additional submenus (Step by Step and Results), but these are not displayed correctly.

Section 3.8

We suggest checking the font (and the use of italic style) used in the subsections of each pilot to ensure consistency.

Section 3.9

Regarding the registration form, to improve its usability, we suggest informing the user immediately about the required password format to avoid an incorrect first entry and reduce interaction time with the page.

Section 3.12

Are there any bureaucratic or administrative barriers preventing us from linking the deliverables that have already been submitted? Otherwise, it would be interesting to publish them on the project website as well.

Section 5

Another step we suggest is making the portal accessible.

One general question: is analyzing the number and type of users accessing the portal a (present or future) goal of this deliverable?

2. Meets the deliverable description and objectives as specified in the DoA

Rating   :4
Comments: -

3. Closely addresses the specific technical areas that the DoA describes for this deliverable

Rating   :4
Comments: 4

4. Can be used by dependent deliverables as stated in the DoA

Rating :4
Comments:-

5. Can be used for further outputs (papers, standards contributions etc.)

Rating: 3
Comments: -

6. Advances the state-of-the-art

Rating :3
Comments: -

WP6

D6.1. P1 - Education & Training, methodology and results – M24

This deliverable presents the results of Pilot 1, an educational experiment that integrates digital tools into traditional craft education, focusing on glassblowing, porcelain, marble carving, silversmithing, woodcarving, and tapestry. The experiment explores co-created user scenarios and pedagogical methodologies, assessing the impact of e-learning platforms, VR simulations, and digital documentation tools in craft training.

The document details methodologies, participant feedback, and quantitative and qualitative evaluations of the digital tools' effectiveness. The results indicate that while e-learning platforms are perceived as useful for memorization and revision, VR simulations are valued for exploration but need improvements in realism and interactivity. The experiment also highlights the importance of balancing digital learning with hands-on experience, ensuring that digital tools enhance rather than replace traditional workshop training.

A major finding is that learners approach digital tools pragmatically, using them when they add clear value but maintaining a strong attachment to material-based learning. The deliverable also provides insights into how different RCIs (Representative Craft Instances) adapted digital tools to their specific educational contexts, offering recommendations for future improvements in educational integration and tool development.

There are some comments to be considered before submission:

1. Consistency in Terminology and Formatting

- -The terms "Pilot 1 experiment", "education and training pilot", and "glassblowing experiment" are used interchangeably .Consider standardizing.
- -The document refers to "Craeft digital tools", "Craeft platform", and "Craeft Authoring Platform" (CAP) inconsistently/ Ensure uniformity.
- -Ensure that abbreviations such as VR (Virtual Reality), XR (Extended Reality), and RCI (Representative Craft Instance) are consistently defined and used.

2. Grammar and Syntax Adjustments

- Some sentences are overly complex and could be restructured for clarity. Example: -"The experiment was carried out during personal project time so as not to penalise the learners in the TA cohort in their learning of the subjects assessed in the CPC." -Suggestion: "To avoid disrupting CPC coursework, the experiment took place during personal project time."
- Subject-verb agreement issues appear in places: "The tools is perceived and used in a very pragmatic way..." Should be "The tools are perceived and used in a very pragmatic way..."

3. Repetition and Redundancy

- The advantages and limitations of VR tools are mentioned repeatedly across sections. Consider consolidating them.
- Discussions on digital tool adoption and student perceptions appear in both methodology and results sections. Streamline to avoid redundancy.

4. Table of Contents Alignment

- Some section numbers in the Table of Contents do not match their corresponding headings.
- Sections 6.2.1 and 6.2.2 are misnumbered. Ensure consistency.

5. Clarity in Methodology

- The methodology for qualitative data analysis could be clarified with an explicit step-by-step breakdown.
- The rationale for selecting representative craft instances (RCIs) could be more explicitly stated—why were these specific RCIs prioritized?

6. Figures and References

- Some figures lack captions or are inconsistently numbered—ensure all images, tables, and graphs are clearly labeled.

7. Final Proofreading for Minor Typos

Example typos:

- "The apprentices thoroughly tested the workshop simulation, and they were most interesting in the workshop tour section..." Should be "The apprentices thoroughly tested the workshop simulation and were most interested in the workshop tour section...". Double-check the use of quotation marks in participant feedback sections for consistency.

Deliverable assessment:

1. States its objectives, related subtask(s) and dependencies, as specified in the Description of Work
Rating:5
Comments:
This deliverable aligns with Work Package 6 (WP6) by reporting on education and training methodologies developed through Pilot 1. It supports T6.1 (Development of educational content)

2. Meets the deliverable description and objectives as specified in the DoA

Rating:5
Comments:
Yes, this deliverable fulfills its purpose by:

- Testing digital learning tools (e-learning platform, VR glassblowing simulator) in real-world training environments.
- Analyzing pedagogical effectiveness through qualitative and quantitative assessments. Refining co-creation methodologies to enhance digital education tools.

3. Closely addresses the specific technical areas that the DoA describes for this deliverable
Rating:5
Comments: The deliverable successfully covers:

- Digital tool integration in traditional craft education.
- Comparative analysis of digital vs. traditional teaching methodologies.
- Impact assessment of digital learning tools on student engagement and skill acquisition.

4. Can be used by dependent deliverables as stated in the DoA

Rating:5
Comments:
-

5. Can be used for further outputs (papers, standards contributions etc.)

Rating:5
Comments:
This deliverable offers insights valuable for:

- Academic publications on craft education, digital training, and cognitive learning models.
- Standardization efforts for integrating VR and digital learning into formal craft education.
- Industry adoption of e-learning and VR training in vocational education.

6. Advances the state-of-the-art

Rating:5
Comments:
This deliverable provides new contributions by:

- Developing and testing hybrid learning methodologies that blend traditional craft training with digital tools.
- Evaluating VR for craft training highlighting key usability, realism, and pedagogical challenges.
- Documenting real-world student reactions and expectations to guide future development of digital craft education tools.

D6.2. P2 - Design, methodology and results – M24

This deliverable presents the Design Pilot, an initiative exploring the integration of digital tools with traditional craft practices. It examines how computational tools, parametric design, VR, AR, and motion capture can be leveraged to enhance craft-making, innovation, and knowledge transfer. The document details the state of the art, methodology, technological advancements, and case studies across multiple Representative Craft Instances (RCIs), including porcelain, tapestry, glassblowing, woodcarving, marble carving, and silversmithing.

