



Grant Agreement 101079792, RESILIENCE PPP

Training Management Report

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List of Abbreviations

AI	Artificial Intelligence
BoD	Board of Directors
DH	Digital Humanities
GA	Grant Agreement
GLAM	Sector that includes Galleries, Libraries, Archives, Museums
IT	Information Technology
M	Month
PPP	Preparatory Phase Project
RI	Research Infrastructure
SSH	Social Sciences & Humanities
SSHOC	Social Sciences & Humanities Open Cloud
TNA	Transnational Access
WP	Work Package
WU	Work Unit

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1. Introduction

"I do not believe that the highest knowledge can be acquired except by a mind which is at once wide-awake and willing to be taught."

George Eliot (pen name of Mary Ann Evans), in: Middlemarch (1871-72)

The RESILIENCE Training Management Report presents, in accordance with Grant Agreement 101079792, "the results of the pilot training activities, evaluating the results, difficulties and potential risks and opportunities"¹ carried out during the Preparatory Phase of the RESILIENCE Research Infrastructure. The report therefore offers an evidence-based analysis of how the planned training concepts functioned in practice.

1.1. Structure of the Deliverable and Scope of the Report

Within the RESILIENCE Preparatory Phase Project (PPP), "**Task 2.7 Preparing Training services activities**" was defined as follows: "Starting from the experience gained and materials provided by the ReReS trainings, RESILIENCE analyses the training resources (people, procedures, skills, tools, etc.) necessary to **create a RESILIENCE training framework allowing the later establishment of future training programmes**, providing tools and methods to support researchers in using RESILIENCE services and/or even creating their own training materials."²

The planned **training framework for the design and implementation of future RESILIENCE training courses** was described in detail in Deliverable D2.6 **Training Services Management Plan** in July 2025 (for a brief description, see Chapter 1.4 of the present report).

In contrast, the **Training Management Report** documents what was implemented and achieved during the RESILIENCE PPP. It presents the **methodological approach adopted for the development of the RESILIENCE training prototypes** in Chapter 2 and describes the **implementation of these RESILIENCE training prototypes** in Chapter 3: The three prototype training courses are documented in detail, explaining their **rationale**, the **user needs they address**, and their **relevance for the research on religions** (Chapters

¹ Text of the Grant Agreement No. 101079792 (GA), Description of the Action (Part A), p. 20.

² GA, Description of the Action (Part A), p. 8.

3.1, 3.2, 3.3). The report further presents the **results of the evaluations**, including assessments by participants and organisers, and **identifies new opportunities** that emerged from the implementation of the prototypes. In addition, **challenges encountered during the training activities** are analysed, main **critical points** are identified, and **mitigation measures** are documented for each prototype.

Chapter 4 synthesises the **outcomes and key insights** derived from the prototyping activities. These include the **further development of the RESILIENCE Training Framework**, the **systematic identification of training needs**, the **formulation of key recommendations for training design and delivery**, **progress towards sustainable training management and delivery structures**, **cooperation within the SSHOC training context**, the **establishment of standardised evaluation practices**, and the **foundation for scalability and transferability**. **Chapter 5** summarises the **experience** gained from the design, implementation, and evaluation of the RESILIENCE training activities and describes **how these results inform the further development of training services**.

1.2. Why the Study of Religions Requires a Dedicated Training Programme

Research on religions is shaped by a set of distinctive characteristics that generate specific methodological and practical training needs. Religious traditions engage with the numinous and the sacred, dimensions that remain present even in critical and scholarly analysis.

At the same time, the field is marked by **exceptional diversity of sources**, spanning **multiple languages and scripts** and encompassing **textual, material, visual, oral, and immaterial forms**, such as artefacts, architecture, rituals, music, and lived practices. **Access to these sources is frequently restricted**, embedded in sensitive social and political contexts, and dependent on trust-based relationships with religious communities and custodial institutions.

As a consequence, **research on religions cannot be conducted exclusively in the digital domain**. While **digital tools** are indispensable, they **must be combined with engagement with physical objects, sites, and communities**, as well as with interpretative approaches that **address non-material meanings**. **Effective training in this field therefore needs to integrate digital, physical, and methodological perspectives** in a coherent way.

The RESILIENCE Training Framework responds to these specific requirements. It is not intended to duplicate training already available, such as generic digital humanities courses, tool trainings, or language instruction. Instead, it is designed to address gaps in existing provision and to offer training that is explicitly tailored to our international, interdisciplinary, and interfaith audience of researchers and professionals dealing with the study of religions.

Drawing on a **unique network of expertise on religions across Europe and beyond**, RESILIENCE offers training by pooling expertise that researchers would otherwise have to access across multiple institutions and initiatives.

The **RESILIENCE Training Framework offers a flexible structure** that can be populated with training activities responding to evolving research practices and emerging needs in the study of religions, thereby ensuring both coherence and adaptability for the future.

1.3. Key Achievements

- Development, piloting, and evaluation of **three training prototypes** addressing methodological, technical, and domain-specific needs in research on religions.
- Co-creation of a **user-centred training framework**, aligned with systematically assessed training needs and developed with contributions from all consortium partners.
- Establishment of **standardised methodologies** for training-needs assessment, training design workflows, and quality evaluation.
- Successful piloting of **on-site training with physical access to religious heritage**, demonstrating RESILIENCE's capacity to support research on material and intangible sources.
- Consolidation of **RESILIENCE Key Recommendations for Training Design and Delivery**, structured around **five core areas**: course planning and organisation; learner-centred course design; didactical and pedagogical methods; evaluation, feedback, and impact assessment; and FAIR-by-design training materials.
- Preparation for the Implementation Phase through **scalable, reusable training models** and defined requirements for a training platform and repository.

1.4. Relation to the Training Services Management Plan

This deliverable **D2.13 Training Management Report** builds on [D2.6 Training Services Management Plan](#) (July 2025), which defines the framework of training activities provided by RESILIENCE and serves as a guide for the partners involved in the training development and delivery. The Training Services Management Plan established the conceptual and operational foundations of RESILIENCE's training services, setting out the underlying Training Framework, and answered the question "**Why a Dedicated Training Programme for Research on Religion?**", which outlined the disciplinary rationale and the specific needs that RESILIENCE training is designed to address within this research domain. It **identifies target audiences** and **establishes a model for the assessment of training needs, describes prototype designs**, and situates training within the broader research infrastructure. The Plan positions **Active Learning as a central element of RESILIENCE training**. Based on the lessons learnt from the process of developing and implementing the training prototypes, the framework known as the 'RESILIENCE KEY Recommendations for Training Design and Delivery' was established. This framework defines and explains all the steps, including "Course Planning and Practical Organisation, Aligning Course Design with Learner Needs, Didactical Design with Pedagogical Techniques and Tools, Evaluation, Feedback and Impact Assessment, FAIR-by-Design Training Material", thereby enabling the planning and delivery of bespoke training for the target audience in the future.

Building on this strategic framework of the Training Services Management Plan (D2.6), this **Training Management Report** shifts the focus from planning and design toward evaluation and evidence. Through the **systematic analysis of implementation results, participant and organiser feedback, identified challenges, and emerging opportunities**, the report generates concrete evidence on what works well in practice and where adjustments are needed. This evidence supports informed decisions on training formats, delivery modes, evaluation procedures, and management workflows, thereby **enabling the targeted refinement and strengthening of future RESILIENCE training services**, as documented in D2.6 Training Services Management Plan.

1.5. Governance, Task Coordination and Stakeholder Involvement

The work unit “Training” is jointly led by TUA and INFAL, with contributions from all consortium partners, because all partners are involved in the prototyping task. Governance and coordination were organised collaboratively, ensuring shared responsibility across the consortium for the planning, development, and implementation of the Training Programme.

All partners actively contributed to the design of the Training Programme and participated in dedicated workshops and coordination meetings, during which the pilot training programme and the training prototypes were jointly developed and refined (see Chapter 2.2).

Training Prototype 1 was implemented by INFAL, drawing on its expertise in the field of Digital Humanities. Researchers at INFAL developed a tool for the detection of text reuse in complex historical texts, together with the corresponding training course to support its use and methodological application.

Training Prototype 2 was developed by TUA, drawing on its expertise in primary sources and intangible heritage for historical research on religions, as well as its long-standing collaboration with religious communities, archives, and libraries in Rome, as it was designed as an on-site training. The course was implemented jointly by TUA and INFAL and was attended on site by colleagues from the consortium partners.

Training Prototype 3 was developed by CINECA in cooperation with INFAL. CINECA was an ideal partner due to its dual profile as both a leading supercomputing centre with advanced technical expertise and an experienced provider of high-level training courses. For several years, CINECA has offered a comprehensive annual training programme in Scientific Computing, supporting researchers who require advanced skills to remain at the forefront of their fields.

Within the Work Unit Training, CINECA also contributed to outlining a future training framework, providing advice on a **platform for delivering training programmes**, and supported the development of the deliverables.

All consortium partners appointed **representatives to participate in the prototype training sessions**. These participants were deployed in a dual role: first, as **trainees** acquiring the relevant knowledge and skills, and second, as **evaluators** who conducted comprehensive assessments of the training activities. Their feedback and evaluations played a key role in the development of the recommendations and the overall training framework.

TUA and INFAl worked closely together in the evaluation of the training prototypes, analysing lessons learned and jointly developing the consolidated training framework.

2. Approach to Developing the RESILIENCE Training Framework

"The delicate art of mentoring is to help others help themselves."

