1. Teaching and dissemination

1. F101 What is the identification code of your survey?
   a. 20190309BETAfsB001
2. Did you use an official methodology for your identification code?
   a. Yes
3. F1 Which finding or structure is the object of your survey?
   a. a wild boar jaw AFMNM005 detected with photogrammetric technique at the laboratory of the archaeological museum of Okayama (Japan) coming from the Minamikata excavation in the context of the BeArchaeo project (Lauro, 2019)
   b. A castle surveyed with photogrammetric technique (Artopoulos 2015)
   c. A fresco in a medieval chapel (D. Abate 2016)
   d. (The Babylonian Map of The world, BM92687)
4. Can you provide a link to an official resource of the object of your survey?
   a. yes:
      https://bearchaeo.unito.it/omeka-s/s/bearchaeo-resources-site/item/2041#?c=0&m=0&s=0&cv=0&xywh=-274%2C0%2C1506%2C719
   b. no
   c. no
   d. yes: https://www.britishmuseum.org/collection/object/W_1882-0714-509
5. F42 Where did the survey take place? In which specific location?
   a. An urban area, like a city square, where multiple structures were surveyed, specified as the Place of Acquisition.
   b. https://www.openstreetmap.org/way/219582384
6. F19 What is the scale of the object of your survey?
   a. Medium Object: Ranging from 1 cm to 30 cm (FOPPA)
   b. Open Architectural Structure: Entire buildings or significant structures (FOPPA).
   c. Bend (COSCHKR)
7. Did you refer to a specific vocabulary/glossary to indicate the scale?
   a. yes
   b. yes
   c. yes/no, officialy not pubblished
8. F43 On what date did your survey take place?
   a. June 15, 2022
   b. 2024-12-25
9. F27 Can you provide a link to the densified cloud resulting from your survey?
   a. yes :
      https://drive.google.com/file/d/1LIDyy73GtzYrLx_xXd8N49GIPPsktVTX/view?usp=drive_link
10. F31 With which software did you process the point cloud starting from the raw data?
    a. Zephyr 3d flow 2.3.1
11. F53 How many points does your Densified Point Cloud consist of?
    a. A dense point cloud of a scanned monument containing 15 million points.
    b. 32562

12. F62 Can you provide a link to the repository where the textures of the 3D model are stored?
    a. yes: https://drive.google.com/drive/folders/1rlqtUPFlvErnKKb9N7yx9Nz31heSo85b?usp=sharing
13. F64 Can you describe in detail the modification operations performed on the 3D model before its final export, indicating which elements were eliminated, whether registration and/or alignment operations were performed and what reasons led to such modifications?
    a. "20241107ZETAfsB001c RealityCapture, combination of algorithms, in which Depth Map Fusion and Poisson Surface Reconstruction play a key role. Depth maps are generated from the images and combined to create a continuous and accurate representation of the surface. Poisson Surface Reconstruction is then used to obtain a complete and detailed mesh. deletion of the set and preservation of the detected face of the artifact except for a flap of the set preserved to maintain the metric information and 3D models indicating the position of the cameras at the time of acquisition."
14. F100 Can you provide a link to download and/or view the final 3D model?
    a. yes : https://sketchfab.com/3d-models/delta09b2-bb-e06d31471a5b42479d29b1be6a6eb780
15. F154 What is the georeferencing of the model?
    a. Georeferencing a 3D model of a historical monument to a UTM coordinate system to integrate it with topographic survey data.
16. F155 What is the orientation of the 3D Model
    a. Documenting the orientation of a 3D model of a statue to align it with a global reference system for comparative analysis.
17. F156 How many mesh compose the 3d model?
    a. A 3D model of an ancient temple composed of multiple meshes captured from different perspectives and later merged into a single, unified model.
18. F157 Which part of the model was chosen to be the main part to orient the model?
    a. Selecting the flat base of a 3D model of a ceramic vessel as the main face for aligning additional scans captured from other angles.
19. F59 What is the digital scale of the object, that is, is there a coincidence between the real scale and the digital scale of the object and if so in what ratio can it be expressed?
    a. A digital scale of 1:1 for a final 3D model of a sculpture, indicating that the model is an exact replica of the original size.
    b. A digital scale of 1:50 for an architectural model, showing that the digital representation is 50 times smaller than the actual building.
20. F71 What are the final purposes of the 3D model?
    a. Modifying a Digital Twin for use in a virtual reality simulation for a client presentation.
    b. Creating various renditions of a Digital Twin to support different stages of an architectural review process.

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1.1 Video Rendering of the 3d Model

1. F72 Can you provide a link to the video rendering of the 3d model?
   a. yes: https://youtu.be/jAnPCeZj68I
2. F73 Can you provide a description of the editing activities performed on the video rendering and for what reasons?
   a. Cutting segments of the 3D rendering video to create a more concise presentation for a seminar.
   b. Adding background music and transitions to the video of a 3D model for promotional purposes.
   c. Cutting segments of the 3D rendering video to create a more concise presentation for a seminar. Adding background music and transitions to the video of a 3D model for promotional purposes.
3. F74 Which software was used to edit the video rendering of the 3D model?
   a. Adobe Premiere Pro, used for editing and refining videos of rendered 3D models.
   b. Final Cut Pro, a software application employed in the editing of architectural visualization videos.
4. F75 Can you provide a link or an indication of the original repository of the editing project of the video rendering?
   a. ???
5. F111 What is the format of video rendering?
   a. MP4
   b. AVI
   c. MOV
   d. MKV
6. F112 What is the resolution of video rendering?
   a. 1920x1080 (Full HD)
   b. 3840x2160 (4K UHD)
   c. 1280x720 (HD)
7. F113 What is the duration of video rendering?
   a. 2 minutes and 34 seconds
   b. 1 hour and 15 minutes
   c. 30 seconds
   d. PT1H30M45S (for a video of 1 hour, 30 minutes and 45 seconds for more info: https://www.w3schools.com/xml/schema_dtypes_date.asp

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1.2 3D Model for AR/VR Projects

1. F97 Can you provide a link to the 3D model used in the AR/VR project?
   a. yes:
      https://drive.google.com/drive/folders/1TwvbMjRUFQMT-GBQcDK7kyqEEPK
      RLUPO?usp=sharing
2. F98 Can you describe the implementation activity of the 3D model in the AR/VR/MR project?
   a. Loading a 3D model into an AR application for mobile devices.
   b. Integrating a virtual object into a mixed reality experience for educational purposes.
   c. model exported as FBX and uploaded in Unity project
3. F99 Which software was used to create the AR/VR model?
   a. Unity.
   b. Vuforia.
4. F114 Can you provide a description of the AR/VR project?
   a. "An immersive VR experience for historical site exploration, enabling users to navigate and interact with reconstructions of ancient architecture."
   b. "A collaborative AR application for educational purposes that visualizes complex scientific concepts in 3D."
   c. Project BeaVir for Izumo Exhibition at the Archaeological museum of Izumo from 7/10/2022 to 4/12/2022
5. F115 Can you provide an identifying title or DOI of the AR/VR project?
   a. "Ancient Rome VR Experience"
   b. "DOI: 10.1234/ar.vr.2024.001"
6. F116 In which category does the AR/VR project fall?
   a. Educational
   b. Entertainment
   c. Simulation
   d. Training
7. F117 For which type of platform was the AR/VR project created?
   a. Oculus Quest
   b. Microsoft HoloLens
8. F118 The AR/VR project is georeferenced to real coordinates and if so, which ones?
   a. Latitude: 41.9028, Longitude: 12.4964 (Rome, Italy)
   b. Latitude: 37.7749, Longitude: -122.4194 (San Francisco, CA)
   c. example: wgs84:lat "45.0703"^^xsd:decimal ;
   d. wgs84:long "7.6869"^^xsd:decimal ;
   e. geo:asWKT "POINT(7.6869 45.0703)"^^geo:wktLiteral .