The state-of-the-art review traces the historical intersections of craft and design from 19th-century industrialization to contemporary applications of digital fabrication and extended reality. The methodology follows a co-creation process, where designers, artisans, and technologists collaborate to develop hybrid workflows that preserve cultural heritage while enabling innovation.

The case studies showcase how design and craft collaboration leads to new applications, such as gesture-based interaction in porcelain design, motion capture for weaving, and interactive glassblowing simulations. The deliverable concludes by emphasizing how these insights can be scaled for future applications, ensuring that digital and traditional practices co-evolve sustainably.

1. Consistency in Terminology and Formatting

- The terms "Design Pilot," "Digital Craft Pilot," and "CRAFT Pilot" are used inconsistently—consider standardizing.
- Ensure uniform use of abbreviations (VR, AR, RCI, CNC, etc.), defining them at first mention.
- Some sections use "extended reality" (XR) interchangeably with "immersive technology"—clarify the preferred term.

2. Grammar and Syntax Adjustments

- Some long and complex sentences could be rewritten for clarity. Example:
  - *"The pilot was carried out in collaboration with designers and artisans, fostering interactions that allowed for the exploration of both digital and traditional methodologies, with particular attention paid to the synergies between material-based and computational approaches."*
  - Suggestion: *"The pilot fostered collaboration between designers and artisans, enabling exploration of digital and traditional methods while emphasizing synergies between material and computational approaches."*
- Subject-verb agreement errors:
  - *"The methodology and tools is designed to…"* → Should be *"The methodology and tools are designed to…"*

3. Repetition and Redundancy

- Discussions on the balance between digital tools and traditional craft methods appear multiple times—consider consolidating them.

- The historical review of craft and design (Arts & Crafts Movement, Bauhaus, etc.) repeats points across different sections—streamline for clarity.

4. Table of Contents Alignment

- Some section numbers are inconsistent with the Table of Contents.
- Section 4.1 ("Technological Innovation") is referenced but appears incomplete—verify content alignment.

5. Clarity in Methodology

- The methodology for mapping design occurrences in RCIs could be structured more explicitly, breaking down steps and criteria used for analysis.
- The description of workshop formats could benefit from visual timelines or structured tables outlining different approaches.
- The role of motion capture and VR in gesture analysis needs more concrete examples or visuals to support explanations.

6. Figures and References

- Some figures lack captions or clear references in the text—ensure each figure is labeled and described.
- Ensure all citations use a consistent format—some appear incomplete (e.g., *"[6] [6]"*).
- External sources, such as museum archives, industry reports, or digital tool specifications, could strengthen references.

7. Final Proofreading for Minor Typos

- Example typos:
  - *"The digital tools explored in this pilot have been developed considering accessibility."* → Should be *"…have been developed with consideration for accessibility."*
- Check for missing or duplicated words in longer sentences.

Assessment of Deliverable D6.2

1. States its objectives, related subtask(s), and dependencies as specified in the Description of Work (DoW)

Rating:5
Comments: This deliverable aligns with Work Package 6 (WP6) by documenting pilot studies that integrate digital tools into traditional craft training.

2. Meets the deliverable description and objectives as specified in the DoA

Rating:5
Comments: Yes, this deliverable achieves its objectives by:

- Providing a structured methodology for integrating digital design tools into craft workflows.
- Testing co-creation processes between designers, artisans, and technologists.

- Demonstrating real-world applications through case studies across RCIs.
- Outlining lessons learned and future directions for digital-physical integration.

3. Closely addresses the specific technical areas that the DoA describes for this deliverable

Rating:5
Comments: The deliverable successfully covers:

- Digital tool adoption in traditional craft settings (e.g., motion capture for gesture documentation).
- Educational integration of emerging technologies (e.g., VR-based skill training).
- Material-driven digital workflows (e.g., adaptive design in porcelain and glass).
- Sustainability and preservation challenges (e.g., balancing automation with artisanal knowledge).

4. Can be used by dependent deliverables as stated in the DoA

Rating:5
Comments: The findings of D6.2 will directly inform:

- D6.3 (Final Report on Digital Craft Training Methodologies) for refining educational frameworks.
- D3.2 (Enhanced VR-Based Training) by incorporating lessons from motion capture and immersive design.
- D4.1 (Digital Craft Library) by contributing structured documentation and case study insights.

5. Can be used for further outputs (papers, standards contributions, etc.)

Rating:5
Comments: This deliverable provides valuable contributions for:

- Academic publications on digital craft training, design education, and material intelligence.
- Standardization efforts in craft documentation, digital preservation, and VR-based training.
- Industry applications where hybrid craft-design methodologies can be adopted.

6. Advances the state-of-the-art

Rating:5
Comments: D6.2 offers significant contributions by:

- Introducing motion capture and VR as tools for craft knowledge transmission.
- Developing hybrid workflows that preserve tactile craft knowledge while embracing digital expansion.
- Highlighting co-creative methodologies that bridge artisanal knowledge and computational design.
- Providing a replicable framework for expanding digital-craft education across disciplines.

D6.3. P3 - Valorisation, methodology and results – M24

Overview of Deliverable D6.3 - Valorisation, Methodology, and Results

This deliverable presents the findings from Pilot 3, which explores the valorisation of craft products through cultural tourism, interactive experiences, digital storytelling, and AI-driven narratives. The project aims to expand economic opportunities for craft practitioners while maintaining the cultural significance of traditional crafts.

The document is divided into four main sections:

1. Introductory Crafting Experiences for Cultural Tourism and Distance Learning
   - Reports on workshops and methodologies used to develop craft-based cultural tourism activities.
   - Discusses how RCIs (Representative Craft Instances) like glass, marble, wood, and silver were integrated into cultural experiences.
   - Outlines how digital tools and hands-on demonstrations enhance education and visitor engagement.
2. Craft-Specific Games and Toys
   - Explores how playful interactions can enhance craft knowledge transmission.
   - Introduces projects like a papier mâché sculpting workshop, a chess-making initiative using traditional techniques, and storytelling-based craft performances.
3. RCI Digital Contextualisation
   - Proposes the development of digital product narratives using AI-generated storytelling.
   - Introduces an object recognition-based content collection form to enhance product visibility.
   - Links craft objects to historical narratives, maker profiles, and sustainability information.
4. Conclusions and Next Steps
   - Summarizes key findings from Pilot 3 and outlines plans for implementation, evaluation, and refinements in the next project phase.