Margaret J. Wheatley, in: Leadership and the New Science.
Discovering Order in a Chaotic World (1992)

Training is an essential element for a research infrastructure. A customised training programme for scholars of religions will ensure that future users can make optimal use of the tools and services offered. In its Preparatory Phase, RESILIENCE developed a Training Programme with Training Prototypes for fundamental and substantial knowledge in the field of research on religions.

In line with the Grant Agreement, Task T2.7 "Preparing Training Services Activities" was carried out by "Starting from the experience gained and materials provided by the ReReS trainings, RESILIENCE analyses the training resources (people, procedures, skills, tools, etc.) necessary to create a RESILIENCE training framework allowing the later establishment of future training programmes, providing tools and methods to support researchers in using RESILIENCE services and/or even creating their own training materials." (Text GA, Description of the Action (Part A), p. 8).

To fulfil these objectives, the Work unit, led jointly by **TUA** and **INFAl** with contributions from **all consortium partners**, adopted a collaborative, iterative, and evidence-informed approach. The development process combined structured workshops, thematic consultations, bilateral exchanges, and cross-project dialogue. This ensured that the resulting Training Management Plan would accurately reflect the needs, capacities,

and strategic priorities of the partners and align with the broader architecture of the RESILIENCE Research Infrastructure.

2.1. Methodological Approach

The work proceeded in three mutually reinforcing strands:

1. Integrating prior experience and domain knowledge

Knowledge acquired through the design and implementation of training courses in the RESILIENCE predecessor project RelReS³ informed the present work and was incorporated through the use of its findings and deliverables. RelReS was the previous INFRAIA project, running from 2018 to 2021, which developed a training programme with a series of training courses: six “Schools on the Use and Study of Special Documents” and six “Courses on Digital Humanities and Historical Religious Studies”, specified in the deliverable [D5.1 “Training Programme”](#), with a [Support Page: Training – RelReS](#), and established a methodological framework with a “Training Toolbox Report”, an internal document that is used in the development of the RESILIENCE training programme.⁴

These experiences provided concrete examples of successful training formats, resource requirements, and thematic emphases relevant to the study of religions. They also offered a tested set of teaching materials, workflows, and best practices that informed the first conceptual sketches of the RESILIENCE training framework.

2. Analysing training resources and capacities across the consortium

The partners jointly analysed the resources available for training. This included mapping of existing expertise, available infrastructures and methodological competencies. Through this process, the consortium identified the procedures, skills, and tools needed to form a coherent and sustainable training framework.

3. Iterative co-creation with partners

³ The RelReS project was launched in February 2018 and concluded in July 2021. It was funded under the European Union’s Horizon 2020 programme, Grant Agreement No 730895.

⁴ The RelReS deliverables D5.1 Presentation of the Training Programme (October 2018), and the Training Toolbox Report (REIRES-WP2-D2.3 Training Toolbox Report, May 2019) contain various didactic aspects for training courses, which are incorporated into D2.6 Trainings Management Plan. The Training Toolbox Report is also included in the Appendix of this deliverable, part 13.

The Training Framework was developed through repeated cycles of discussion, feedback, and refinement. Workshops and consultations enabled partners to articulate expectations, compare institutional practices, share experiences, and collectively shape the structure and priorities of the RESILIENCE training framework. This collaborative and iterative methodology ensured that the final model would be both conceptually robust and practically feasible.

2.2. Collaborative Workshops and Targeted Consultations with Consortium Partners

The development of the RESILIENCE Training Framework was grounded in intensive collaboration across the consortium, combining full-partner workshops with targeted bi- and multilateral consultations. Together, these formats constituted the core operational layer of the iterative co-creation process, enabling both shared strategic alignment and focused refinement of specific components.

A series of dedicated workshops brought together all consortium partners to collectively define the content, structure, and priorities of the Training Management Plan and the emerging training framework. These workshops marked key milestones in the collaborative development process:

- **Inaugural Workshop (remote): “How to Design the RESILIENCE Training Framework” – 10/10/2023:** This initial workshop introduced the task objectives, launched the systematic collection of partners’ expertise, and established the methodological foundations for the Training Framework. It enabled all partners to contribute ideas, expectations, and prior experiences, forming the basis for the first conceptual sketches of the framework.
- **Workshop in Leipzig, DE: “Development of the RESILIENCE Training Framework” – 27–28/03/2024:** Conducted as an in-person meeting, this workshop focused on in-depth conceptual development. Partners jointly refined the draft Training Framework, discussed prototype structures, and explored strategic questions regarding scope, sequencing, and sustainability (see [Developing the RESILIENCE Training Programme: Where to Start and Where to Go?](#); [RESILIENCE Prepares its Training Program Making Use of Prototyping - RESILIENCE](#)).
- **Virtual Workshop: “Advancing the RESILIENCE Training Framework” – 03/06/2024:** This workshop reviewed the consolidated inputs from previous phases, finalised the overall structure of

the Training Prototypes, and ensured alignment with preparatory-phase priorities and project-wide objectives.

Complementing the full-consortium workshops, a series of **targeted bi- and multilateral consultations** was organised to address specific thematic, technical, or institutional aspects of the Training Framework in greater detail. These exchanges allowed for focused discussion, validation of assumptions, and the integration of specialised expertise that could not be fully addressed in larger group settings. These consultations included, among others:

- BIU / KUL / INFAI (Leuven, BE) – 13/09/2023
- TUA / INFAI workshops – 17/01/2024 (remote), 11/06/2025 (Berlin, DE)
- FSCIRE / INFAI / TUA – 30/08/2024 (remote)
- ITSERR project / INFAI / TUA – 27/06/2024 (remote)
- EPHE / INFAI – 30/08/2024 (remote)
- UNIWARSAW / KUL / INFAI / TUA – 13/09/2024 (remote)
- CINECA / INFAI workshops – 19/11/2024, 16/01/2025, and further remote exchanges.

In addition, two news items published on the project website informed users about recent developments in the training programme, see [Prototyping RESILIENCE's Training Programme - RESILIENCE](#); [RESILIENCE Prepares its Training Program Making Use of Prototyping - RESILIENCE](#) (07 June 2024); [Promoting Religious Literacy while Prototyping RESILIENCE's Training Program - RESILIENCE](#) (10 September 2024).

Through this combination of collective workshops and targeted consultations, the consortium ensured broad participation, shared ownership, and continuous feedback, while also enabling in-depth work on particular training prototypes, technical infrastructures, and institutional requirements. This integrated collaborative approach was instrumental in producing a Training Framework that is both conceptually coherent and practically grounded across the diverse contexts represented in RESILIENCE.

2.3. Cooperation of RESILIENCE within the SSHOC Training Pillar

RESILIENCE is engaged in the SSHOC Training Pillar as part of a broader coordination effort among European research infrastructures in the social sciences and humanities. The cooperation is currently in the planning phase and aims to **improve the visibility, accessibility, and coherence of training and educational activities across SSHOC partner infrastructures.**

Within the SSHOC Training Pillar, the participating infrastructures plan to coordinate their training offers in order to reduce duplication, improve discoverability, and highlight areas of convergence. A particular focus is placed on making existing training materials more user-friendly and easier to find through the SSHOC Marketplace, rather than creating entirely new content.

Planned activities include the introduction of regular communication formats; these contributions are intended to draw attention to relevant training programmes, promote cross infrastructure exchange, and support dissemination through SSHOC communication channels.

Further discussions focus on the possible development of joint or shared training concepts, including modules that demonstrate how different disciplines work with the same tools and data. This includes consideration of multilingual approaches and the potential use of AI supported translation to increase accessibility. There is also interest in developing outreach formats, such as workshops at disciplinary conferences, to raise awareness of the SSHOC Marketplace and tailor its offerings to different research communities.

From the perspective of RESILIENCE, the cooperation raises strategic questions regarding the hosting and aggregation of training materials, the potential use of shared platforms, and the integration of training content within existing infrastructures. The **potential collaboration within the SSHOC Training Pillar** provides an important framework for **aligning training strategies, sharing resources, and strengthening the role of training within the European SSH research infrastructure landscape.**

2.4. Outcome of the Conceptual and Strategic Approach

During the Preparatory Phase, RESILIENCE offered a limited number of operational services, most notably [Transnational Access \(TNA\)](#) and the discovery environment [RelReSearch](#), for which training activities already existed. At an early stage, the WU “Training” therefore faced a strategic decision: rather than compiling a comprehensive but disparate catalogue of existing expertise and courses contributed by individual partners,⁵ the WU aimed to **go beyond aggregation and develop a genuinely new and field-specific approach to training for research on religions.**

The objective was to design a training programme that would be essential and meaningful for the study of religions, capable of responding to its distinctive research practices while remaining adaptable to future developments. This led to the conception of a **flexible Training Framework** based on modular structures, comparable to containers, that can be populated with different thematic, methodological, or technical content depending on the needs of the target audience.

As a result of joint discussions and coordinated planning across the consortium, it was agreed to develop **three training prototypes** addressing different user groups, primarily researchers and GLAM professionals, and to test these in **diverse formats**, including both remote and on-site delivery. The prototypes served as experimental environments in which planning, implementation, evaluation, and refinement of training activities could be systematically assessed.