1.3 3D Model for Mobile Application

1. F97 Can you provide a link to the 3D model for the Mobile application?
   a. ???
2. F119 Which operating system was the mobile application created for?
   a. iOS

b. Android
    c. HarmonyOS
    d. Windows Mobile
3. F120 What is the programming language of the mobile application?
    a. Python
    b. JavaScript
    c. C#
    d. Swift

1.4 3D Model for Online Educational Platforms

1. F97 Can you provide a link to the 3D model for the browser ?
    a. yes:
        https://drive.google.com/drive/folders/1TwvbMjRUFQMT-GBQcDK7kyqEEPK RLUPO?usp=sharing
2. F121 What is the URL of the platform where you can see the 3D model ?
    a. https://vr.bearchaeo.unito.it/
3. F122 Which browsers support the online application ?
    a. Google Chrome
    b. Mozilla Firefox
    c. Safari
4. F123 What is the web server where the online application is loaded?
    a. Microsoft IIS
    b. Amazon Web Services (AWS)
    c. 192.168.1.1

2. Conservation and Enhancement

1. F101 What is the identification code of your survey?
2. Did you use an official methodology for your identification code?
3. F1 Which finding or structure is the object of your survey?
4. Can you provide a link to an official resource of the object of your survey?
5. F42 Where did the survey take place? In which specific location?
6. F19 What is the scale of the object of your survey?
7. Did you refer to a specific vocabulary/glossary to indicate the scale?
8. F43 On what date did your survey take place?
9. F27 Can you provide a link to the densified cloud resulting from your survey?
10. F31 With which software did you process the point cloud starting from the raw data?
11. F53 How many points does your Densified Point Cloud consist of?
12. F62 Can you provide a link to the repository where the textures of the 3D model are stored?
13. F64 Can you describe in detail the modification operations performed on the 3D model before its final export, indicating which elements were eliminated, whether registration and/or alignment operations were performed and what reasons led to such modifications?
14. F100 Can you provide a link to download and/or view the final 3D model?
15. F154 What is the georeferencing of the model?
16. F155 What is the orientation of the 3D Model
17. F156 How many mesh compose the 3d model?
18. F157 Which part of the model was chosen to be the main part to orient the model?
19. F59 What is the digital scale of the object, that is, is there a coincidence between the real scale and the digital scale of the object and if so in what ratio can it be expressed?
20. F71 What are the final purposes of the 3D model?
21. F2 What is the identification code of the acquisition of the find?
22. F9 What specific instrument was used for the acquisition?
23. F20 What type of instrument was used for the acquisition?
24. F30 What software was used for the acquisition?
25. F35 What is the physical carrier of the raw data of the acquisition?
26. F45 What are the coordinates of where the survey took place?
27. F26 Can you provide a link to the sparse point cloud?
28. F28 Can you provide a link to the 3D Mesh derived from the densified point cloud?
29. F29 Can you provide a link to the textured Mesh of the model?
30. F104 Is the final 3D model the result of the fusion of different models and/or different point clouds? If so, how many?
31. Can you provide the links of the original models that were merged?
32. F4 What is the identification code of the modeling activity?
33. F39 Who performed the modeling and modification of the 3D model? Can you provide his ORCID or his linkedin contact?
34. F58 What modification activities were performed on the original 3D model?
35. F63 How many textures are associated with the 3D model?
36. F65 When was the 3D model modification activity performed?

37. F66 What are the elements that were determined as central to the model in the modeling phase and for what reason?
38. F67 What are the elements that were eliminated from the model and for what reason?
39. F68 What is the physical carrier of the final 3D model?

2.1 3d Print for Enhancement

1. F101 What is the identification code of your survey?
2. Did you use an official methodology for your identification code?
3. F1 Which finding or structure is the object of your survey?
4. Can you provide a link to an official resource of the object of your survey?
5. F42 Where did the survey take place? In which specific location?
6. F19 What is the scale of the object of your survey?
7. Did you refer to a specific vocabulary/glossary to indicate the scale?
8. F43 On what date did your survey take place?
9. F27 Can you provide a link to the densified cloud resulting from your survey?
10. F31 With which software did you process the point cloud starting from the raw data?
11. F53 How many points does your Densified Point Cloud consist of?
12. F62 Can you provide a link to the repository where the textures of the 3D model are stored?
13. F64 Can you describe in detail the modification operations performed on the 3D model before its final export, indicating which elements were eliminated, whether registration and/or alignment operations were performed and what reasons led to such modifications?
14. F100 Can you provide a link to download and/or view the final 3D model?
15. F59 What is the digital scale of the object, that is, is there a coincidence between the real scale and the digital scale of the object and if so in what ratio can it be expressed?
16. F71 What are the final purposes of the 3D model?
17. F20 What type of instrument was used for the acquisition?
18. F28 Can you provide a link to the 3D Mesh derived from the densified point cloud?
19. F29 Can you provide a link to the textured Mesh of the model?
20. F104 Is the final 3D model the result of the fusion of different models and/or different point clouds? If so, how many?
21. Can you provide the links of the original models that were merged?
22. F39 Who performed the modeling and modification of the 3D model? Can you provide his ORCID or his linkedin contact?
23. F58 What modification activities were performed on the original 3D model?
24. F65 When was the 3D model modification activity performed?
25. F66 What are the elements that were determined as central to the model in the modeling phase and for what reason?
26. F67 What are the elements that were eliminated from the model and for what reason?
27. F68 What is the physical carrier of the final 3D model?
28. F76 Can you provide a link to the 3D model used for printing?F77 Can you provide a description of the 3D model printing activity?
29. F78 What material was used for 3D printing?
30. F79 What is the specific tool used for printing the 3D model?
31. F80 What is the 3D printing identifier of the 3D model?
32. F124 What is the official location of the printed 3D model?

2.2 3D Model for interactive projects

1. F101 What is the identification code of your survey?
2. Did you use an official methodology for your identification code?
3. F1 Which finding or structure is the object of your survey?
4. Can you provide a link to an official resource of the object of your survey?
5. F42 Where did the survey take place? In which specific location?
6. F19 What is the scale of the object of your survey?
7. Did you refer to a specific vocabulary/glossary to indicate the scale?
8. F43 On what date did your survey take place?
9. F27 Can you provide a link to the densified cloud resulting from your survey?
10. F31 With which software did you process the point cloud starting from the raw data?
11. F53 How many points does your Densified Point Cloud consist of?
12. F62 Can you provide a link to the repository where the textures of the 3D model are stored?
13. F64 Can you describe in detail the modification operations performed on the 3D model before its final export, indicating which elements were eliminated, whether registration and/or alignment operations were performed and what reasons led to such modifications?
14. F100 Can you provide a link to download and/or view the final 3D model?
15. F59 What is the digital scale of the object, that is, is there a coincidence between the real scale and the digital scale of the object and if so in what ratio can it be expressed?
16. F71 What are the final purposes of the 3D model?
17. F2 What is the identification code of the acquisition of the find?
18. F9 What specific instrument was used for the acquisition?
19. F20 What type of instrument was used for the acquisition?
20. F28 Can you provide a link to the 3D Mesh derived from the densified point cloud?
21. F29 Can you provide a link to the textured Mesh of the model?
22. F63 How many textures are associated with the 3D model?
23. F65 When was the 3D model modification activity performed?
24. F66 What are the elements that were determined as central to the model in the modeling phase and for what reason?
25. F67 What are the elements that were eliminated from the model and for what reason?
26. F92 Can you provide a description of the implementation of the 3D model in the interactive project?
27. F93 What software was used to create the interactive project
28. F125 Can you provide a detailed description of the interactive project?
29. F126 What is the platform of the interactive project?
30. F127 What is the official physical location where the interactive project can be used?
31. F128 On what specific device does the interactive project run?