The deliverable highlights how digital marketing strategies, immersive experiences, and AI-powered narratives can modernize craft valorisation while respecting authenticity and cultural heritage.

1. Consistency in Terminology and Formatting

- The term "Valorisation" is used inconsistently across sections (e.g., "value enhancement" or "promotion")—ensure uniformity.
- The abbreviations for AI, VR, AR, and CAP (Craeft Authoring Platform) should be consistently defined and used.
- The phrase "introductory crafting experiences" is sometimes referred to as "interactive experiences"—standardize the terminology.

2. Grammar and Syntax Adjustments

- Some long and complex sentences could be rewritten for clarity. Example:
   - *"The deliverable explores how digital tools and storytelling methods can support the economic viability of craft practices while maintaining their cultural significance."*

- o Suggestion: *"This deliverable examines how digital tools and storytelling can help sustain craft practices economically while preserving their cultural value."*
- Subject-verb agreement errors:
  - o *"The workshop were designed to..."* → Should be *"The workshop was designed to..."*

3. Repetition and Redundancy

- Discussions on the importance of AI-generated narratives appear in multiple sections—consider consolidating them.
- The role of the Craeft Authoring Platform (CAP) is mentioned repeatedly without adding new insights.

4. Table of Contents Alignment

- Some subsections (e.g., 2.3.2 and 2.3.3) are misnumbered—ensure alignment with the Table of Contents.
- Section titles (e.g., "Performing Craft-Specific Activities") are inconsistent between the Table of Contents and the document body.

5. Clarity in Methodology

- The methodology for stakeholder engagement in crafting experiences could be presented in a step-by-step format.
- The rationale for choosing specific RCIs for digital contextualisation should be explicitly stated.
- The Impact Playbook methodology (used for impact assessment) is well described but could benefit from real-world implementation examples.

6. Figures and References

- Some figures lack captions or are inconsistently numbered—ensure all visual elements are properly referenced.
- Several citations appear incomplete or duplicated (e.g., "[6] [6]")—verify formatting consistency.

7. Final Proofreading for Minor Typos

- Example typos:
  - o *"The chess project aims at creating instructions..."* → Should be *"The chess project aims to create instructions..."*
- Check for missing or extra spaces in section titles and bullet points.

Assessment of Deliverable D6.3

1. States its objectives, related subtask(s), and dependencies as specified in the Description of Work (DoW)

Rating:5
Comments:This deliverable aligns with Work Package 6 (WP6) by focusing on valorisation strategies for craft products.

2. Meets the deliverable description and objectives as specified in the DoA

Rating:5
Comments: Yes, this deliverable fulfills its objectives by:

- Developing hands-on and digital cultural tourism experiences.
- Exploring gamification (craft-based games and toys) to engage diverse audiences.
- Introducing AI-powered storytelling for craft product contextualisation.

3. Closely addresses the specific technical areas that the DoA describes for this deliverable

Rating:5
Comments: The deliverable effectively covers:

- Craft knowledge transmission via interactive experiences and digital tools.
- AI-based storytelling for product marketing and cultural heritage preservation.
- Sustainability strategies for crafts through digital valorisation techniques.

4. Can be used by dependent deliverables as stated in the DoA

Rating:5
Comments: -

5. Can be used for further outputs (papers, standards contributions, etc.)

Rating:5
Comments: This deliverable contributes valuable insights for:

- Academic research on digital craft valorisation, AI-driven storytelling, and immersive tourism.
- Standards development for digital documentation and certification of craft products.
- Industry applications in e-commerce, cultural tourism, and creative industries.

6. Advances the state-of-the-art

Rating:5
Comments: D6.3 introduces novel approaches by:

- Bridging craft valorisation with AI-powered digital storytelling.
- Developing gamified and interactive educational tools for crafts.
- Enhancing digital marketing strategies for crafts through contextualised narratives.
- Integrating real-world craft experiences with digital engagement models.

D6.4. P4 - Community, methodology and results – M24

This deliverable presents the CRAEFT Community Forum Pilot, a digital platform for knowledge-sharing, collaboration, and networking within the European craft ecosystem. Initially structured around material-based categories, the forum has been redesigned around five thematic pillars:

1. Understanding & Valorisation – Highlighting the cultural, social, and economic value of crafts.
2. Authenticity & Safeguard – Addressing the protection of craftsmanship and territorial heritage.
3. Transmission & Training – Exploring education, skill preservation, and certification models.
4. Economics & Business Models – Promoting sustainable business practices and industry innovation.
5. Documentation & Archiving – Focusing on advanced techniques for craft preservation.

The forum, hosted on madineurope.eu, provides a user-friendly, social-media-inspired platform to encourage participation. The deliverable details the forum's development, restructuring, and implementation, including its design, privacy and security policies, and engagement strategy. It highlights the integration of the forum into existing craft networks, ensuring long-term sustainability beyond the project's funding period.

The pilot aims to serve as a central hub for discussions, partnerships, and dissemination of EU-funded craft-related initiatives, such as CRAFTTOUR, Colour4Crafts, Hephaestus, and MOSAIC. Future steps include testing, user engagement campaigns, and cross-project collaborations.

Review of Deliverable D6.4

1. Consistency in Terminology and Formatting

- The forum is referred to as "CRAEFT Community Forum", "Communities Forum", and "CRAEFT Communities"—choose a single, consistent name.
- The five forum pillars should always be listed in the same order for consistency.
- The term "Geographical Indications (GIs)" is defined in the abbreviations list but appears inconsistently throughout the document.

2. Grammar and Syntax Adjustments

- Some long sentences could be rewritten for clarity. Example:
  - *"The forum was restructured to ensure its sustainability beyond the Craeft funding period while maintaining a connection to existing networks to drive participation."*
  - Suggestion: *"The forum was restructured to remain sustainable beyond the Craeft funding period while leveraging existing networks for participation."*
- Subject-verb agreement errors:
  - *"The thematic pillars ensures broad engagement."* → Should be *"The thematic pillars ensure broad engagement."*

3. Repetition and Redundancy

- The purpose of the forum is restated multiple times across sections—consider streamlining.
- The role of madineurope.eu is explained in both the restructuring and sustainability sections—these could be merged.