Through this structured and participatory process, the consortium successfully developed the **Training Services Management Plan**, which represents a central outcome of the work in the Preparatory Phase. The Plan:

- articulates a **framework of academic training activities specific to RESILIENCE and its target audience of researchers and GLAM professionals who are involved in the study of religions;**
- integrates **disciplinary and methodological insights** developed in the predecessor project RelReS;
- reflects the **capacities, expertise, and strategic priorities** of all consortium partners;

⁵A **consolidated overview of training expertise available across all consortium partners** was compiled by the WU “Training” and may serve as a resource for future training activities.

- provides **clear, practical guidance for partners** involved in **designing, delivering, and evaluating training activities**; and
- lays a robust **foundation for future training programmes**, including support for researchers in using RESILIENCE services and in developing their own training materials.

This collaborative approach ensured that the resulting training framework is not only conceptually sound, but also firmly anchored in the practical realities, shared goals, and long-term ambitions of the RESILIENCE community.

2.5. Objectives of Prototyping

An integral component of the approach to developing the RESILIENCE Training Framework was the **use of Training Prototypes** as experimental and learning-oriented formats. The decision to implement prototyping was taken during dedicated consortium workshops and reflected a strategic choice to move beyond abstract planning towards evidence-based training design. The primary objective of this prototyping phase was to gain a detailed understanding of how training activities relevant to RESILIENCE target audiences can be most effectively planned, implemented, evaluated, and iteratively improved.

The design of the prototypes was firmly grounded in a user-centred perspective. It built on the systematic identification and prioritisation of user requirements conducted in Work Package 3 “Users”. Through individual interviews and group discussions, researchers, librarians, and archivists were consulted regarding their general research practices and their specific expectations towards a research infrastructure for the study of religions. The collected qualitative data were transcribed, coded, and categorised, and subsequently subjected to quantitative analysis. This process resulted in a prioritised set of user requirements formulated as user stories, providing a structured and empirically validated reference point for the development of training activities.⁶

The RESILIENCE service and training strategy was aligned with these prioritised requirements and served as a guiding framework for the development of both the training portfolio and the broader service catalogue. During the PPP phase, the key user priorities “Accessibility” (15 %), “Networking/Mobility/

⁶ [RESILIENCE WP3 D3.5 User-Stories-Catalogue-1st-Batch](#) and [RESILIENCE WP3 D3.6 User Stories Catalogue - 2nd Batch](#).

Transnational Access” (14 %) and “Research Data Management” (10 %) were already addressed through training activities implemented in WP2.⁷

The prototyping phase was therefore explicitly conceived as a complementary step, targeting further high-priority needs that had not yet been covered in depth.

Against this background, three prototypes were developed, each addressing a distinct and also highly ranked cluster of user requirements. The priority area “Software and Tools” (10 %) was addressed through two prototypes: “**Uncovering Intertextuality through Digital Tools**” (Prototype 1) and “**AI for Religious Studies – Automatic Keyword Tagging of Multimedia Data**” (Prototype 3). The requirement category “Enhancement of Research and the Field of Religious Studies” (9 %) was addressed through “**Religion for the Senses. How to Read, Treat and Hear Religious Sources**” (Prototype 2). Together, the three prototypes cover methodological, technical, and conceptual dimensions of research support within RESILIENCE.

2.6. The Development of the Training Framework through Prototyping

The underlying logic of the prototyping process is illustrated in the following **Figure 1: Objective of RESILIENCE Training Prototypes**. The figure visualises an **iterative cycle** for each prototype: **develop, test, evaluate, and derive lessons learned**. These cycles fed into a cumulative learning process in which insights gained from individual prototypes were consolidated and translated into the **RESILIENCE Training Services Management Plan (D2.6)**.

In this sense, the prototypes function not only as individual training offerings, but also as structured learning instruments for the development of a scalable and sustainable training framework.

⁷ For the **User Requirement “Accessibility”**, see the training on ReIReSearch [“Online Demo: What Can ReIReSearch Do for You?”](#) in December 2023; for **User Requirement “Networking/Mobility/Transnational Access”**, see RESILIENCE Training courses for TNA Hosts (“TNA Host Information Session”) in June 2022, June 2023, September 2024; **User Requirement “Research Data Management”**, see RESILIENCE Training on “FAIR Principles and Religious Studies” in September 2023 with [Webinar](#); RESILIENCE [“Data Management Training”](#) in October 2024.

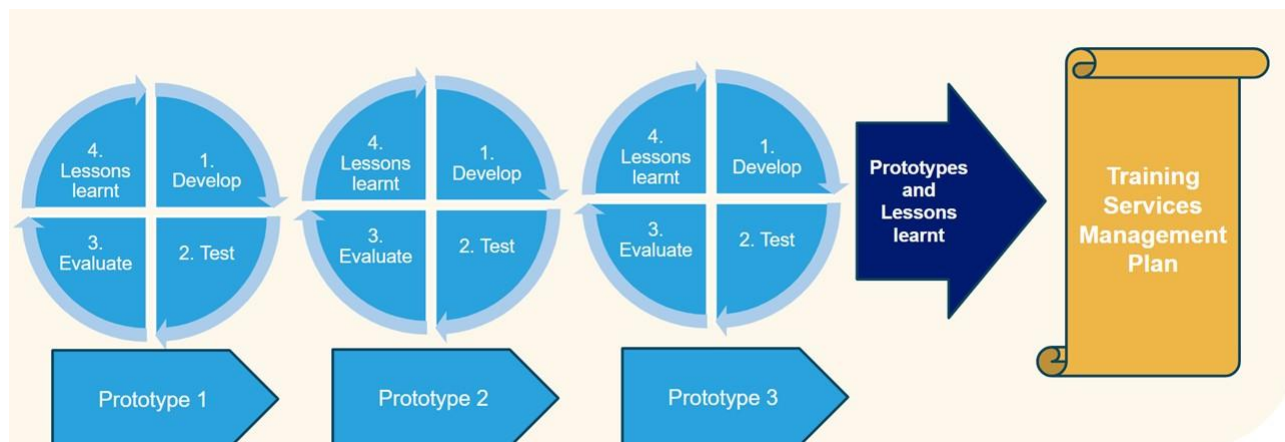


Figure 1: Objective of RESILIENCE Training Prototypes

Importantly, the prototypes were intentionally implemented in **different formats (on-site and remote)** and **tailored to the two primary RESILIENCE target groups: researchers and librarians/archivists/GLAM professionals**. This diversity of formats and audiences was chosen in order to test a wide range of conditions, pedagogical settings, and organisational requirements.

In the **Implementation Phase of RESILIENCE**, the prototypes developed during the PPP are intended to **serve as reusable models that can be adapted, scaled, and filled with alternative content** (for example, by applying the same training design to other digital tools or thematic areas).

On the basis of the findings and evaluations generated through the training prototyping activities, the **“RESILIENCE Key Recommendations for Training Design and Delivery”** were developed and consolidated in Deliverable D2.6.

Detailed descriptions of each of the three training prototypes and their specific objectives, structures, and outcomes are provided in Chapter 3.

2.7. Participants and their Dual Role in the Prototyping Process

As part of the training prototyping phase, **all 13 RESILIENCE consortium partners** were invited to contribute actively by nominating one or two representatives (depending on the capacity for trainees per course) to attend each prototype training. These representatives took part in the courses in the dual role both as participants and as evaluators. They were not required to be directly involved in RESILIENCE activities and could be affiliated scholars or GLAM professionals.

Participant selection was guided by two main criteria. First, trainees were expected to be suitable for the specific training in terms of background and professional relevance. Second, they were required to be able to **critically assess the training prototype with regard to its quality, feasibility, and suitability as a future RESILIENCE training service**. This dual role ensured that **each prototype was tested** from a **learner perspective**, and also from the **perspective of training evaluation and service development**.

3. Implementation of the RESILIENCE Training Prototypes

“The training was useful for my research as it offered new methodological perspectives on interpreting religious art, space, and ritual.”

Participant of the Training in Rome, March 2025.

Building on the user-centred objectives and iterative prototyping approach outlined in the previous chapter, this chapter documents the implementation, evaluation, and outcomes of the three RESILIENCE training prototypes. Across all prototypes, implementation followed a common workflow encompassing planning, delivery, and evaluation, structured as follows:

1. Planning

- Starting point was the prioritised user requirements identified in Work Package 3, which informed:
 - the definition of targeted competences to be acquired, and
 - the scope and content of the training activities.

- Training content was aligned with the corresponding RESILIENCE services addressing the identified user needs.
- Decisions were taken regarding the most appropriate delivery mode (digital, physical, or hybrid).
- The target audience was defined for each prototype, specifying:
 - the relevant user group (researchers and/or librarians, archivists, and other GLAM professionals), and
 - the intended professional level.
- Based on these parameters, the training format was determined and, where not evident from the outset, the consortium partner best suited to implement the training was identified.
- Throughout the planning phase, the guiding principle was applied that every RESILIENCE training course is designed starting from the required competences to be achieved (see Figure 2: Training Design Based on the Needs of Researchers and Librarians/Archivists).

2. Implementation of the Training

- Course design and delivery were informed by experience gained in the ReIReS training prototypes and the Toolbox Report.⁸
- With successive prototypes, training implementation was progressively aligned with the RESILIENCE Key Recommendations for Training Design and Delivery, including:
 - course planning and practical organisation,
 - systematic alignment of course design with learner needs,
 - application of appropriate pedagogical approaches and didactic tools,
 - integration of evaluation, feedback, and impact assessment.
- All training materials were developed following a FAIR-by-design approach to ensure reusability and sustainability.