2.3 3D Model for Database

1. F101 What is the identification code of your survey?
2. Did you use an official methodology for your identification code?
3. F1 Which finding or structure is the object of your survey?
4. Can you provide a link to an official resource of the object of your survey?
5. F42 Where did the survey take place? In which specific location?
6. F19 What is the scale of the object of your survey?
7. Did you refer to a specific vocabulary/glossary to indicate the scale?
8. F43 On what date did your survey take place?
9. F27 Can you provide a link to the densified cloud resulting from your survey?
10. F31 With which software did you process the point cloud starting from the raw data?
11. F53 How many points does your Densified Point Cloud consist of?
12. F62 Can you provide a link to the repository where the textures of the 3D model are stored?
13. F64 Can you describe in detail the modification operations performed on the 3D model before its final export, indicating which elements were eliminated, whether registration and/or alignment operations were performed and what reasons led to such modifications?
14. F100 Can you provide a link to download and/or view the final 3D model?
15. F59 What is the digital scale of the object, that is, is there a coincidence between the real scale and the digital scale of the object and if so in what ratio can it be expressed?
16. F71 What are the final purposes of the 3D model?
17. F2 What is the identification code of the acquisition of the find?
18. F9 What specific instrument was used for the acquisition?
19. F20 What type of instrument was used for the acquisition?
20. F28 Can you provide a link to the 3D Mesh derived from the densified point cloud?
21. F29 Can you provide a link to the textured Mesh of the model?
22. F104 Is the final 3D model the result of the fusion of different models and/or different point clouds? If so, how many?
23. Can you provide the links of the original models that were merged?
24. F39 Who performed the modeling and modification of the 3D model? Can you provide his ORCID or his linkedin contact?
25. F58 What modification activities were performed on the original 3D model?
26. F65 When was the 3D model modification activity performed?
27. F67 What are the elements that were eliminated from the model and for what reason?
28. F68 What is the physical carrier of the final 3D model?
29. F94 Can you provide a link to the 3D model for the database?
30. F95 Can you provide a description of the implementation of the 3D model in the database?
31. F96 What is the architecture of the database?
32. F129 What is the structure and table schema of the database?
33. F130 Can you provide a link to the 3D model within the database?

3. Archaeometric Analysis

1. F101 What is the identification code of your survey?
2. Did you use an official methodology for your identification code?
3. F1 Which finding or structure is the object of your survey?
4. Can you provide a link to an official resource of the object of your survey?
5. F42 Where did the survey take place? In which specific location?
6. F19 What is the scale of the object of your survey?
7. Did you refer to a specific vocabulary/glossary to indicate the scale?
8. F43 On what date did your survey take place?
9. F27 Can you provide a link to the densified cloud resulting from your survey?
10. F31 With which software did you process the point cloud starting from the raw data?
11. F53 How many points does your Densified Point Cloud consist of?
12. F62 Can you provide a link to the repository where the textures of the 3D model are stored?
13. F64 Can you describe in detail the modification operations performed on the 3D model before its final export, indicating which elements were eliminated, whether registration and/or alignment operations were performed and what reasons led to such modifications?
14. F100 Can you provide a link to download and/or view the final 3D model?
15. F154 What is the georeferencing of the model?
16. F155 What is the orientation of the 3D Model
17. F156 How many mesh compose the 3d model?
18. F157 Which part of the model was chosen to be the main part to orient the model?
19. F59 What is the digital scale of the object, that is, is there a coincidence between the real scale and the digital scale of the object and if so in what ratio can it be expressed?
20. F71 What are the final purposes of the 3D model?
21. F2 What is the identification code of the acquisition of the find?
22. F9 What specific instrument was used for the acquisition?
23. F20 What type of instrument was used for the acquisition?
24. F30 What software was used for the acquisition?
25. F35 What is the physical carrier of the raw data of the acquisition?
26. F45 What are the coordinates of where the survey took place?
27. F26 Can you provide a link to the sparse point cloud?
28. F28 Can you provide a link to the 3D Mesh derived from the densified point cloud?
29. F29 Can you provide a link to the textured Mesh of the model?
30. F104 Is the final 3D model the result of the fusion of different models and/or different point clouds? If so, how many?
31. Can you provide the links of the original models that were merged?
32. F4 What is the identification code of the modeling activity?
33. F39 Who performed the modeling and modification of the 3D model? Can you provide his ORCID or his linkedin contact?
34. F58 What modification activities were performed on the original 3D model?
35. F63 How many textures are associated with the 3D model?
36. F65 When was the 3D model modification activity performed?

37. F66 What are the elements that were determined as central to the model in the modeling phase and for what reason?
38. F67 What are the elements that were eliminated from the model and for what reason?
39. F68 What is the physical carrier of the final 3D model?
40. F6 Can you provide the link to the Raw data of the acquisition
41. F25 Can you describe the typology and the main characteristics of the raw data of the acquisition
42. F7 In the context of photogrammetric acquisitions can you provide the link to the raw images produced by the acquisition ?
43. F41 In the context of photogrammetric acquisitions how many photographs make up the acquisition ?
44. F12 Which trajectory or path was used for the acquisition ?
45. F37 Who is the operator of the acquisition ? Can you indicate his ORCID or his Linkedin profile ?
46. F40 Can you provide an Eidotype of the acquisition carried out ?
47. F18 What is the dominant geometry of the object ? Do you refer to a specific vocabulary or thesaurus to indicate the dominant geometry of the object ?
48. F44 Can you provide a detailed description of the acquisition carried out ?
49. F103 What are the characteristics of the calibration of the acquisition tools ?
50. F3 The identification code of the processing ?
51. F21 What type of algorithm or what specific algorithm was used for the matching and extraction of the sparse point cloud?
52. F22 What type of algorithm or what specific algorithm was used for the densification of the point cloud?
53. F10 On which specific device was the processing performed?
54. F38 Who performed the processing? Can you indicate his ORCID or Linkedin profile?
55. F46 Can you provide a short description of the matching?
56. F47 Can you provide a short description of the densification?
57. F49 Can you indicate the ratio of the near sampling points range in the context of densification or, in the case of photogrammetry, the structure for motion point seeds?
58. F50 Can you describe how you measured and analyzed the sparse point cloud?
59. F51 How many points are in the sparse point cloud?
60. F52 Can you describe how you measured and analyzed the dense point cloud?
61. F54 Does the point cloud have vertices with quality? If so, what is their value?
62. F55 In the context of densification, how and what principle was adopted for depth noise filtering?
63. F23 In the context of mesh creation, what algorithm or type of algorithm was used to perform the mesh reconstruction starting from the dense point cloud?
64. F32 What software was used to modify the mesh?
65. F56 Can you describe in detail how the mesh reconstruction was generated?
66. F16 What method was used for texturing the mesh?
67. F60 What smoothing filter was applied to the mesh at the time of its reconstruction?
68. F61 How was the color of the textures generated? Color Balance and/or Multiband texture?
69. F5 the identification code of the 3D model export?
70. F69 Can you provide a detailed description of the export of the final 3D model?