4. Table of Contents Alignment

- Some sections do not match the Table of Contents—check numbering for 5.1 (Wireframe) and 5.2 (Navigation).
- Ensure "Privacy and Security" (Section 6) is consistently referenced throughout the document.

5. Clarity in Methodology

- The rationale for moving from material-based categorization to thematic pillars could be more concisely stated in the introduction.
- The decision to integrate the forum with madineurope.eu is well-explained but could use concrete examples of expected benefits (e.g., expected increase in user engagement, visibility).

6. Figures and References

- Some figures (e.g., Figures 5, 6, and 7 on wireframes and navigation) lack captions or descriptions.
- Several citations appear incomplete or duplicated—e.g., *"[6] [6]"* in references to external reports.

7. Final Proofreading for Minor Typos

- Example typos:
  - *"The forum aims to facilite cross-disciplinary discussions."* → Should be *"facilitate"*.
  - Check for missing spaces in section titles and headings.

Assessment of Deliverable D6.4

1. States its objectives, related subtask(s), and dependencies as specified in the Description of Work (DoW)

Rating:5
Comments: This deliverable aligns with Work Package 6 (WP6.

2. Meets the deliverable description and objectives as specified in the DoA

Rating:5
Comments: Yes, this deliverable fulfills its objectives by:

- Redesigning the forum to support broader engagement and sustainability.
- Creating a platform for interdisciplinary discussions on crafts, education, and policy.
- Providing a clear roadmap for content creation, moderation, and outreach.

3. Closely addresses the specific technical areas that the DoA describes for this deliverable

Rating:5
Comments: The deliverable effectively covers:

- Knowledge-sharing infrastructure via thematic pillars and discussion tools.
- User engagement mechanisms such as personalized profiles and discussion threads.
- Sustainability and outreach strategies integrating existing craft networks and EU-funded initiatives.

4. Can be used by dependent deliverables as stated in the DoA

Rating:5
Comments: -

5. Can be used for further outputs (papers, standards contributions, etc.)

Rating:5
Comments: This deliverable provides a framework for:

- Research publications on community-driven craft knowledge sharing.
- Policy recommendations for digital heritage engagement models.
- Cross-project collaborations between EU-funded initiatives on craft education and sustainability.

6. Advances the state-of-the-art

Rating:5
Comments: D6.4 contributes to digital heritage research by:

- Creating a cross-disciplinary digital space for craft professionals, researchers, and policymakers.
- Redefining engagement strategies for online craft communities through thematic structuring.
- Integrating a sustainable, multi-stakeholder approach to craft documentation and education.

WP7

D7.1 Communication Plan and Activities – M24

This deliverable presents the Craeft Communication Plan, outlining the project's communication strategy, target audiences, key messages, and dissemination channels. The plan ensures that the communication activities align with the project's objectives and interdisciplinary nature, effectively reaching stakeholders in cultural heritage, academia, technology, and the craft industry.

The document is structured into key sections:

1. Introduction – Defines the differences between communication and dissemination, explaining their complementary roles in engaging audiences and spreading project knowledge.
2. Situation Analysis – Examines the current landscape of traditional craft communication, identifying challenges related to interdisciplinary engagement and terminology standardization.
3. Communication Values, Objectives, and Target Audiences – Establishes guiding principles for Craeft's messaging and identifies core stakeholder groups (e.g., craft professionals, researchers, policymakers).
4. Implementation Plan – Details communication channels (website, newsletters, social media, community portal) and their specific goals.
5. Visual Identity – Explains the development of the Craeft logo and branding, including its conceptual inspiration from cognitive science and making activities.
6. Internal Communication Management – Defines reporting rules, partner responsibilities, and internal coordination mechanisms to ensure message consistency.
7. Communication Strategy and Activities – Summarizes communication efforts in the first and second years, emphasizing key themes like digital storytelling, immersive craft experiences, and interdisciplinary collaboration.
8. Recommendations – Offers insights based on Craeft's communication experiences, suggesting best practices for EU-funded project dissemination.

The deliverable includes a detailed appendix documenting communication activities, such as social media engagement, newsletters, live events, and collaborative initiatives. It highlights the importance of strategic messaging, engagement analytics, and adaptive communication approaches to ensure the project's impact.

1. Consistency in Terminology and Formatting

- The document uses "communication" and "dissemination" in different contexts—ensure these terms are always clearly distinguished.
- The abbreviations AR/VR, CH (Cultural Heritage), ICH (Intangible Cultural Heritage) should be consistently introduced at first mention.
- The use of "social media campaign" vs. "digital outreach" is inconsistent—align terminology throughout the document.

2. Grammar and Syntax Adjustments

- Some sentences are overly complex and could be simplified for readability. Example:

- o *"The communication strategy aims to ensure that the project messages reach all relevant stakeholders while maintaining coherence with the project's interdisciplinary nature."*
  - o Suggestion: *"The communication strategy ensures that project messages reach stakeholders while staying aligned with its interdisciplinary approach."*
- Subject-verb agreement errors:
  - o *"The communication channels ensures broad engagement."* → Should be *"The communication channels ensure broad engagement."*

3. Repetition and Redundancy

- The role of interdisciplinary communication challenges is discussed in multiple sections—consider merging to avoid redundancy.
- The importance of storytelling in communication is reiterated in different sections—consolidate these insights into a single structured discussion.

4. Table of Contents Alignment

- Some section numbers do not match the Table of Contents—verify numbering for Sections 4.1 and 7.2.
- Ensure "Recommendations" (Section 8) matches its references elsewhere in the document.

5. Clarity in Methodology

- The implementation plan for communication activities could be presented in a more structured timeline format for clarity.
- The methodology behind audience segmentation and engagement strategies should be elaborated with specific examples of outreach success.

6. Figures and References

- Some figures lack captions or clear descriptions—ensure all visuals are properly labeled.
- Several citations appear incomplete or duplicated (e.g., "[6] [6]")—verify consistency in the reference list.
- Links to project communication resources (e.g., shared spreadsheets, social media accounts) should be checked for accessibility.

7. Final Proofreading for Minor Typos

- Example typos:
  - o *"The website provides access to the latests project updates."* → Should be *"latest"*.
- Check for spacing and alignment issues in tables and bullet points.