⁸ See the ReIReS deliverables [ReIReS-WP5-D5.1-Training Programme](#) and Training Toolbox Report (REIRES-WP2-D2.3 Training Toolbox Report, May 2019), see here Section 2.1.

3. Evaluation and Iteration

- Evaluation was an integral component of the workflow for all prototypes and combined quantitative and qualitative methods.
- Evaluation results were systematically analysed to identify strengths, challenges, and improvement potential.
- The insights gained fed into subsequent iterations, supporting continuous refinement and further development of the RESILIENCE Training Framework explained in D2.6.

The following figure illustrates the **needs-based approach to training design**, outlining how learning goals, user groups, training formats, and RESILIENCE services are aligned for different target audiences.

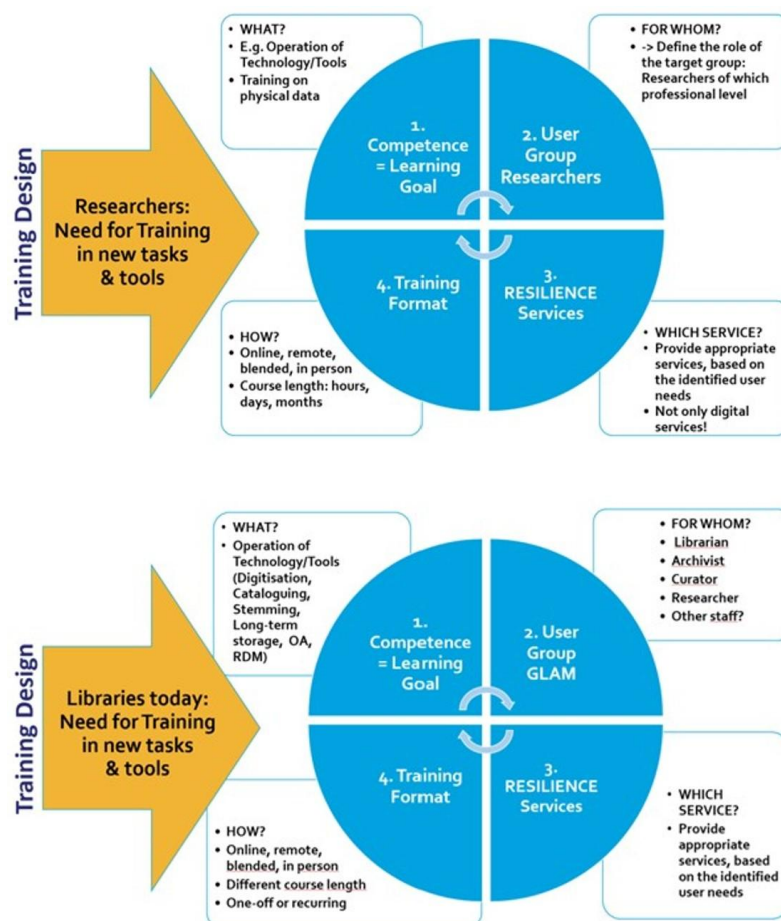


Figure 2: Training Design Based on the Needs of Researchers and Librarians/Archivists

3.1. Prototype 1: Uncovering Intertextuality through Digital Tools

Prototype 1 “Uncovering Intertextuality through Digital Tools” was the first training prototype developed within RESILIENCE and was designed to address the highly prioritised user requirement related to “Software and Tools” for the study of religions⁹. The prototype was primarily aimed at **researchers in Religious Studies, Theology and related disciplines** and **focused on the use of a digital tool for analysing intertextual relationships between texts.**

Selection of the Prototype

The prototype "Uncovering Intertextuality through Digital Tools" was deliberately chosen as a **core training experiment** because it addresses a central and long standing research task in the study of religions, namely the identification and interpretation of textual reuse, intertextual dependencies, and the transmission of religious ideas across time, languages, and traditions. Comparing texts to detect quotations, paraphrases, and conceptual borrowings is methodologically fundamental in fields such as research on religions, Theology, Philology, and History, yet it is also highly labour intensive and increasingly difficult to conduct at scale without digital support.

At the same time, the **use of advanced digital tools** for this purpose poses significant challenges for many researchers, including **technical complexity, demanding preparatory work**, and uncertainty about the methodological suitability of tools for specific research questions.

This made the prototype particularly well suited for the RESILIENCE prototyping task, as it allowed the WU to **test a competence oriented, hands on training format** for a **complex digital tool**.

From a strategic perspective, the prototype also functioned as a **test case for key elements of the RESILIENCE training framework**, including mandatory preparatory workflows, blended support formats such as helpdesk sessions, task-based learning, and integrated evaluation. In this sense, the prototype was not only relevant for its thematic focus on intertextuality, but also for its role as a learning instrument for

⁹ See the list of prioritised User Requirements in [RESILIENCE_WP3_D3.5_User-Stories-Catalogue-1st-Batch](#), Chapter 4.1, 4.2, as well as [RESILIENCE_WP3_D3.6_User Stories Catalogue - 2nd Batch](#), Chapter 4.1, 4.2.

the development of scalable, reusable, and methodologically robust training formats that are directly aligned with the needs of researchers in the study of religions.

Implementation

The training was implemented as a **remote, live, full-day training course** on 2 October 2024 and was attended by 10 participants, out of 15 registrations. The course was **preceded by a dedicated helpdesk session** on 30 September 2024 during which any outstanding questions could be clarified and the correct execution of the “Essential Preparatory Work for Training Participants”¹⁰ discussed.

In these fields, identifying text reuse and intertextual dependencies is a common but labour-intensive research task, for which digital tools can provide significant methodological support. Accordingly, the **training did not merely introduce basic tool functionality**, but also **emphasised the methodological considerations and preparatory steps required** to assess whether the application of a digital tool is appropriate for a given research question.

Under the guidance of the trainer, participants completed structured learning units **combining instruction with hands-on exercises**. After each unit, **participants independently applied the acquired competences in practical tasks**, both to reinforce learning through application and to assess whether the intended skills had been successfully acquired.

For coverage, see [Training Prototype “Uncovering Intertextuality through Digital Tools” - RESILIENCE](#) (Introduction and Essential Preparatory Work for Training Participants, September 2024), and [Digital Tools for Identifying Intertextual Relationships - RESILIENCE](#) (10 October 2024).

The **Appendix** of this deliverable includes the following documentation related to Training Prototype 1:1. **RESILIENCE Technical Course Description** of Training Prototype 1 “Uncovering Intertextuality through

¹⁰ As an essential preparatory task, participants were instructed to familiarise themselves with their system’s terminal or command line, install a text editor and a programme for compressing and decompressing files, install the latest version of Java, and finally verify that everything was set up correctly by compiling and running their first Java programme.

Digital Tools”; 2. RESILIENCE Lesson Plan of Training Prototype 1; 3. Evaluation of RESILIENCE Training Prototype 1.

Results

The prototype was successfully tested during the PPP phase and can be offered as a RESILIENCE training activity in the future, either with the same content or in adapted form for training on other digital tools. The training was designed as a course that can be delivered either online or on-site.

Key Characteristics

The table below provides a structured overview¹¹ of the training prototype’s key characteristics, organisational details, and learning objectives of the training prototype, grouped into the following areas: A. General Information, B. Targeting and Learning Objectives, C. Format and Organisation, D. Participation Requirements, E. Resources and Documentation, F. Evaluation.

A. General Information	
Training ID	INTERTEXTUALITY_RESEARCHERS
Short description (including topics covered)	<p>Training course in the use of digital tools to uncover intertextuality, demonstrated on the TRACER software, which is used by researchers to compare texts and text versions in order to recognize the reuse of verbatim and near verbatim quotations, paraphrases and even ideas and allusions. The methodology will be demonstrated by examining dependencies in English Bible Editions, but the software is language-independent and is to be used in your own research on contemporary and historical languages. TRACER is a framework of roughly 700 algorithms, whose features can be combined to create the optimal model for detecting those words, sentences and ideas that have been reused across texts. Created by Marco B�uchler during the eTRACES project at the University of Leipzig, TRACER is designed to facilitate research in automatic text reuse detection and many have made use of it to identify plagiarism in a text, as well as verbatim and near verbatim quotations, paraphrase and even allusions. The thousands of feature combinations that TRACER supports allow to investigate not only</p>

¹¹ The initial “Technical Description” was largely derived from the training kit contained in the then draft deliverable “Monitoring and Evaluation for RESILIENCE Trainings” developed by WP5. It has been made available online from the start of the course registration phase and remains accessible to all organisers, trainers, and participants throughout both the registration and implementation phases of the training.

	contemporary texts, but also historical texts. TRACER is language independent and has been successfully tested on Ancient Greek, Arabic, Coptic, English, German, Hebrew, Latin and Tibetan. TRACER is a command line engine. The reason it does not come with a user-interface is to boost computing speed. TRACER can use large and remotely-accessible servers, which facilitate the computation of large data-sets. The reuse results can be visualised in a more readable format via TRAViz.
Organising institution	RESILIENCE WP2, T2.7: INFAl, TUA
Contact person	[Name contact Person, E-Mail]
Trainer bio, contact information	[Name Trainer, Bio, E-mail]