71. F70 How many final uses does the final 3D model produced have?

3.1 3D Print for Analysis Preservation

1. F101 What is the identification code of your survey?
2. Did you use an official methodology for your identification code?
3. F1 Which finding or structure is the object of your survey?
4. Can you provide a link to an official resource of the object of your survey?
5. F42 Where did the survey take place? In which specific location?
6. F19 What is the scale of the object of your survey?
7. Did you refer to a specific vocabulary/glossary to indicate the scale?
8. F43 On what date did your survey take place?
9. F27 Can you provide a link to the densified cloud resulting from your survey?
10. F31 With which software did you process the point cloud starting from the raw data?
11. F53 How many points does your Densified Point Cloud consist of?
12. F62 Can you provide a link to the repository where the textures of the 3D model are stored?
13. F64 Can you describe in detail the modification operations performed on the 3D model before its final export, indicating which elements were eliminated, whether registration and/or alignment operations were performed and what reasons led to such modifications?
14. F100 Can you provide a link to download and/or view the final 3D model?
15. F59 What is the digital scale of the object, that is, is there a coincidence between the real scale and the digital scale of the object and if so in what ratio can it be expressed?
16. F71 What are the final purposes of the 3D model?
17. F2 What is the identification code of the acquisition of the find?
18. F9 What specific instrument was used for the acquisition?
19. F20 What type of instrument was used for the acquisition?
20. F30 What software was used for the acquisition?
21. F35 What is the physical carrier of the raw data of the acquisition?
22. F45 What are the coordinates of where the survey took place?
23. F26 Can you provide a link to the sparse point cloud?
24. F28 Can you provide a link to the 3D Mesh derived from the densified point cloud?
25. F29 Can you provide a link to the textured Mesh of the model?
26. F104 Is the final 3D model the result of the fusion of different models and/or different point clouds? If so, how many?
27. Can you provide the links of the original models that were merged?
28. F4 What is the identification code of the modeling activity?
29. F39 Who performed the modeling and modification of the 3D model? Can you provide his ORCID or his linkedin contact?
30. F58 What modification activities were performed on the original 3D model?
31. F63 How many textures are associated with the 3D model?
32. F65 When was the 3D model modification activity performed?
33. F66 What are the elements that were determined as central to the model in the modeling phase and for what reason?
34. F67 What are the elements that were eliminated from the model and for what reason?
35. F68 What is the physical carrier of the final 3D model?
36. F6 Can you provide the link to the Raw data of the acquisition

37. F25 Can you describe the typology and the main characteristics of the raw data of the acquisition
38. F7 In the context of photogrammetric acquisitions can you provide the link to the raw images produced by the acquisition ?
39. F41 In the context of photogrammetric acquisitions how many photographs make up the acquisition ?
40. F37 Who is the operator of the acquisition ? Can you indicate his ORCID or his Linkedin profile ?
41. F40 Can you provide an Eidotype of the acquisition carried out ?
42. F18 What is the dominant geometry of the object ? Do you refer to a specific vocabulary or thesaurus to indicate the dominant geometry of the object ?
43. F44 Can you provide a detailed description of the acquisition carried out ?
44. F103 What are the characteristics of the calibration of the acquisition tools ?
45. F3 The identification code of the processing ?
46. F21 What type of algorithm or what specific algorithm was used for the matching and extraction of the sparse point cloud?
47. F22 What type of algorithm or what specific algorithm was used for the densification of the point cloud?
48. F52 Can you describe how you measured and analyzed the dense point cloud?
49. F23 In the context of mesh creation, what algorithm or type of algorithm was used to perform the mesh reconstruction starting from the dense point cloud?
50. F76 Can you provide a link of the 3D model used for 3D printing?
51. F77 Can you describe the printing process of the 3D model?
52. F78 What material was used to print the 3D model?
53. F79 What specific tool was used to print the 3D model?
54. F80 Can you provide a detailed description of the 3D printed model produced and its official identifier?
55. F88 Can you provide a link of the high definition 3D model created for the archaeometric analyses?
56. F89 What is the analysis project for which the model was created?
57. F90 Can you provide a link of the Data Log with the analysis results?
58. F124 What is the official position of the 3D printed model?

3.2 3D Model for Geographical Information System

1. F101 What is the identification code of your survey?
2. Did you use an official methodology for your identification code?
3. F1 Which finding or structure is the object of your survey?
4. Can you provide a link to an official resource of the object of your survey?
5. F42 Where did the survey take place? In which specific location?
6. F19 What is the scale of the object of your survey?
7. Did you refer to a specific vocabulary/glossary to indicate the scale?
8. F43 On what date did your survey take place?
9. F27 Can you provide a link to the densified cloud resulting from your survey?
10. F31 With which software did you process the point cloud starting from the raw data?
11. F53 How many points does your Densified Point Cloud consist of?
12. F62 Can you provide a link to the repository where the textures of the 3D model are stored?
13. F64 Can you describe in detail the modification operations performed on the 3D model before its final export, indicating which elements were eliminated, whether registration and/or alignment operations were performed and what reasons led to such modifications?
14. F100 Can you provide a link to download and/or view the final 3D model?
15. F59 What is the digital scale of the object, that is, is there a coincidence between the real scale and the digital scale of the object and if so in what ratio can it be expressed?
16. F71 What are the final purposes of the 3D model?
17. F2 What is the identification code of the acquisition of the find?
18. F9 What specific instrument was used for the acquisition?
19. F20 What type of instrument was used for the acquisition?
20. F30 What software was used for the acquisition?
21. F35 What is the physical carrier of the raw data of the acquisition?
22. F45 What are the coordinates of where the survey took place?
23. F26 Can you provide a link to the sparse point cloud?
24. F28 Can you provide a link to the 3D Mesh derived from the densified point cloud?
25. F29 Can you provide a link to the textured Mesh of the model?
26. F104 Is the final 3D model the result of the fusion of different models and/or different point clouds? If so, how many?
27. Can you provide the links of the original models that were merged?
28. F4 What is the identification code of the modeling activity?
29. F39 Who performed the modeling and modification of the 3D model? Can you provide his ORCID or his linkedin contact?
30. F58 What modification activities were performed on the original 3D model?
31. F63 How many textures are associated with the 3D model?
32. F65 When was the 3D model modification activity performed?
33. F66 What are the elements that were determined as central to the model in the modeling phase and for what reason?
34. F67 What are the elements that were eliminated from the model and for what reason?
35. F68 What is the physical carrier of the final 3D model?
36. F12 Which trajectory or path was used for the acquisition ?

37. F40 Can you provide an Eidotype of the acquisition carried out ?
38. F18 What is the dominant geometry of the object? Do you refer to a specific vocabulary or thesaurus to indicate the dominant geometry of the object?
39. F3 The identification code of the processing?
40. F10 On which specific device was the processing performed?
41. F38 Who performed the processing? Can you indicate his ORCID or Linkedin profile?
42. F52 Can you describe how you measured and analyzed the dense point cloud?
43. F81 Can you provide the link to the 3D model used in the GIS?
44. F82 Can you provide a link to the GIS where the 3D model was loaded?
45. F83 What software was used to create the GIS?
46. F131 What is the reference and projection system of the GIS?
47. F132 What are the coordinates of the bounding box, i.e. the territorial borders, of the GIS?
48. F133 What is the geospatial data format of the GIS?