Assessment of Deliverable D7.1:

1. States its objectives, related subtask(s), and dependencies as specified in the Description of Work (DoW)

This deliverable aligns with Work Package 7 (WP7).

2. Meets the deliverable description and objectives as specified in the DoA

Rating:5

Comments: Yes, this deliverable achieves its objectives by:

- Establishing a structured communication strategy for Craeft.
- Identifying key audiences and their engagement mechanisms.
- Defining best practices for partner collaboration in communication activities.

3. Closely addresses the specific technical areas that the DoA describes for this deliverable

Rating:5

Comments: The deliverable successfully covers:

- Strategic communication approaches for cultural heritage and craft communities.
- Interdisciplinary collaboration and knowledge dissemination methodologies.
- Utilization of digital media, storytelling, and branding in project visibility.

4. Can be used by dependent deliverables as stated in the DoA

Rating:5

Comments: The findings of D7.1 will directly inform:

- D7.2 (Dissemination Plan) by refining outreach methods.
- D6.4 (Community Forum) for integrating communication strategies into stakeholder engagement.
- D8.7 (Final Risk Assessment) by evaluating potential risks in communication effectiveness.

5. Can be used for further outputs (papers, standards contributions, etc.)

Rating:5

Comments: This deliverable supports:

- Academic research on digital communication in heritage and craft education.
- Policy recommendations for EU-funded project dissemination.
- Industry applications in cultural heritage marketing and outreach.

6. Advances the state-of-the-art

Rating:5

Comments: D7.1 contributes innovations by:

- Developing a structured, interdisciplinary approach to craft communication.
- Integrating social media, digital storytelling, and traditional dissemination techniques.
- Providing a replicable model for EU project communication planning.

D7.2 Dissemination Plan and Activities – M24

Overview of Deliverable D7.2 - Dissemination Plan and Activities

This deliverable, D7.2 - Dissemination Plan and Activities, outlines the communication and dissemination strategy of the CRAEFT project. It serves as a living document that is updated periodically to track dissemination efforts and maximize project impact.

The deliverable focuses on:

- Academic publications and the Open Access policy, ensuring research results are widely accessible.
- Synergies with other European and nationally funded projects, such as MOSAIC, CHARTER, ARACHNE, and CULTURALITY.
- Participation in conferences, workshops, and events to engage stakeholders and the public.
- Publication planning and the organization of special journal issues to consolidate and extend project impact.
- The CRAFTOUR initiative, a joint effort with sister projects to enhance dissemination and policy recommendations for craft preservation.

The deliverable includes an appendix listing potential academic publication venues and a log of dissemination activities, ensuring transparency and continuous improvement in the project's outreach efforts.

1. Consistency in Terminology and Formatting

- The terms "dissemination activities," "communication actions," and "outreach efforts" are used interchangeably—ensure consistent terminology.
- The abbreviation ORDP (Open Research Data Pilot) should be defined at first mention and then used consistently.
- Ensure uniform formatting in section headings, especially in lists and tables.

2. Grammar and Syntax Adjustments

- Some long sentences could be restructured for clarity. Example:
    - *"The dissemination plan aims to ensure that project findings are widely shared among relevant stakeholders, including academia, policymakers, and industry professionals."*
    - Suggestion: *"The dissemination plan ensures project findings reach academia, policymakers, and industry professionals."*
- Subject-verb agreement errors:
    - *"The dissemination activities includes presentations and journal publications."* → Should be *"The dissemination activities include..."*

3. Repetition and Redundancy

- The importance of Open Access publishing is repeated in different sections—consider consolidating.

- The description of synergies with European projects could be streamlined by focusing on unique contributions of each collaboration.

4. Table of Contents Alignment

- Some subsections (e.g., 2.3, 3.2.4) are misaligned—verify accuracy in the Table of Contents.
- Ensure figures, tables, and appendices are properly numbered and referenced.

5. Clarity in Methodology

- The process for updating dissemination logs should be clearly structured with step-by-step guidelines.
- The selection criteria for dissemination events and academic publications could be explicitly outlined.
- The role of each partner in dissemination activities should be more systematically described.

6. Figures and References

- Some figures lack captions or are not properly referenced in the text—ensure consistency.
- Some citations appear incomplete or duplicated (e.g., "[6] [6]")—standardize the reference format.
- Check hyperlinks and ensure all references to online repositories (e.g., Zenodo) are active and accurate.

7. Final Proofreading for Minor Typos

- Example typos:
  - *"The project will use a repository for data sharing and dissemination of research resutls."* → Should be *"results."*
- Ensure spacing and formatting consistency in lists and bullet points.

Assessment of Deliverable D7.2:

1. States its objectives, related subtask(s), and dependencies as specified in the Description of Work (DoW)

Rating:5

Comments: This deliverable aligns with Work Package 7 (WP7) by outlining:

- T7.1 (Dissemination and Communication Strategy) through a structured dissemination plan.
- T7.2 (Stakeholder Engagement and Networking) by detailing collaborations with other projects. Dependencies include:
- WP2 (Research and Data Management) for Open Access publishing.
- WP6 (Educational Applications) for knowledge transfer in craft training initiatives.

2. Meets the deliverable description and objectives as specified in the DoA

Rating:5

Comments: Yes, this deliverable successfully:

- Establishes a structured dissemination strategy.
- Documents academic and public outreach activities.
- Ensures compliance with Open Access policies and EU dissemination guidelines.

3. Closely addresses the specific technical areas that the DoA describes for this deliverable

Rating:5

Comments: The deliverable effectively covers:

- Publication strategy and Open Access policies.
- Collaboration with EU-funded and national projects.
- Participation in academic and public events.

4. Can be used by dependent deliverables as stated in the DoA

Rating:5

Comments: -

5. Can be used for further outputs (papers, standards contributions, etc.)

Rating:5

Comments: This deliverable contributes valuable insights for:

- Future policy recommendations on craft preservation.
- Best practices in Open Access dissemination.
- Standards for research visibility and impact assessment.