B. Targeting and Learning Objectives

Target audience	Researcher with digital affinity, should have worked in the command line before. Does not need to be a RESILIENCE member. PhD students or experienced scholars are equally welcome, provided they can use the method in their research and are able to evaluate the training in relation to the services of the RI and the needs of the users.
Expected learning outcomes for participants: Competences	<p>The trainees will acquire the competences:</p> <ul style="list-style-type: none"> ● Working with command line commands, ● Understanding “Historical Text Reuse Detection”, ● Recognising the importance of comprehensive text pre-processing, ● Making texts measurable for the software, ● Ability to link text fingerprints and evaluating them, ● Ability to apply parameters such as pre-processing, labelling, selection and evaluation, ● Ability to independently compare texts (in this prototype, Gospel texts from Luke and Mark), ● Recognising text reuse in a specific graphic pattern when using the software successfully.
Expected learning outcomes for participants: Outcome	<ul style="list-style-type: none"> ● Users can compare large volumes of text with this tool. ● Human error is eliminated through automation. ● Foster serendipity and “random findings” by investigating texts at scale.
Expected learning outcomes for participants: Impact	<ul style="list-style-type: none"> ● Measurable time savings in research on intertextuality. ● Measurable efficiency of use: larger amounts of text comparable.
Expected learning outcomes for RESILIENCE	Prototyping of Remote Training in the Use of a Software for the Development of the RESILIENCE Training Framework

C. Format and Organisation

Duration and schedule Helpdesk	MON, 30 SEPTEMBER 2024, 13:00-14:00 CET: Helpdesk Session (remote, live)
Duration and schedule Course	WED, 2 OCTOBER 2024, 9:00-17:00 CET: Training Course (remote, live)

Format (on-site / remote / hybrid / online / live)	Remote, live
Estimated effort	9 hours plus preparation and follow-up work
Participant capacity (min.-max.)	13-15
Confirmed registrations	15
Actual number of participant	10
D. Participation Requirements	
Prerequisites	Knowledge of IT and working in the command line. The participant should be able to evaluate the training in relation to the services of the RI and the needs of the users.
Preparatory work	Follow the steps of this Instruction [link, also shared by e-mail]
Participant Profiling and Pre-Course Information Collection about: <ul style="list-style-type: none"> • Field of expertise • Prior knowledge and experience • Motivation and special interests • Requests, preferences, and expectations 	<p>During registration, participants were asked to provide information on their field of expertise, prior knowledge and experience, motivation to participate, and specific expectations or requests. This information was used:</p> <ul style="list-style-type: none"> • by organisers and trainers to tailor the course content and didactic approach, • and was shared with participants prior to the course to support mutual awareness of the group's background and learning objectives.
Registration deadline	1 August 2024
E. Resources and Documentation	
Materials required	Computer, Video signal with enabled camera, Internet access
Course Materials	[link to:] Agenda, computer programmes, slides
Agenda	[provided before the course]
F. Evaluation	
Evaluation form	Online [Link to online evaluation was shared immediately after the course, with deadline 1 week later]
Number of completed evaluations	10 (out of 13 participants)
Response rate	100 %

Table 1: Structured Overview of the Training Prototype 1 with Organisational Details and Learning Objectives

3.1.1. Evaluation of Prototype 1

This section presents the evaluation of Prototype 1 within the RESILIENCE training prototyping process. The evaluation was designed to assess organisational and pedagogical aspects of the prototype, with a particular focus on participation patterns, preparatory workflows, and the achievement of the predefined learning objectives. It also served to test the suitability and robustness of the evaluation approach for future RESILIENCE training activities.

The evaluation combines two complementary perspectives. First, a **participant evaluation** was conducted through an online feedback form, collecting structured input on participants' learning goals, perceived achievement of objectives, and overall assessment of the training experience. The **quantitative results are presented in Chapter 3.1.2** and the **qualitative results in Chapter 3.1.3**.

Second, an **organiser evaluation (see Chapter 3.1.4)** was carried out based on joint reflection and feedback discussions among the organising partners, INFAl and TUA. This internal evaluation focused on organisational aspects, feasibility, and the effectiveness of the applied training and support measures.

Together, these quantitative and qualitative inputs provided a multi-level assessment of the prototype. The evaluation results informed reflections on participant engagement, the adequacy of preparatory measures, and the overall effectiveness of the training format, generating insights relevant for the further refinement of the RESILIENCE Training Framework.

3.1.2. Quantitative Evaluation of Prototype 1

This section presents the quantitative results of the evaluation of Prototype 1 within the RESILIENCE training prototyping process. The evaluation was designed to assess organisational and pedagogical aspects of the prototype, with a particular focus on participation patterns, preparatory workflows, and the achievement of the predefined learning objectives. It also served to test the suitability and robustness of the evaluation approach for future RESILIENCE training activities.

The evaluation combines two complementary perspectives. First, a **participant evaluation** was conducted through an online feedback form, collecting **structured input on participants’ learning goals, perceived achievement of objectives**, which is presented in his chapter.

The overall assessment of the training experience by the participants and the organiser evaluation are presented in Chapter 3.1.3 as qualitative results.

Response rate: 100 %. All 10 participants who attended the training completed the participant evaluation, so that the evaluation achieved a response rate of 100 %, ensuring full coverage of participant feedback for the quantitative assessment.

Achievement of Learning Goals

The **participant evaluation** first examines whether the **learning objectives, formulated as competencies and assigned to the individual course modules**, were achieved. Participants were asked to assess the extent to which the course objectives of modules 1–6 were met, using the categories “Poor”, “Satisfactory”, “Good”, or “Very good”. The quantitative results of the participant evaluation, based on responses to Questions 1–6 of the online evaluation form, are summarised in the following table:

Evaluation Question	Score “Poor”	Score “Satisfactory”	Score “Good”	Score “Very good”
1. Historical Text Reuse Detection: I am familiar with the complexity of “Historical Text Reuse Detection”	0	1	2	7
2. Pre-processing: I am aware of the importance of comprehensive pre-processing of texts:	0	1	3	6
3. Featuring and Selection: I have understood how to make texts measurable by breaking them down into units and select	1	0	3	6
4. Linking and Scoring:	1	1	3	5

Evaluation Question	Score "Poor"	Score "Satisfactory"	Score "Good"	Score "Very good"
I was introduced to techniques for linking different fingerprints to each other and scoring them				
5. Hands-on session with comparison of text reuse between the books of Luke and Mark: I was able to experiment with parameters like Preprocessing, Featuring, Selection, and Scoring	1	0	4	5
6. Presentation of Results: I was able to identify the intertextual relation between the two books (diagonal line in the dotplot view)	1	0	2	7
Score sum	4	3	17	36
Score percentage	7 %	5 %	28 %	60 %

Table 2: Quantitative Results Participant Evaluation Prototype 1, Question 1–6

The quantitative evaluation indicates a very high level of achievement of the course objectives across Modules 1 to 6. The majority of responses, 88 %, rated the achievement of learning objectives as "very good" or "good". Only a small share of responses indicated "satisfactory" at 5 %, or "poor" at 7 %. Overall, these results demonstrate that **the course objectives were largely achieved and that the training format effectively supported participant learning across all modules.**

Overall Assessment of the Training

Participants rated their **overall impression** of the training on a scale from 1 to 10, where 1 represented the lowest rating and 10 the highest. The training achieved a **score of 9.1/10**, indicating a **very high level of overall satisfaction** among participants.

Perceived Usefulness of the Tool for Research

Participants were asked to assess the statement "The TRACER tool will be useful for my research" using the response options "strongly disagree", "disagree", "neutral", "agree", and "strongly agree". **Sixty percent of participants selected "agree" or "strongly agree"** (each 30 %), while **40 percent selected "neutral"**. No participants expressed disagreement. This distribution indicates a clearly positive assessment of the tool's research relevance, with a majority recognising its usefulness and a substantial proportion identifying potential value that may require further application within their own research context.

3.1.3. Qualitative Evaluation of Prototype 1

In addition to the quantitative evaluation, participants were invited to provide written feedback through open questions. The qualitative responses offer deeper insight into participant perceptions of the training, its strengths, and areas for improvement, as well as reflections on the applicability of the tool in individual research contexts.

Perceived Strengths of the Training ("What did you like most about the training?", Question 7: 10 answers)

Responses to the question "What did you like most about the training" (Question 7) indicate a consistently positive assessment of the trainer's competence, didactic approach, and engagement with participants. **Eight participants** highlighted the **clarity of explanations** and the structured, gradual introduction to the subject matter, emphasising that complex content was communicated in an understandable way. **Three responses** specifically stressed that **technically demanding concepts were explained in a manner accessible to participants** with limited prior experience in information technology. In addition, **two participants** explicitly **appreciated the trainer's ability to connect computational methods with humanities research perspectives**, which supported their understanding of the methodological relevance of the tool.

Three participants also valued the **interactive nature of the training**, including the use of concrete **examples and hands-on exercises** that allowed them to **actively work with the tool**. Several responses

referred to the supportive learning environment and the encouragement to share questions, experiences, and difficulties as key contributors to a positive learning experience.

Result: Overall, the qualitative feedback confirms the **effectiveness of the pedagogical approach** and the **high quality of the training delivery**, while also acknowledging the technical complexity of the subject matter.