3.3 3D Model for Prospectus and Structural Analysis

1. F101 What is the identification code of your survey?
2. Did you use an official methodology for your identification code?
3. F1 Which finding or structure is the object of your survey?
4. Can you provide a link to an official resource of the object of your survey?
5. F42 Where did the survey take place? In which specific location?
6. F19 What is the scale of the object of your survey?
7. Did you refer to a specific vocabulary/glossary to indicate the scale?
8. F43 On what date did your survey take place?
9. F27 Can you provide a link to the densified cloud resulting from your survey?
10. F31 With which software did you process the point cloud starting from the raw data?
11. F53 How many points does your Densified Point Cloud consist of?
12. F62 Can you provide a link to the repository where the textures of the 3D model are stored?
13. F64 Can you describe in detail the modification operations performed on the 3D model before its final export, indicating which elements were eliminated, whether registration and/or alignment operations were performed and what reasons led to such modifications?
14. F100 Can you provide a link to download and/or view the final 3D model?
15. F59 What is the digital scale of the object, that is, is there a coincidence between the real scale and the digital scale of the object and if so in what ratio can it be expressed?
16. F71 What are the final purposes of the 3D model?
17. F2 What is the identification code of the acquisition of the find?
18. F9 What specific instrument was used for the acquisition?
19. F20 What type of instrument was used for the acquisition?
20. F30 What software was used for the acquisition?
21. F35 What is the physical carrier of the raw data of the acquisition?
22. F45 What are the coordinates of where the survey took place?
23. F26 Can you provide a link to the sparse point cloud?
24. F28 Can you provide a link to the 3D Mesh derived from the densified point cloud?
25. F29 Can you provide a link to the textured Mesh of the model?
26. F104 Is the final 3D model the result of the fusion of different models and/or different point clouds? If so, how many?
27. Can you provide the links of the original models that were merged?
28. F4 What is the identification code of the modeling activity?
29. F39 Who performed the modeling and modification of the 3D model? Can you provide his ORCID or his linkedin contact?
30. F58 What modification activities were performed on the original 3D model?
31. F63 How many textures are associated with the 3D model?
32. F65 When was the 3D model modification activity performed?
33. F66 What are the elements that were determined as central to the model in the modeling phase and for what reason?
34. F67 What are the elements that were eliminated from the model and for what reason?
35. F68 What is the physical carrier of the final 3D model?
36. F6 Can you provide the link to the Raw data of the acquisition

37. F25 Can you describe the typology and the main characteristics of the raw data of the acquisition
38. F7 In the context of photogrammetric acquisitions can you provide the link to the raw images produced by the acquisition ?
39. F41 In the context of photogrammetric acquisitions how many photographs make up the acquisition ?
40. F37 Who is the operator of the acquisition ? Can you indicate his ORCID or his Linkedin profile ?
41. F18 What is the dominant geometry of the object ? Do you refer to a specific vocabulary or thesaurus to indicate the dominant geometry of the object ?
42. F3 The identification code of the processing ?
43. F21 What type of algorithm or what specific algorithm was used for the matching and extraction of the sparse point cloud?
44. F22 What type of algorithm or what specific algorithm was used for the densification of the point cloud?
45. F52 Can you describe how you measured and analyzed the dense point cloud?
46. F23 In the context of mesh creation, what algorithm or type of algorithm was used to perform the mesh reconstruction starting from the dense point cloud?
47. F84 Can you provide a link to the 3D Model created for the generation of the elevations ?
48. F85 Can you provide a link or a reference repository for the CAD project for the creation and analysis of the elevations ?
49. F86 What software was used for the CAD ?
50. F87 Can you provide a link and a repository indication for the elevations produced from the 3D model ?
51. F134 Who is the legal owner of the elevations generated ?
52. F135 What is the official location of the generated prospectuses? Where are they stored?

3.4 3D Model for Computational Fluid Dynamics (CFD) Analysis

1. F101 What is the identification code of your survey?
2. Did you use an official methodology for your identification code?
3. F1 Which finding or structure is the object of your survey?
4. Can you provide a link to an official resource of the object of your survey?
5. F42 Where did the survey take place? In which specific location?
6. F19 What is the scale of the object of your survey?
7. Did you refer to a specific vocabulary/glossary to indicate the scale?
8. F43 On what date did your survey take place?
9. F27 Can you provide a link to the densified cloud resulting from your survey?
10. F31 With which software did you process the point cloud starting from the raw data?
11. F53 How many points does your Densified Point Cloud consist of?
12. F62 Can you provide a link to the repository where the textures of the 3D model are stored?
13. F64 Can you describe in detail the modification operations performed on the 3D model before its final export, indicating which elements were eliminated, whether registration and/or alignment operations were performed and what reasons led to such modifications?
14. F100 Can you provide a link to download and/or view the final 3D model?
15. F59 What is the digital scale of the object, that is, is there a coincidence between the real scale and the digital scale of the object and if so in what ratio can it be expressed?
16. F71 What are the final purposes of the 3D model?
17. F2 What is the identification code of the acquisition of the find?
18. F9 What specific instrument was used for the acquisition?
19. F20 What type of instrument was used for the acquisition?
20. F30 What software was used for the acquisition?
21. F35 What is the physical carrier of the raw data of the acquisition?
22. F45 What are the coordinates of where the survey took place?
23. F26 Can you provide a link to the sparse point cloud?
24. F28 Can you provide a link to the 3D Mesh derived from the densified point cloud?
25. F29 Can you provide a link to the textured Mesh of the model?
26. F104 Is the final 3D model the result of the fusion of different models and/or different point clouds? If so, how many?
27. Can you provide the links of the original models that were merged?
28. F4 What is the identification code of the modeling activity?
29. F39 Who performed the modeling and modification of the 3D model? Can you provide his ORCID or his linkedin contact?
30. F58 What modification activities were performed on the original 3D model?
31. F63 How many textures are associated with the 3D model?
32. F65 When was the 3D model modification activity performed?
33. F66 What are the elements that were determined as central to the model in the modeling phase and for what reason?
34. F67 What are the elements that were eliminated from the model and for what reason?
35. F68 What is the physical carrier of the final 3D model?
36. F12 Which trajectory or path was used for the acquisition ?

37. F37 Who is the operator of the acquisition ? Can you indicate his ORCID or his Linkedin profile ?
38. F44 Can you provide a detailed description of the acquisition carried out ?
39. F3 The identification code of the processing ?
40. F22 What type of algorithm or what specific algorithm was used for the densification of the point cloud?
41. F38 Who performed the processing? Can you indicate his ORCID or Linkedin profile?
42. F52 Can you describe how you measured and analyzed the dense point cloud?
43. F23 In the context of mesh creation, what algorithm or type of algorithm was used to perform the mesh reconstruction starting from the dense point cloud?
44. F88 Can you provide a link of the high definition 3D model created for the archaeometric analyses?
45. F89 What is the analysis project for which the model was created?
46. F90 Can you provide a link of the Data Log with the analysis results?
47. F136 Can you provide the CFD project ID or DOI?