6. Advances the state-of-the-art

Rating:5

Comments: -

D7.3 Networking and Coordination – M24

Overview of Deliverable D7.3 - Networking and Coordination

This deliverable, D7.3 - Networking and Coordination, outlines the networking and collaboration efforts within the CRAEFT project, detailing the strategies, stakeholder mapping, and coordination mechanisms employed to enhance the project's impact. The report highlights how networking plays a crucial role in integrating the diverse fields of craft, technology, education, and cultural heritage, ensuring sustainable knowledge exchange and collaboration across sectors.

Key aspects covered include:

- Stakeholder Mapping: Identification of key actors in Social Sciences, Technology, Cultural Heritage, Creative Sectors, and Education who contribute to the project.
- Project Clusters: Collaborations with EC-funded projects such as HEPHAESTUS, Colour4CRAFTS, Track4Crafts, MOSAIC, and CHARTER, ensuring alignment with broader EU initiatives.
- Participation in Key Events: Engagement in workshops, conferences, and summits, including the CRAFTOUR Conference, WCCE Annual Meeting, and ELNN Summit, to strengthen industry and academic ties.
- Coordination Framework: Defines the roles and responsibilities of project partners in driving networking efforts across their areas of expertise.
- Policy and Future Planning: Initiatives such as policy recommendation sessions, a scientific roundtable in Brussels, and collaboration with advocacy groups to ensure long-term impact.

This deliverable demonstrates the project's proactive approach to establishing a strong, interdisciplinary network that enhances the sustainability of its outputs beyond the consortium.

1. Consistency in Terminology and Formatting

- The terms "networking activities," "coordination mechanisms," and "collaborative efforts" should be standardized across the document.
- The abbreviation CRAFTOUR should be consistently formatted across sections.
- Ensure uniform formatting of project names (e.g., MOSAIC, HEPHAESTUS, CULTURALITY) when referenced in different contexts.

2. Grammar and Syntax Adjustments

- Some long sentences could be simplified for clarity. Example:
  o *"The project engages with stakeholders to ensure a broad impact, establishing synergies across various domains to support innovation and sustainability."*
  o Suggestion: *"The project engages stakeholders to enhance impact, fostering synergies for innovation and sustainability."*
- Subject-verb agreement errors:
  o *"The coordination activities ensures efficient collaboration."* → Should be *"The coordination activities ensure efficient collaboration."*

3. Repetition and Redundancy

- The benefits of interdisciplinary collaboration are described in multiple sections—consider merging related discussions.
- The importance of policy recommendations for craft preservation is repeated—streamline to avoid redundancy.

4. Table of Contents Alignment

- Some section numbers (e.g., 2.3.4, 3.2.2) are misaligned—verify accuracy in the Table of Contents.
- Ensure all figures, tables, and references are correctly numbered and cross-referenced in the text.

5. Clarity in Methodology

- The stakeholder engagement strategy should include a clearer step-by-step description of how interactions are structured.
- The criteria for selecting collaborative projects should be explicitly stated.
- The process of integrating recommendations from networking sessions into project outputs should be more systematically outlined.

6. Figures and References

- Some figures lack captions or proper references in the text—ensure they are clearly described.
- Some citations appear incomplete or duplicated (e.g., "[6] [6]")—standardize reference formatting.
- Ensure that all external references (e.g., EU policy reports, project documents) are correctly cited.

7. Final Proofreading for Minor Typos

- Example typos:
    - *"The project will ensure engagement with craft stakeholders at the European leval."* → Should be *"level."*
- Check for spacing inconsistencies in bullet points and section titles.

Assessment of Deliverable D7.3

1. States its objectives, related subtask(s), and dependencies as specified in the Description of Work (DoW)

Rating:5

Comments: This deliverable aligns with Work Package 7 (WP7)

2. Meets the deliverable description and objectives as specified in the DoA

Rating:5

Comments: Yes, this deliverable successfully:

- Defines a structured networking framework.
- Documents key collaborations and participation in external projects.
- Presents a forward-looking plan for policy advocacy and knowledge dissemination.

3. Closely addresses the specific technical areas that the DoA describes for this deliverable

Rating:5

Comments: The deliverable effectively covers:

- Stakeholder engagement and interdisciplinary collaboration.
- Coordination of networking events and knowledge-sharing initiatives.
- Alignment with European policy recommendations on craft heritage and sustainability.

4. Can be used by dependent deliverables as stated in the DoA

Rating:5

Comments: The findings in D7.3 will support:

- D7.4 (Final Dissemination and Exploitation Report) by providing a record of networking efforts and impact tracking.
- D6.1 (Education and Training Applications) by leveraging stakeholder engagement insights.
- D5.1 (Craft Design Revisited) by ensuring cross-sector collaboration on digital craft tools.

5. Can be used for further outputs (papers, standards contributions, etc.)

Rating:5

Comments: This deliverable contributes valuable insights for:

- Research publications on collaborative networks in craft preservation and digital innovation.
- Policy recommendations for integrating traditional crafts into European cultural policies.
- Standardization initiatives on best practices for interdisciplinary collaboration.

6. Advances the state-of-the-art

Rating:5

Comments: D7.3 introduces key innovations by:

- Developing a structured, multi-stakeholder approach to networking in craft research.
- Creating policy engagement strategies that promote craft sustainability.
- Integrating networking efforts with emerging digital tools and educational frameworks.

D7.4 Exploitation Plan and Activities – M24

This deliverable, D7.4 - Exploitation Plan and Activities, outlines the exploitation strategy for the CRAEFT project, detailing how project results will be leveraged for academic, commercial, and societal impact. It provides a structured approach to identifying exploitable results, mitigating risks, and ensuring that the outcomes are sustainable and beneficial beyond the project's duration.

Key aspects covered include:

- Identification of exploitable results per Work Package (WP), categorizing results as technological innovations, methodologies, or knowledge assets.
- Definition of Intellectual Property Rights (IPR) ownership, outlining a joint exploitation plan and potential third-party utilization.
- Market potential analysis, evaluating the commercial viability of digital craft tools, simulation technologies, and educational frameworks.
- Risk assessment and mitigation measures, ensuring that barriers to exploitation (e.g., adoption challenges, regulatory constraints) are addressed.
- Collaboration strategies with stakeholders, including craft communities, technology developers, policymakers, and educational institutions.

The deliverable emphasizes a flexible and evolving exploitation plan, which will be updated as the project progresses, incorporating feedback from industry partners, cultural heritage institutions, and policymakers.