Suggestions for Improving Future Trainings (Question 8, 10 answers)

The suggestions for improvement can be summarised as follows and the corresponding lessons learned:

1. No need for improvement: was expressed twice.
2. Solving the technical requirements in a helpdesk session was requested twice:
 - ➔ This was indeed offered, but it should be communicated as mandatory.
3. Difficulty of the software: (1 statement)
 - ➔ This was communicated in advance and was a learning objective of the course, to recognize that digital recognition of text reuse is complex.
 - ➔ But in any case, prerequisites and requirements must be clearly communicated, see also 4. and 5.
4. Recommendation to extend the training more was requested **four times**: over 2 days (2 statements), in shorter sessions (1 statement), over several days (1 statement).
 - ➔ This was suggested by 40 % of the participants, which is quite a large proportion. It can be assumed that it was those who had less prior IT knowledge who would have benefited from more training and explanations in further sessions.
5. Desire for more depth instead of basic explanations at the beginning (1 statement)
 - ➔ A faster course can be offered to a group with more IT skills.

The Usefulness of the Tool for Research (Follow up to Question 10, 6 answers)

Following the quantitative question on the usefulness of the tool for research, participants were invited to further comment on their assessment. **Three participants** expressed a clear interest in applying the tool to their own research, particularly for comparing text versions and analysing textual traditions, provided that suitable data are available and accessible.

At the same time, **three participants** noted challenges related to the availability of relevant corpora, the technical complexity of the tool, and the need for external assistance when applying it independently. These comments underline that while the tool is perceived as powerful and promising, its practical adoption depends on enabling conditions such as data availability, technical support, and opportunities for continued practice beyond the training context.

Result of Qualitative Feedback of Participants Evaluation

The qualitative results confirm that Prototype 1 was perceived as pedagogically effective and well delivered, particularly with regard to clarity of explanation and trainer engagement when addressing technically complex content. At the same time, the feedback highlights a recurring tension between the recognised research potential of the tool and the practical challenges of independent use, including technical complexity, data availability, and the need for continued support.

Suggestions concerning extended duration and stronger preparatory measures indicate that future trainings of this type would benefit from reduced intensity and more systematic pre-training workflows. Overall, the results demonstrate that the prototype successfully fulfilled its exploratory purpose while providing clear guidance for refining competence oriented, tool-based training formats within the RESILIENCE Training Framework.

3.1.4. Organiser Evaluation

Beside the **participant evaluation**, an **organiser evaluation** was carried out based on joint reflection and feedback discussions among the organising partners, INFAL and TUA. This internal evaluation focused on organisational aspects, feasibility, and the effectiveness of the applied training and support measures.

Together, these quantitative and qualitative inputs provided a multi-level assessment of the prototype. The evaluation results informed reflections on participant engagement, the adequacy of preparatory measures, and the overall effectiveness of the training format, generating insights relevant for the further refinement of the RESILIENCE Training Framework.

General Observations

From the organisers' perspective, the participant group was highly active and generally well engaged, with most participants proactively collaborating and completing the assigned tasks. One participant could only attend without camera and microphone, which limited interactive participation. After each task, the trainer explicitly asked whether all participants were able to achieve the expected results, and these questions were answered positively during the course. Against this background, it remains unclear why one participant rated several learning objectives as "poor" in the anonymous evaluation questionnaire, particularly as no difficulties were raised during the training despite repeated opportunities to do so.

IT Skills of Participants

The participant group was highly heterogeneous with regard to IT skills and disciplinary backgrounds, including classical philology, theology, archaeology, history, digital humanities, and information technology. The organisers observed that, despite varying levels of technical experience, almost all participants were able to complete the assigned tasks during the course. One participant appears to have encountered difficulties that were not communicated during the training itself, even though the trainer explicitly invited feedback and provided individual support when difficulties were reported by others.

Problems Identified from the Organisers' Perspective

A) Technical Issues

Several technical issues on the participants' side caused minor delays, including missing preparatory emails due to outdated contact information, outdated software versions, and differences in installation procedures requiring alternative commands. Although these issues could be resolved during breaks or absorbed by buffer time in the schedule, they disrupted the workflow.

Mitigation: The organisers conclude that making the preparatory helpdesk session mandatory would significantly reduce such issues. An on-site format would further facilitate quicker identification and resolution of technical problems.

B) Information Flow

The organisers identified risks related to information flow, particularly when important preparatory emails do not reach participants due to incorrect addresses or email filtering.

Mitigation: Using mailing lists in BCC for data protection reasons, combined with an additional confirmation or feedback loop, is recommended.

C) No-Shows and Participant Commitment

A relatively high no-show rate was observed, which is common for free and remote courses but problematic for planning and capacity management. Two registered participants cancelled shortly before the event, while three did not cancel at all. Follow-up revealed reasons including loss of interest, illness, and non-response.

Mitigation: The organisers recommend clearer communication of the obligation to cancel early, reminder emails with explicit confirmation or cancellation options, and consideration of a temporary blocking mechanism in cases of unexcused absence. In addition, RESILIENCE partners should sensitise recruited participants to the importance of the prototyping task for training development.

D) Technical Setup

The decision not to host computational processes on a central server was confirmed as appropriate, as several participants either lacked the required technical understanding or did not have suitable hardware to meet the necessary prerequisites.

E) Organisers' Assessment of Participant Feedback

From the organisers' perspective, the participant feedback aligns with the intention communicated from the outset that the training was designed as an introduction to text reuse detection and not as a means to fully master the software in one day. This understanding is reflected consistently in participant comments on strengths, improvement suggestions, and perceived usefulness of the tool.

3.1.5. Opportunities for the Further Development of the RESILIENCE Training Framework

The following opportunities for the further development of the RESILIENCE Training Framework can be identified from the analysis of the implementation and the evaluations:

Strengthening competence oriented, tool-based pedagogy

The consistently positive feedback of Prototype 1 on clarity, structured progression, and trainer engagement demonstrates that complex digital tools can be successfully taught within humanities contexts. This confirms an opportunity to further develop competence oriented, tool-based training formats that explicitly bridge computational methods and humanities research questions.

Differentiated training formats based on participant skill levels:

The heterogeneous IT backgrounds of participants revealed an opportunity to design tiered or modular training formats. Introductory formats could prioritise foundational understanding and confidence building, while advanced formats could offer greater depth, faster pacing, and more complex use cases for participants with higher technical expertise.

Extended and flexible training structures:

Requests for longer training duration indicate an opportunity to move beyond highly compressed formats. Multi day trainings, split sessions, or complementary follow up modules would allow more time for practice, repetition, and consolidation, particularly benefiting participants with limited prior technical experience.

Integration of continued practice and post training support:

While the tool was widely perceived as promising for research, challenges related to independent application point to an opportunity to complement training sessions with follow up materials, documentation, and access to support. This would enhance sustainability and increase the likelihood of long term adoption beyond the training context.

Use of prototyping to test intensity and scope of trainings:

The prototype successfully fulfilled its exploratory purpose by revealing tensions between intensity, depth, and participant capacity. This underlines the opportunity to deliberately use prototyping phases to experiment with scope, format, and workload before integrating trainings into the permanent RESILIENCE framework.

3.1.6. Lessons Learned and Implications for the Training Framework

Through the analysis of the implementation process and evaluation outcomes, the most important critical points were identified, and corresponding recommendations and corrective actions were developed, as presented in the table below.

Critical Points Identified	Recommendations & Mitigating Measures
<p>Technical preparation and support: participants experienced technical difficulties related to software installation, versions, and prerequisites, and requested additional technical support.</p>	<p>Offer a preparatory helpdesk session and communicate it clearly as mandatory. (see D2.6 Key Recommendations, 5.2.2 Provide an Orientation Session)</p> <p>Clearly state technical prerequisites, required software versions, and installation steps in advance. (see D2.6 Key Recommendations, 5.2.1 Provide Clear and Standardised Course Descriptions)</p>
<p>Mismatch between depth and participant skill levels: Some participants requested more depth and faster progression, while others needed more time and explanation.</p>	<p>Offer trainings with different levels, for example introductory and more advanced formats. Clearly communicate the target group and required prior knowledge. (see D2.6 Key Recommendations, 5.2.1 Align Course Design with Audience Needs)</p>
<p>Participant commitment and attendance: No shows and late cancellations created difficulties for planning and capacity management.</p>	<p>Communicate expectations regarding participation and cancellation more clearly, send reminder messages, and implement a penalty system for unexcused absences (see D2.6 Key Recommendations, 5.1.6 Minimising Non-Attendance)</p>

Table 3: Identified Critical Points and Corresponding Mitigation Measures for Prototype 1

These and further insights gained through the design, implementation, and evaluation of this prototype, were systematically consolidated. **All findings that proved to be key factors for the effective management and delivery of training activities** were incorporated into the "**RESILIENCE Key Recommendations for Training Design and Delivery**", as presented in Deliverable D2.6.

3.2. Prototype 2: "Religion for the Senses. How to Read, Treat and Hear Religious Sources"

The Training Prototype "Religion for the Senses – How to Read, Treat and Hear Religious Sources" was developed to address the user requirement related to the "Enhancement of Research and the Field of Religious Studies".¹²

Selection of the Prototype

The prototype targeted researchers in the study of religions and was conceived both as a learning opportunity and as an evaluative format, encouraging participants to reflect on the training from the dual perspective of users and potential future adopters.

The prototype focused on the **role of physical access to sources, sites, and practices in the study of religions**, acknowledging that **on-site research remains indispensable** even in increasingly digital research environments. Certain forms of material and immaterial evidence, such as religious art, music, sacred spaces, rituals, and contextualised practices, can only be fully understood through direct engagement with their physical and sensory dimensions. Consequently, this prototype served to test RESILIENCE's role as a facilitator of on-site training activities that integrate access to physical locations and collections as a core component of its service portfolio.