4. Restoration Activity

1. F101 What is the identification code of your survey?
2. Did you use an official methodology for your identification code?
3. F1 Which finding or structure is the object of your survey?
4. Can you provide a link to an official resource of the object of your survey?
5. F42 Where did the survey take place? In which specific location?
6. F19 What is the scale of the object of your survey?
7. Did you refer to a specific vocabulary/glossary to indicate the scale?
8. F43 On what date did your survey take place?
9. F27 Can you provide a link to the densified cloud resulting from your survey?
10. F31 With which software did you process the point cloud starting from the raw data?
11. F53 How many points does your Densified Point Cloud consist of?
12. F62 Can you provide a link to the repository where the textures of the 3D model are stored?
13. F64 Can you describe in detail the modification operations performed on the 3D model before its final export, indicating which elements were eliminated, whether registration and/or alignment operations were performed and what reasons led to such modifications?
14. F100 Can you provide a link to download and/or view the final 3D model?
15. F154 What is the georeferencing of the model?
16. F155 What is the orientation of the 3D Model
17. F156 How many mesh compose the 3d model?
18. F157 Which part of the model was chosen to be the main part to orient the model?
19. F59 What is the digital scale of the object, that is, is there a coincidence between the real scale and the digital scale of the object and if so in what ratio can it be expressed?
20. F71 What are the final purposes of the 3D model?
21. F2 What is the identification code of the acquisition of the find?
22. F9 What specific instrument was used for the acquisition?
23. F20 What type of instrument was used for the acquisition?
24. F30 What software was used for the acquisition?
25. F35 What is the physical carrier of the raw data of the acquisition?
26. F45 What are the coordinates of where the survey took place?
27. F26 Can you provide a link to the sparse point cloud?
28. F28 Can you provide a link to the 3D Mesh derived from the densified point cloud?
29. F29 Can you provide a link to the textured Mesh of the model?
30. F104 Is the final 3D model the result of the fusion of different models and/or different point clouds? If so, how many?
31. Can you provide the links of the original models that were merged?
32. F4 What is the identification code of the modeling activity?
33. F39 Who performed the modeling and modification of the 3D model? Can you provide his ORCID or his linkedin contact?
34. F58 What modification activities were performed on the original 3D model?
35. F63 How many textures are associated with the 3D model?
36. F65 When was the 3D model modification activity performed?

37. F66 What are the elements that were determined as central to the model in the modeling phase and for what reason?
38. F67 What are the elements that were eliminated from the model and for what reason?
39. F68 What is the physical carrier of the final 3D model?
40. F6 Can you provide the link to the Raw data of the acquisition
41. F25 Can you describe the typology and the main characteristics of the raw data of the acquisition
42. F7 In the context of photogrammetric acquisitions can you provide the link to the raw images produced by the acquisition ?
43. F41 In the context of photogrammetric acquisitions how many photographs make up the acquisition ?
44. F12 Which trajectory or path was used for the acquisition ?
45. F37 Who is the operator of the acquisition ? Can you indicate his ORCID or his Linkedin profile ?
46. F40 Can you provide an Eidotype of the acquisition carried out ?
47. F18 What is the dominant geometry of the object ? Do you refer to a specific vocabulary or thesaurus to indicate the dominant geometry of the object ?
48. F44 Can you provide a detailed description of the acquisition carried out ?
49. F103 What are the characteristics of the calibration of the acquisition tools ?
50. F3 The identification code of the processing ?
51. F21 What type of algorithm or what specific algorithm was used for the matching and extraction of the sparse point cloud?
52. F22 What type of algorithm or what specific algorithm was used for the densification of the point cloud?
53. F10 On which specific device was the processing performed?
54. F38 Who performed the processing? Can you indicate his ORCID or Linkedin profile?
55. F46 Can you provide a short description of the matching?
56. F47 Can you provide a short description of the densification?
57. F49 Can you indicate the ratio of the near sampling points range in the context of densification or, in the case of photogrammetry, the structure for motion point seeds?
58. F50 Can you describe how you measured and analyzed the sparse point cloud?
59. F51 How many points are in the sparse point cloud?
60. F52 Can you describe how you measured and analyzed the dense point cloud?
61. F54 Does the point cloud have vertices with quality? If so, what is their value?
62. F55 In the context of densification, how and what principle was adopted for depth noise filtering?
63. F23 In the context of mesh creation, what algorithm or type of algorithm was used to perform the mesh reconstruction starting from the dense point cloud?
64. F32 What software was used to modify the mesh?
65. F56 Can you describe in detail how the mesh reconstruction was generated?
66. F16 What method was used for texturing the mesh?
67. F60 What smoothing filter was applied to the mesh at the time of its reconstruction?
68. F61 How was the color of the textures generated? Color Balance and/or Multiband texture?
69. F5 the identification code of the 3D model export?
70. F69 Can you provide a detailed description of the export of the final 3D model?

71. F70 How many final uses does the final 3D model produced have?
72. F33 The identification code of the acquisition phase?
73. F13 Which official methodology was used to perform the acquisition?
74. F17 Which type of trajectory or path was used to perform the acquisition?
75. F14 Which official and published methodology was used to perform the matching in the point cloud generation phase?
76. F34 What is the identification code of the processing phase and how can it be described?
77. F48 Which official and published densification method was referred to?
78. F15 Which official and published mesh reconstruction method was referred to?
79. F105 Which digital interrogation tools were used to interrogate the 3D model?

4.1 3D Model for Photogrammetric Comparisons

F101 What is the identification code of your survey?

Did you use an official methodology for your identification code?

F1 Which finding or structure is the object of your survey?

Can you provide a link to an official resource of the object of your survey?

F42 Where did the survey take place? In which specific location?

F19 What is the scale of the object of your survey?

Did you refer to a specific vocabulary/glossary to indicate the scale?

F43 On what date did your survey take place?

F27 Can you provide a link to the densified cloud resulting from your survey?

F31 With which software did you process the point cloud starting from the raw data?

F53 How many points does your Densified Point Cloud consist of?

F62 Can you provide a link to the repository where the textures of the 3D model are stored?

F64 Can you describe in detail the modification operations performed on the 3D model before its final export, indicating which elements were eliminated, whether registration and/or alignment operations were performed and what reasons led to such modifications?

F100 Can you provide a link to download and/or view the final 3D model?

F59 What is the digital scale of the object, that is, is there a coincidence between the real scale and the digital scale of the object and if so in what ratio can it be expressed?

F71 What are the final purposes of the 3D model?

F2 What is the identification code of the acquisition of the find?

F9 What specific instrument was used for the acquisition?

F20 What type of instrument was used for the acquisition?

F30 What software was used for the acquisition?

F35 What is the physical carrier of the raw data of the acquisition?

F45 What are the coordinates of where the survey took place?

F26 Can you provide a link to the sparse point cloud?

F28 Can you provide a link to the 3D Mesh derived from the densified point cloud?

F29 Can you provide a link to the textured Mesh of the model?

F104 Is the final 3D model the result of the fusion of different models and/or different point clouds? If so, how many?

Can you provide the links of the original models that were merged?

F4 What is the identification code of the modeling activity?

F39 Who performed the modeling and modification of the 3D model? Can you provide his ORCID or his linkedin contact?

F58 What modification activities were performed on the original 3D model?

F63 How many textures are associated with the 3D model?

F65 When was the 3D model modification activity performed?

F66 What are the elements that were determined as central to the model in the modeling phase and for what reason?

F67 What are the elements that were eliminated from the model and for what reason?

F68 What is the physical carrier of the final 3D model?

F6 Can you provide the link to the Raw data of the acquisition

F25 Can you describe the typology and the main characteristics of the raw data of the acquisition

F7 In the context of photogrammetric acquisitions can you provide the link to the raw images produced by the acquisition ?

F41 In the context of photogrammetric acquisitions how many photographs make up the acquisition ?

F12 Which trajectory or path was used for the acquisition ?

F37 Who is the operator of the acquisition ? Can you indicate his ORCID or his Linkedin profile ?

F40 Can you provide an Eidotype of the acquisition carried out ?