1. Consistency in Terminology and Formatting

- The terms "exploitation strategy," "exploitation framework," and "commercialization plan" appear interchangeably—ensure consistency.
- The abbreviation IPR (Intellectual Property Rights) should be clearly defined at its first mention and used consistently throughout.
- Ensure uniform formatting for project names (e.g., "CRAEFT," "Europeana," "Craft Ontology (CrO)") across sections.

2. Grammar and Syntax Adjustments

- Some long and complex sentences could be rewritten for clarity. Example:
  - *"The exploitation plan describes how different exploitable results will be leveraged for both commercial and non-commercial purposes, ensuring sustainability and maximum impact."*
  - Suggestion: *"The exploitation plan outlines how project results will be used commercially and non-commercially to ensure sustainability and impact."*
- Subject-verb agreement errors:
  - *"The exploitation activities ensures the sustainability of results."* → Should be *"The exploitation activities ensure the sustainability of results."*

3. Repetition and Redundancy

- The importance of IPR management is discussed multiple times—consider consolidating these references.
- The section on market potential repeats some content from the innovation descriptions—streamline to avoid redundancy.

4. Table of Contents Alignment

- Some subsections (e.g., 3.2.3, 4.1.2) are misaligned—verify their numbering and references in the Table of Contents.
- Ensure figures, tables, and appendices are correctly numbered and consistently placed in the text.

5. Clarity in Methodology

- The process for evaluating market potential should be more structured, possibly with a table listing key exploitation areas, potential adopters, and estimated impact.
- The workflow for licensing and third-party collaborations could be presented visually to clarify the decision-making process.
- The timeline for exploitation activities should be more explicitly outlined, showing key milestones and deliverables beyond the project's end date.

6. Figures and References

- Some figures lack captions or are not properly referenced in the text—ensure all visuals are clearly described.
- Some citations appear incomplete or duplicated (e.g., "[6] [6]")—standardize references.
- Verify that external references (e.g., EU policy guidelines, related research projects) are correctly cited.

7. Final Proofreading for Minor Typos

- Example typos:
    - *"The results will be levaraged for industry adoption."* → Should be *"leveraged."*
- Ensure consistent spacing in bullet points and lists.

Assessment of Deliverable

1. States its objectives, related subtask(s), and dependencies as specified in the Description of Work (DoW)

Rating:5

Comments: This deliverable aligns with Work Package 7 (WP7).

2. Meets the deliverable description and objectives as specified in the DoA

Rating:5

Comments: Yes, this deliverable successfully:

- Identifies key exploitable results across all work packages.
- Defines strategies for joint and individual exploitation.
- Provides a structured approach to IPR management and commercialization.

3. Closely addresses the specific technical areas that the DoA describes for this deliverable

Rating:5

Comments: The deliverable effectively covers:

- Exploitation opportunities for digital craft tools, simulations, and educational technologies.
- Market potential for emerging technologies in heritage preservation.
- Risk assessment for adoption and commercialization challenges.

4. Can be used by dependent deliverables as stated in the DoA

Rating:5

Comments: -

5. Can be used for further outputs (papers, standards contributions, etc.)

Rating:5

Comments: This deliverable contributes valuable insights for:

- Policy recommendations on sustainable exploitation of cultural heritage technologies.
- Best practices in IPR management for interdisciplinary research projects.
- Industry collaborations on digital craft preservation and training tools.

6. Advances the state-of-the-art

Rating:5

Comments: -

WP8

D8.5 Data Management Plan – M24

This deliverable, D8.5 - Data Management Plan (DMP), provides an updated overview of the data management strategies and policies implemented in the CRAEFT project. As the third version of the DMP, developed at Month 24 (M24), it incorporates updates on data collection, storage, security, and accessibility based on lessons learned during the project's second year.

Key aspects covered include:

- Data collection and categorization aligned with project objectives, including craft practice documentation, immersive training, and AI-based simulation datasets.
- FAIR data principles (Findability, Accessibility, Interoperability, and Reusability) ensuring structured, reusable, and interoperable datasets.
- Data security and ethical considerations, focusing on GDPR compliance, consent processes, and secure storage solutions (RAID infrastructure, Nextcloud, Zenodo).
- Open Access and collaboration platforms, ensuring data sharing within the consortium and the broader research community.
- Newly collected data (M24 update), including recordings from craft practitioners, motion capture datasets, and digitized materials.

The document reinforces CRAEFT's commitment to responsible data management by continuously refining its approach in alignment with Horizon Europe guidelines and best practices.

1. Consistency in Terminology and Formatting

- The terms "data management strategy," "data policy," and "data governance" are used interchangeably—ensure consistent terminology.
- The abbreviation FAIR (Findability, Accessibility, Interoperability, Reusability) should be clearly defined at first mention.
- Ensure uniform formatting for dataset names, repository references, and platform names (e.g., "Zenodo," "Nextcloud," "CAP").

2. Grammar and Syntax Adjustments

- Some long and technical sentences could be rewritten for clarity. Example:
    - *"The DMP ensures that all collected data follows strict security protocols, enabling compliance with ethical research standards."*
    - Suggestion: *"The DMP enforces security protocols to ensure ethical compliance in data collection and management."*
- Subject-verb agreement errors:
    - *"The security measures ensures data integrity."* → Should be *"The security measures ensure data integrity."*

3. Repetition and Redundancy

- The importance of FAIR data principles is described multiple times—consider consolidating.
- The role of collaboration platforms (Nextcloud, CAP, Zenodo) is explained in different sections—streamline the discussion.

4. Table of Contents Alignment

- Some subsections (e.g., 2.3.3, 3.1.2) are misaligned—verify accuracy in the Table of Contents.
- Ensure figures, tables, and appendices are correctly numbered and referenced.

5. Clarity in Methodology

- The criteria for dataset classification (e.g., public, restricted, internal use) should be clearly stated in tabular format.
- The workflow for storing and retrieving data could benefit from a visual diagram.
- The process for anonymization and GDPR compliance should be more explicitly described.

6. Figures and References

- Some figures lack captions or proper in-text references—ensure all visuals are clearly described.
- Some citations appear incomplete or duplicated (e.g., "[6] [6]")—standardize reference formatting.
- Verify all DOIs and external references to repositories (Zenodo, OpenAIRE) are properly linked.