The training was conducted at **selected sites of high relevance for research on religions in Rome**, treated not merely as venues but as research-relevant service contexts in their own right. Campo Santo Teutonico is a historic German cemetery located within Vatican territory in the immediate vicinity of St Peter's Basilica. **Access to the cemetery is restricted** and requires prior registration with the Swiss Guard, with requests

¹² See the list of prioritised User Requirements in [RESILIENCE WP3 D3.5 User-Stories-Catalogue-1st-Batch](#), Chapter 4.1, 4.2, as well as [RESILIENCE WP3 D3.6 User Stories Catalogue - 2nd Batch](#), Chapter 4.1, 4.2.

made in German; access to the wider complex is only granted on the basis of **personal contacts and established institutional relationships**. Founded in the early medieval period, the cemetery contains burials dating from the Middle Ages to the present day. The complex also comprises a church and a priests' college, whose buildings house an archaeological collection used for teaching purposes during the training. Participants engaged with ecclesiastical, museal, and library institutions to explore religious motifs, material objects, music, and liturgical traditions in situ, guided by subject specialists and local experts.

At the same time, the **prototype functioned as a general and transferable model for location-based training formats** that depend on site-specific expertise, restricted access, and institutional cooperation, conditions that are typical for many key resources in the study of religions.

As such, the prototype tested how RESILIENCE can enable and support training activities that rely on personal networks, institutional partnerships, and contextual knowledge, thereby expanding access to otherwise difficult-to-reach research environments. The experience gained through this on-site implementation contributes to the development of scalable training concepts for physical resources and supports the integration of place-bound training formats into the future RESILIENCE training portfolio.

Implementation

Prototype 2 was implemented as an **on-site training programme in Rome from 26 to 28 March 2025 with 13 participants**. The training took place at **three venues of particular relevance for research on religions: Campo Santo Teutonico, Friezenkerk Rome, and the Biblioteca Vallicelliana**.

The **first day** was dedicated to **introductory sessions and initial hands-on activities** at Campo Santo Teutonico. Following an introduction to the objectives and structure of the training, participants engaged in guided exploration of the graveyard and church, focusing on the identification and interpretation of religious motifs and meanings in situ.

On the **second day**, the training addressed **different forms of religious expression through music and visual culture**. At Campo Santo Teutonico, participants examined liturgical and devotional music before the Council of Trent, combining the reading of written sources with the experience of hearing musical traditions in their historical context. This was followed by an on-site session at Friezenkerk Rome, where participants explored approaches to reading and interpreting religious art within a specific ecclesiastical setting. The

afternoon programme took place at the Biblioteca Vallicelliana, where participants worked with original manuscripts and printed sources to analyse religious motifs and ideas in historical collections.

The **third day** focused on **evaluation and reflection**. Participants discussed their experiences, assessed the training format, and provided structured feedback. In addition, input was collected for the further development of the RESILIENCE training guide, ensuring that insights gained from the on-site implementation directly informed future training design.

For coverage see: [RESILIENCE Training Prototype: Helping Researchers to See Beyond What They See - RESILIENCE](#) (26 March 2025); [RESILIENCE Training Prototype: Hearing Beyond What You Hear - RESILIENCE](#) (27 March 2025); [RESILIENCE Training Prototype: Harvesting - RESILIENCE](#) (28 March 2025); [RESILIENCE-Training - InfAI](#) (April 2025).

The **Appendix** of this deliverable includes the following **documentation related to Training Prototype 2**: 4. **Programme Booklet** for RESILIENCE Training Prototype 2 “Religion for the Senses: How to Read, Treat and Hear Religious Sources”; 5. RESILIENCE **Technical Course Description** of Training Prototype 2; 6. RESILIENCE **Lesson Plan** of RESILIENCE Training Prototype 2; 7. **Evaluation** of RESILIENCE Training Prototype 2; 8. **Exposé on Evaluation Discussion** on the RESILIENCE Training Prototype 2: Key Findings and Lessons Learned.

Results

Prototype 2 demonstrated the **feasibility and value of implementing an on-site training format** that brings together **diverse locations, expertise, and learning settings**. All training modules were successfully delivered and received positive evaluations, confirming the relevance of the format and content for the target audience. At the same time, the evaluation results identified aspects that can be further refined, providing **valuable input for the continued development and optimisation of the RESILIENCE Training Framework**.

A concrete outcome of the prototype is the **opportunity for RESILIENCE WU “Training” to repeat selected elements of the training in May 2026**. This follow-up implementation will build on the experience gained during the prototype and apply the lessons learned in line with the project’s iterative approach to training design and delivery.

Key Characteristics

The table below provides a structured overview of the training prototype’s key characteristics, organisational details, and learning objectives of the training prototype, grouped into the following areas: A. General Information, B. Targeting and Learning Objectives, C. Format and Organisation, D. Participation Requirements, E. Resources and Documentation, F. Evaluation.

A. General Information	
Training ID	ROME_RESEARCHERS
Short description (including topics covered)	This training prototype focuses on the physical pillar of RESILIENCE and explores how researchers can work with material and immaterial religious sources that cannot or cannot yet be digitised. Using Campo Santo Teutonico, Friezenkerk Rome, and the Biblioteca Vallicelliana as exemplary sites, the training addresses research on religious motifs, art, music, sacred spaces, liturgy, and original historical sources. The programme combines expert-led input, on-site analysis, and hands-on engagement with physical resources, and includes a reflective component to collect feedback and insights for the further development of the RESILIENCE Training Services Management Plan.
Organising institution	RESILIENCE WP2, T2.7: TUA, INFAl
Contact person	[Name contact Person, E-Mail]
Trainer(s) bio and contact information	[Name Trainers, Bio, E-mail]
B. Targeting and Learning Objectives	
Target audience	Researchers with an academic interest in religious motifs in various forms. The representatives are expected to be able to analyse the training prototype for future use and from the perspective of a user.
Expected learning outcomes for participants: Competences	<p>The trainees will acquire the competences:</p> <ul style="list-style-type: none"> ● The participant will be aware of opportunities and difficulties in conducting research on religious arts. ● The participant is able to recognise motifs and ideas in religious arts.

	<ul style="list-style-type: none"> • The participant is able to recognise motifs and ideas in liturgical and devotional music. • The participant is able to identify opportunities and difficulties in conducting research on liturgical and devotional music during Medieval and Renaissance times. • The participant recognises the cultural awareness behind different uses of liturgical and devotional music. • The participant is aware of the growing challenges of religious illiteracy. • The participant can give examples of how others deal with religious illiteracy.
Expected learning outcomes for participants: Outcome	<ul style="list-style-type: none"> • Users receive awareness of the challenges and possibilities of working with and on religious objects. • Users are able to set goals and define key aspects when developing a training programme themselves (Train-the-trainer).
Expected learning outcomes for participants: Impact	<ul style="list-style-type: none"> • Trainees will gain enhanced research skills to conduct more effective and nuanced research on religious arts and music, recognizing both opportunities and challenges. • Trainees will develop a deeper understanding of the cultural contexts and significance of religious motifs and music, fostering greater cultural awareness. • Trainees will be better equipped to identify and address the challenges of religious illiteracy, promoting informed and respectful discourse. • Trainees will improve their Training skills to create well-structured and goal-oriented training programmes, enhancing their ability to educate others effectively. • Trainees will gain a broader perspective of how different communities engage with religious arts and music, enriching their overall perspective and approach to research and education.
Expected learning outcomes for RESILIENCE	RESILIENCE receives input for its training model and the guide for training.

C. Format and Organisation

Duration and schedule Course	WED, 26 MARCH 2025, 13:30-18:00 CET THU, 28 MARCH 2025, 9:00-17:30 CET FRI, 28 MARCH 2025, 9:00-13:00 CET
Format (on-site / remote / hybrid / online / live)	On-site, Venues: Campo Santo Teutonico / Friezenkerk / Biblioteca Vallicelliana, located in Rome, Italy
Estimated effort	3 days, including 17 hours plus preparation and follow-up work
Participant capacity (min.-max.)	13-20
Confirmed registrations	13
Actual number of participant	13

D. Participation Requirements

Prerequisites	The participant should be able to evaluate the training in relation to the services of the RI and the needs of the users.
Participant Profiling and Pre-Course Information Collection about: <ul style="list-style-type: none"> ● Field of expertise ● Prior knowledge and experience ● Motivation and special interests ● Requests, preferences, and expectations 	<p>During registration, participants were asked to provide information on their field of expertise, prior knowledge and experience, motivation to participate, and specific expectations or requests.</p> <p>This information was used:</p> <ul style="list-style-type: none"> ● by organisers and trainers to tailor the course content and didactic approach, ● and was shared with participants prior to the course to support mutual awareness of the group's background and learning objectives.
Registration deadline	1 Oktober 2024

E. Resources and Documentation

Materials required	N/A
Course Materials	<ul style="list-style-type: none"> ● Online Technical Description (including all organisational information) ● Online Agenda ● A physical programme booklet was handed over on site (included in the Appendix, part 4).