F18 What is the dominant geometry of the object ? Do you refer to a specific vocabulary or thesaurus to indicate the dominant geometry of the object ?

F44 Can you provide a detailed description of the acquisition carried out ?

F103 What are the characteristics of the calibration of the acquisition tools ?

F3 The identification code of the processing ?

F21 What type of algorithm or what specific algorithm was used for the matching and extraction of the sparse point cloud?

F22 What type of algorithm or what specific algorithm was used for the densification of the point cloud?

F10 On which specific device was the processing performed?

F38 Who performed the processing? Can you indicate his ORCID or Linkedin profile?

F46 Can you provide a short description of the matching?

F47 Can you provide a short description of the densification?

F49 Can you indicate the ratio of the near sampling points range in the context of densification or, in the case of photogrammetry, the structure for motion point seeds?

F50 Can you describe how you measured and analyzed the sparse point cloud?

F51 How many points are in the sparse point cloud?

F52 Can you describe how you measured and analyzed the dense point cloud?

F54 Does the point cloud have vertices with quality? If so, what is their value?

F55 In the context of densification, how and what principle was adopted for depth noise filtering?

F23 In the context of mesh creation, what algorithm or type of algorithm was used to perform the mesh reconstruction starting from the dense point cloud?

F32 What software was used to modify the mesh?

F56 Can you describe in detail how the mesh reconstruction was generated?

F16 What method was used for texturing the mesh?

F60 What smoothing filter was applied to the mesh at the time of its reconstruction?

F61 How was the color of the textures generated? Color Balance and/or Multiband texture?

F5 the identification code of the 3D model export?

F69 Can you provide a detailed description of the export of the final 3D model?

F70 How many final uses does the final 3D model produced have?

F33 The identification code of the acquisition phase?

F13 Which official methodology was used to perform the acquisition?

F17 Which type of trajectory or path was used to perform the acquisition?

F14 Which official and published methodology was used to perform the matching in the point cloud generation phase?

F34 What is the identification code of the processing phase and how can it be described?

F48 Which official and published densification method was referred to?

F15 Which official and published mesh reconstruction method was referred to?

F105 Which digital interrogation tools were used to interrogate the 3D model?

F142 Can you provide a detailed description of the comparison activity between the two 3D models?

F143 What is the tolerance ratio between the two 3D models?

F144 What software was used to compare the 3D models?

F145 What methodology was selected to perform the comparison between the two 3D models?

4.2 3D Model for Precision Molding and Casting

1. F101 What is the identification code of your survey?
2. Did you use an official methodology for your identification code?
3. F1 Which finding or structure is the object of your survey?
4. Can you provide a link to an official resource of the object of your survey?
5. F42 Where did the survey take place? In which specific location?
6. F19 What is the scale of the object of your survey?
7. Did you refer to a specific vocabulary/glossary to indicate the scale?
8. F43 On what date did your survey take place?
9. F27 Can you provide a link to the densified cloud resulting from your survey?
10. F31 With which software did you process the point cloud starting from the raw data?
11. F53 How many points does your Densified Point Cloud consist of?
12. F62 Can you provide a link to the repository where the textures of the 3D model are stored?
13. F64 Can you describe in detail the modification operations performed on the 3D model before its final export, indicating which elements were eliminated, whether registration and/or alignment operations were performed and what reasons led to such modifications?
14. F100 Can you provide a link to download and/or view the final 3D model?
15. F59 What is the digital scale of the object, that is, is there a coincidence between the real scale and the digital scale of the object and if so in what ratio can it be expressed?
16. F71 What are the final purposes of the 3D model?
17. F2 What is the identification code of the acquisition of the find?
18. F9 What specific instrument was used for the acquisition?
19. F20 What type of instrument was used for the acquisition?
20. F30 What software was used for the acquisition?
21. F35 What is the physical carrier of the raw data of the acquisition?
22. F45 What are the coordinates of where the survey took place?
23. F26 Can you provide a link to the sparse point cloud?
24. F28 Can you provide a link to the 3D Mesh derived from the densified point cloud?
25. F29 Can you provide a link to the textured Mesh of the model?
26. F104 Is the final 3D model the result of the fusion of different models and/or different point clouds? If so, how many?
27. Can you provide the links of the original models that were merged?
28. F4 What is the identification code of the modeling activity?
29. F39 Who performed the modeling and modification of the 3D model? Can you provide his ORCID or his linkedin contact?
30. F58 What modification activities were performed on the original 3D model?
31. F63 How many textures are associated with the 3D model?
32. F65 When was the 3D model modification activity performed?
33. F66 What are the elements that were determined as central to the model in the modeling phase and for what reason?
34. F67 What are the elements that were eliminated from the model and for what reason?
35. F68 What is the physical carrier of the final 3D model?
36. F6 Can you provide the link to the Raw data of the acquisition

37. F25 Can you describe the typology and the main characteristics of the raw data of the acquisition

38. F7 In the context of photogrammetric acquisitions can you provide the link to the raw images produced by the acquisition ?

39. F41 In the context of photogrammetric acquisitions how many photographs make up the acquisition ?

40. F12 Which trajectory or path was used for the acquisition ?

41. F37 Who is the operator of the acquisition ? Can you indicate his ORCID or his Linkedin profile ?

42. F40 Can you provide an Eidotype of the acquisition carried out ?

43. F18 What is the dominant geometry of the object ? Do you refer to a specific vocabulary or thesaurus to indicate the dominant geometry of the object ?

44. F44 Can you provide a detailed description of the acquisition carried out ?

45. F103 What are the characteristics of the calibration of the acquisition tools ?

46. F3 The identification code of the processing ?

47. F21 What type of algorithm or what specific algorithm was used for the matching and extraction of the sparse point cloud?

48. F22 What type of algorithm or what specific algorithm was used for the densification of the point cloud?

49. F10 On which specific device was the processing performed?

50. F38 Who performed the processing? Can you indicate his ORCID or Linkedin profile?

51. F46 Can you provide a short description of the matching?

52. F47 Can you provide a short description of the densification?

53. F49 Can you indicate the ratio of the near sampling points range in the context of densification or, in the case of photogrammetry, the structure for motion point seeds?

54. F50 Can you describe how you measured and analyzed the sparse point cloud?

55. F51 How many points are in the sparse point cloud?

56. F52 Can you describe how you measured and analyzed the dense point cloud?

57. F54 Does the point cloud have vertices with quality? If so, what is their value?

58. F55 In the context of densification, how and what principle was adopted for depth noise filtering?

59. F23 In the context of mesh creation, what algorithm or type of algorithm was used to perform the mesh reconstruction starting from the dense point cloud?

60. F32 What software was used to modify the mesh?

61. F56 Can you describe in detail how the mesh reconstruction was generated?

62. F16 What method was used for texturing the mesh?

63. F60 What smoothing filter was applied to the mesh at the time of its reconstruction?

64. F61 How was the color of the textures generated? Color Balance and/or Multiband texture?

65. F5 the identification code of the 3D model export?

66. F69 Can you provide a detailed description of the export of the final 3D model?

67. F70 How many final uses does the final 3D model produced have?

68. F14 Which official and published methodology was used to perform the matching in the point cloud generation phase?

69. F34 What is the identification code of the processing phase and how can it be described?

70. F48 Which official and published densification method was referred to?
71. F146 Surface Detail Resolution: Can you specify the surface resolution of the 3D model (in microns or millimeters) to ensure the fine details of the artifact are accurately captured and replicated?
72.
73. F147 Material Tolerance Requirements: What are the tolerance requirements in the printing or production process to achieve an accurate replica of the model?
74. F148 Scaling Factor: Is the 3D model at a 1:1 scale, or has it been scaled for analysis or production purposes? Please provide details.
75. F149 Production Method Compatibility: What production or printing technologies (e.g., SLA, FDM, resin) are compatible with the model to produce an accurate replica?