7. Final Proofreading for Minor Typos

- Example typos:
  - *"The Nextcloud platform is used for sharing data among the consortiums partners."* → Should be *"consortium's partners."*
- Check for missing spaces and formatting inconsistencies in tables and lists.

Assessment of Deliverable D8.5

1. States its objectives, related subtask(s), and dependencies as specified in the Description of Work (DoW)

Rating:5

Comments: This deliverable aligns with Work Package 8 (WP8).

2. Meets the deliverable description and objectives as specified in the DoA

Rating:5

Comments: Yes, this deliverable successfully:

- Defines structured data management policies.
- Ensures alignment with Open Research Data Pilot (ORDP) and FAIR data principles.
- Documents updates in dataset collection and storage for M24.

3. Closely addresses the specific technical areas that the DoA describes for this deliverable

Rating:5

Comments: The deliverable effectively covers:

- Data lifecycle management and security protocols.
- GDPR compliance and ethical research considerations.
- Open Access and data sharing policies.

4. Can be used by dependent deliverables as stated in the DoA

Rating:5

Comments: -

5. Can be used for further outputs (papers, standards contributions, etc.)

Rating:5

Comments: -

6. Advances the state-of-the-art

Rating:5

Comments: -.

D8.6 Risk Assessment – M24

This deliverable provides an updated risk assessment for the Craeft project at Month 24 (M24), reflecting the project's progress and evolving conditions. It outlines changes in the risk landscape, reassesses potential challenges, and updates mitigation strategies to ensure project success.

The document starts with an introduction explaining the importance of risk management for a complex, interdisciplinary project like Craeft, which integrates digital technologies with traditional craft practices. It emphasizes the need for continuous risk evaluation as the project matures.

The risk assessment methodology has been refined, incorporating continuous monitoring, stakeholder engagement, and data-driven decision-making. This approach allows for adaptive mitigation strategies and ensures effective project execution.

A comparative analysis between the initial and current risk assessments highlights reduced risks related to technical complexities and data availability while identifying new risks in areas such as market dynamics and technological integration.

The document also details revised mitigation strategies, incorporating stronger stakeholder involvement, improved resource management, and enhanced technical testing. Additional risk monitoring mechanisms, such as bi-monthly reviews and real-time dashboard tracking, have been introduced to increase project resilience.

The deliverable concludes by emphasizing the effectiveness of dynamic risk management and recommending continued monitoring, technological integration, and stakeholder collaboration. Overall, it demonstrates that the Craeft project has successfully navigated numerous challenges, becoming more resilient and well-positioned to achieve its objectives.

Some issues should be considered before submitting:

1. Consistency in Terminology and Formatting

- Ensure consistent use of key terms such as "risk assessment methodology," "risk monitoring," and "mitigation strategies" throughout the document.
- The abbreviation M24 (Month 24) is sometimes used inconsistently alongside full terms like "mid-project updat". Ensure uniformity.
- The terms for different risk categories (e.g., "technical risk," "data risk") should be consistently capitalized or lowercased based on the chosen style.

2. Grammar and Syntax Adjustments

- Some long sentences could be rewritten for clarity.

o Example:
-"The Craeft project has successfully mitigated several risks through adaptive strategies, strong stakeholder engagement, and proactive technological integration, which has contributed to a significant reduction in uncertainties." -Suggestion: "The Craeft project has mitigated several risks through adaptive strategies, stakeholder engagement, and proactive technological integration, significantly reducing uncertainties."

- Subject-verb agreement issues appear in some places: -"The risk monitoring process have significantly contributed..." Should be "The risk monitoring process has significantly contributed..."

3. Repetition and Redundancy

- Certain concepts, such as stakeholder engagement and risk monitoring, are repeated across multiple sections. Consider consolidating these discussions for clarity.
- The term "adaptive mitigation strategies" appears in multiple sections; ensure it is not overused and rephrase where needed.

4. Table of Contents Alignment

- Some section numbers do not align perfectly with the Table of Contents. Verify that headings and subheadings match exactly.
- Section 6.4 ("Conclusion") is sometimes referred to as "Final Remarks" elsewhere in the document. Ensure consistency in naming.

5. Clarity in Methodology

- The evolution of the risk assessment methodology from the initial version could be explained in clearer steps for better readability.
- The rationale for adopting real-time dashboard tracking should be expanded—how does it improve risk mitigation?
- The section on "Lessons Learned" could provide a more structured summary, clearly distinguishing successful risk mitigations vs. remaining challenges.

6. Figures and References

- Some figures related to risk matrices and dashboards lack clear numbering or captions.
- Ensure all references are consistently formatted, as some in-text citations are incomplete or missing.

7. Final Proofreading for Minor Typos

Example typos: "The updated risk methodology has been designed to be adaptable, allowing the project team to respond to evolving conditions effectively and ensure project resilience." (Extra "ensure" at the end). Double-check abbreviations and acronyms—some, such as GDPR, appear in different capitalizations across sections.

1. States its objectives, related subtask(s) and dependencies, as specified in the Description of Work

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Rating: 5

Comments:
This deliverable aligns with Work Package 8 (WP8) and the broader risk management framework of Craeft. It directly supports the project's risk mitigation strategies and has dependencies on previous risk assessments and ongoing technological evaluations. The continuous monitoring approach introduced at M12 is refined further here.

2. Meets the deliverable description and objectives as specified in the DoA

Rating: 5

Comments: Yes, the deliverable meets its objectives by:

- Updating the risk assessment methodology to reflect current project conditions.
- Evaluating past mitigation strategies and their effectiveness.
- Identifying new risks related to market dynamics, resource allocation, and technical challenges.
- Introducing improved monitoring tools, such as bi-monthly reviews and real-time dashboards.

3. Closely addresses the specific technical areas that the DoA describes for this deliverable

Rating: 5

Comments: The deliverable effectively covers:

- Technical risk factors such as system integration, data availability, and software stability. Operational risks, including resource constraints and stakeholder participation.
- Educational and training risks, focusing on user adoption of digital craft training tools.
- Data protection risks, ensuring GDPR compliance and ethical data handling.

4. Can be used by dependent deliverables as stated in the DoA

Rating: 5

Comments: -   -

5. Can be used for further outputs (papers, standards contributions etc.)

Rating: 5

Comments:-

6. Advances the state-of-the-art

Rating: 5

Comments: -