4.3 3D Model for Digital Twins in Restoration Monitoring

1. F101 What is the identification code of your survey?
2. Did you use an official methodology for your identification code?
3. F1 Which finding or structure is the object of your survey?
4. Can you provide a link to an official resource of the object of your survey?
5. F42 Where did the survey take place? In which specific location?
6. F19 What is the scale of the object of your survey?
7. Did you refer to a specific vocabulary/glossary to indicate the scale?
8. F43 On what date did your survey take place?
9. F27 Can you provide a link to the densified cloud resulting from your survey?
10. F31 With which software did you process the point cloud starting from the raw data?
11. F53 How many points does your Densified Point Cloud consist of?
12. F62 Can you provide a link to the repository where the textures of the 3D model are stored?
13. F64 Can you describe in detail the modification operations performed on the 3D model before its final export, indicating which elements were eliminated, whether registration and/or alignment operations were performed and what reasons led to such modifications?
14. F100 Can you provide a link to download and/or view the final 3D model?
15. F59 What is the digital scale of the object, that is, is there a coincidence between the real scale and the digital scale of the object and if so in what ratio can it be expressed?
16. F71 What are the final purposes of the 3D model?
17. F2 What is the identification code of the acquisition of the find?
18. F9 What specific instrument was used for the acquisition?
19. F20 What type of instrument was used for the acquisition?
20. F30 What software was used for the acquisition?
21. F35 What is the physical carrier of the raw data of the acquisition?
22. F45 What are the coordinates of where the survey took place?
23. F26 Can you provide a link to the sparse point cloud?
24. F28 Can you provide a link to the 3D Mesh derived from the densified point cloud?
25. F29 Can you provide a link to the textured Mesh of the model?
26. F104 Is the final 3D model the result of the fusion of different models and/or different point clouds? If so, how many?
27. Can you provide the links of the original models that were merged?
28. F4 What is the identification code of the modeling activity?
29. F39 Who performed the modeling and modification of the 3D model? Can you provide his ORCID or his linkedin contact?
30. F58 What modification activities were performed on the original 3D model?
31. F63 How many textures are associated with the 3D model?
32. F65 When was the 3D model modification activity performed?
33. F66 What are the elements that were determined as central to the model in the modeling phase and for what reason?
34. F67 What are the elements that were eliminated from the model and for what reason?
35. F68 What is the physical carrier of the final 3D model?
36. F6 Can you provide the link to the Raw data of the acquisition

37. F25 Can you describe the typology and the main characteristics of the raw data of the acquisition
38. F7 In the context of photogrammetric acquisitions can you provide the link to the raw images produced by the acquisition ?
39. F41 In the context of photogrammetric acquisitions how many photographs make up the acquisition ?
40. F12 Which trajectory or path was used for the acquisition ?
41. F37 Who is the operator of the acquisition ? Can you indicate his ORCID or his Linkedin profile ?
42. F40 Can you provide an Eidotype of the acquisition carried out ?
43. F18 What is the dominant geometry of the object ? Do you refer to a specific vocabulary or thesaurus to indicate the dominant geometry of the object ?
44. F44 Can you provide a detailed description of the acquisition carried out ?
45. F103 What are the characteristics of the calibration of the acquisition tools ?
46. F3 The identification code of the processing ?
47. F21 What type of algorithm or what specific algorithm was used for the matching and extraction of the sparse point cloud?
48. F22 What type of algorithm or what specific algorithm was used for the densification of the point cloud?
49. F10 On which specific device was the processing performed?
50. F38 Who performed the processing? Can you indicate his ORCID or Linkedin profile?
51. F46 Can you provide a short description of the matching?
52. F47 Can you provide a short description of the densification?
53. F49 Can you indicate the ratio of the near sampling points range in the context of densification or, in the case of photogrammetry, the structure for motion point seeds?
54. F50 Can you describe how you measured and analyzed the sparse point cloud?
55. F51 How many points are in the sparse point cloud?
56. F52 Can you describe how you measured and analyzed the dense point cloud?
57. F54 Does the point cloud have vertices with quality? If so, what is their value?
58. F55 In the context of densification, how and what principle was adopted for depth noise filtering?
59. F23 In the context of mesh creation, what algorithm or type of algorithm was used to perform the mesh reconstruction starting from the dense point cloud?
60. F32 What software was used to modify the mesh?
61. F56 Can you describe in detail how the mesh reconstruction was generated?
62. F16 What method was used for texturing the mesh?
63. F60 What smoothing filter was applied to the mesh at the time of its reconstruction?
64. F61 How was the color of the textures generated? Color Balance and/or Multiband texture?
65. F5 the identification code of the 3D model export?
66. F69 Can you provide a detailed description of the export of the final 3D model?
67. F70 How many final uses does the final 3D model produced have?
68. F33 The identification code of the acquisition phase?
69. F13 Which official methodology was used to perform the acquisition?
70. F17 Which type of trajectory or path was used to perform the acquisition?

71. F14 Which official and published methodology was used to perform the matching in the point cloud generation phase?
72. F34 What is the identification code of the processing phase and how can it be described?
73. F48 Which official and published densification method was referred to?
74. F15 Which official and published mesh reconstruction method was referred to?
75. F105 Which digital interrogation tools were used to interrogate the 3D model?
76. F150 Baseline Dataset Date: What is the date of creation of the 3D model that serves as the baseline for monitoring changes over time?
77. F151 Surface Deviation Analysis Data: Can you provide details about the methodology and results of the surface deviation analysis compared to the previous reference model?
78. F152 Restoration Intervention Metadata: Can you describe any restoration interventions performed on the artifact and link them to this model to document the changes?

4.4 3D Model for Structural Load Analysis

1. F101 What is the identification code of your survey?
2. Did you use an official methodology for your identification code?
3. F1 Which finding or structure is the object of your survey?
4. Can you provide a link to an official resource of the object of your survey?
5. F42 Where did the survey take place? In which specific location?
6. F19 What is the scale of the object of your survey?
7. Did you refer to a specific vocabulary/glossary to indicate the scale?
8. F43 On what date did your survey take place?
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11. F53 How many points does your Densified Point Cloud consist of?
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13. F64 Can you describe in detail the modification operations performed on the 3D model before its final export, indicating which elements were eliminated, whether registration and/or alignment operations were performed and what reasons led to such modifications?
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16. F71 What are the final purposes of the 3D model?
17. F2 What is the identification code of the acquisition of the find?
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19. F20 What type of instrument was used for the acquisition?
20. F30 What software was used for the acquisition?
21. F35 What is the physical carrier of the raw data of the acquisition?
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23. F26 Can you provide a link to the sparse point cloud?
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25. F29 Can you provide a link to the textured Mesh of the model?
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43. F18 What is the dominant geometry of the object ? Do you refer to a specific vocabulary or thesaurus to indicate the dominant geometry of the object ?
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65. F5 the identification code of the 3D model export?
66. F69 Can you provide a detailed description of the export of the final 3D model?
67. F70 How many final uses does the final 3D model produced have?
68. F14 Which official and published methodology was used to perform the matching in the point cloud generation phase?

69. F34 What is the identification code of the processing phase and how can it be described?
70. F48 Which official and published densification method was referred to?
71. F105 Which digital interrogation tools were used to interrogate the 3D model?