F. Evaluation

Evaluation form	Online [Link to online evaluation was shared immediately after the course, with deadline 1 week later]
Number of completed evaluations	10 (out of 13 participants)
Response rate	77 %

Table 4: Structured Overview of the Training Prototype 2 with Organisational Details and Learning Objectives

3.2.1. Evaluation of Prototype 2

The evaluation of Prototype 2 was designed to generate a comprehensive, multi-perspective assessment of the training course “Religion for the Senses” by **combining several complementary evaluation methods**. Particular emphasis was placed on capturing both measurable outcomes and reflective, experience-based feedback from participants, in order to assess the achievement of learning goals, the overall quality of the training, and its potential for future implementation within the RESILIENCE Training Services.

To this end, three distinct forms of evaluation were conducted. First, a **mandatory Online Evaluation** was administered immediately after the completion of the training course, allowing participants to assess individual sessions, overall impressions, and the usefulness of the training for their own research, as well as to provide feedback on the integration of this prototype into the RESILIENCE framework. The quantitative results of this evaluation are presented in Chapter 3.2.2, the qualitative in Chapter 3.2.3.

Second, a qualitative, session-based evaluation entitled “**Do’s, Don’ts, and General Advice for Organising a Training**” invited participants to reflect critically on each module, focusing on practical recommendations derived from their learning experience. This feedback was collected throughout the training and collectively discussed and structured during a dedicated session on the final day.

Third, a more holistic and reflective assessment was carried out using the **Five-Finger-Evaluation method**, which aimed to capture qualitative insights into participants’ understanding, perceived effectiveness, and emotional responses to the training.

Together, these three evaluation approaches provide a solid and differentiated foundation for analysing the strengths, challenges, and overall success of Prototype 2, and the findings of all three evaluations were incorporated into the “**Key Recommendations**” presented in **Deliverable D2.6**.

3.2.2. Quantitative Evaluation of Prototype 2

This section presents the quantitative results of the **Online Evaluation** of Prototype 2 within the RESILIENCE training prototyping process. The evaluation aimed to assess organisational and pedagogical aspects of the training, with particular emphasis on the achievement of the predefined learning objectives across the individual course modules.

The **overall Online Evaluation approach combined quantitative and qualitative perspectives**. In this section, the **quantitative results are presented**, while the qualitative assessment of the participants’ overall training experience is discussed separately in Chapter 3.2.3.

Response rate: 77 %. Out of 13 participants, 10 completed the participant evaluation, so that the evaluation achieved a response rate of 77 %.

Achievement of Learning Goals

The participant evaluation first examined whether the learning objectives formulated for the training were achieved. These objectives were defined as competencies and assigned to the individual training sessions.

Across the **six training sessions**, a total of **10 evaluation questions** were included, reflecting the number of learning objectives per session. Participants were asked to assess the extent to which the respective learning objectives were met using the response categories “Poor”, “Satisfactory”, “Good”, or “Very good”.

Evaluation Question	Score "Poor"	Score "Satisfactory"	Score "Good"	Score "Very good"
Session 1, Introduction: What are We Doing Here? Why are We Doing This?, Goal 1.1: I am aware of the aims of RESILIENCE Training Prototyping as a test run for future training courses and to gain input for the RESILIENCE Training Management Plan	0	1	4	5
Session 2: Experiences from Campo Santo and Beyond, Goal 2.1: I am aware of various approaches to deal with religious illiteracy	3	3	3	1
Session 2: Experiences from Campo Santo and Beyond, Goal 2.2: I am aware of opportunities and difficulties in conducting research on religious arts	1	3	2	4
Session 3: Hands-on at Campo Santo Teutonic: Searching for Motifs and Meanings, Goal 3.1: I recognise motifs and ideas in religious arts	0	4	1	5
Session 4: Liturgy with Music before the Council of Trent, Goal 4.1: I recognise motifs and ideas in liturgical and devotional music	0	1	5	4
Session 4: Liturgy with Music before the Council of Trent, Goal 4.2: I was introduced to opportunities and difficulties in conducting research on liturgical and devotional music during Medieval and Renaissance times	1	2	4	3
Session 4: Liturgy with Music before the Council of Trent, Goal 4.3: I gained insight into the cultural awareness behind different uses of liturgical and devotional music	1	1	4	4

Evaluation Question	Score "Poor"	Score "Satisfactory"	Score "Good"	Score "Very good"
Session 5: Religious Arts in the Friezenkerk, interactive presentation, Goal 5.1: I gained insight into the growing challenges of religious illiteracy	3	2	3	2
Session 5: Religious Arts in the Friezenkerk, interactive presentation, Goal 5.2: I am aware of strategies for dealing with religious illiteracy	4	3	2	1
Session 6: Motifs and Ideas in Religious Arts, presentation at the Biblioteca Vallicelliana, Goal 6.1: I am able to identify motifs and ideas in religious arts	1	2	3	4
Score sum	14	22	31	33
Score percentage	14 %	22 %	31 %	33 %

Table 5: Quantitative Results Participant Evaluation Prototype 2, Question 1–10

The evaluation of the achievement of learning goals clearly **highlighted an area of weakness in the design and implementation of the training: Although the organisers had agreed upon specific learning goals with the trainers in advance, these goals were in some cases only partially addressed**, evident in relation to goals 2.1 as well as 5.1, and 5.2. In these sessions, the trainers did not work with a structured lesson plan but instead conducted the sessions as open lectures and discussions. While this format generated valuable and engaging input, it led to a loss of focus on the pre-agreed learning objectives, meaning that parts of the session content could not be adequately captured by the evaluation, as they were not aligned with the pre-defined competencies.

From the perspective of training prototyping, deviations from the original plan are not detrimental, but on the contrary, **elements that did not unfold as expected provide particularly valuable insights, as they generate concrete recommendations** on how to plan, structure, and implement future training sessions in

order to ensure that learning objectives are met as intended. The **identified critical points and corresponding mitigation measures** are collected in Chapter 3.2.5.

In the specific case of Prototype 2, these deviations are also **to be understood within the broader organisational context**: All trainers contributed their sessions in-kind and free of charge. While learning objectives were jointly agreed upon, there was no binding contractual framework requiring strict adherence to the predefined learning goals. This context explains the greater flexibility in session delivery and the resulting divergence from the agreed objectives.

Interpretation of Additional Quantitative Results from the Online Evaluation

The section "About the Rome Training in general" of the Online Evaluation provides insight into participants' overall assessment of the training, its usefulness for their own research, and its suitability for inclusion in the RESILIENCE Training Services.

Overall Assessment of the Training [Question 13]

Participants were asked "What is your overall impression of the training?" to indicate a score on a scale from 1 to 10, where 1 is the lowest and 10 the highest rating. Results: Score 5: 1 participant; Score 8: 6 participants; Score 9: 1 participant; Score 10: 2 participants. The **average score is 8.2 out of 10, corresponding to 82 %**. This result indicates a clearly positive overall impression of the training, with the majority of participants selecting high scores.

The usefulness of the training for participants' own research was assessed with the statement "**The Training will be useful for my research**" [Question 14].

Results: "Strongly disagree": 0; "Disagree": 1; "Neutral": 0; "Agree": 7; "Strongly agree": 2. Overall, **90 % of participants expressed agreement or strong agreement with this statement**, indicating that the training was widely perceived as relevant and beneficial for participants' research activities.

The question "**Should this training prototype in Rome 'Religion for the Senses' become part of the RESILIENCE Training Services?**" [Question 15] addressed the strategic relevance of the prototype.

Results: “Yes”: 6; “Partly”: 4; “No”: 0. **All participants supported the inclusion of the training prototype in the RESILIENCE Training Services**, either fully or partially. The reasons provided for these responses are analysed separately in Section 3.2.3.

Taken together, these results confirm a **high level of satisfaction** with the Rome training prototype, strong perceived usefulness for individual research, and unanimous support for its further integration into the RESILIENCE training framework.

3.2.3. Qualitative Evaluation of Prototype 2

In the Online Evaluation form, the following questions were to be answered freely with comments about the Training in general. They are analysed in the following section:

Question 11: “What did you like most about the training?”

A total of 17 qualitative responses were submitted to this question. The answers can be summarised into the following main categories:

- **Experiential and practice-oriented learning:** Hands on activities and learning through direct engagement with spaces and materials were highlighted in 7 statements. Participants particularly valued on site exploration, practical sessions, and the ability to observe and analyse religious material culture in context.
- **Location and access to unique spaces:** The choice of location and access to rare or otherwise restricted spaces were mentioned in 8 answers. Participants emphasised the Campo Santo Teutonico, churches, cemeteries, and the Biblioteca Vallicelliana, as well as the opportunity to stay and work in a historically significant environment.
- **Variety of topics, activities, and perspectives:** The diversity of themes, session formats, and religious or institutional perspectives was positively evaluated in 6 statements. Respondents described the plurality of activities and topics as engaging and intellectually stimulating.



- **Group composition and exchange:** The opportunity for exchange within a diverse and engaged group was highlighted in 7 statements. Participants valued meeting colleagues, sharing experiences, and discussing common challenges in an open and supportive atmosphere.
- **Organisation and logistics:** Practical aspects of the training organisation were explicitly appreciated in 4 answers. Respondents referred positively to the overall organisation, the booklet with programme and note taking space, the concentration of activities, accommodation, and meals in one location, and the smooth coordination of the training.
- **Concept and thematic framing:** The overarching idea of combining religion and the senses was explicitly mentioned in 2 statements. Participants considered the thematic framing well suited to the chosen locations and activities.

The responses indicate that participants particularly appreciated the experiential character of the training, the unique locations, and the opportunity for exchange within a diverse group, supported by strong organisation and a coherent thematic concept.

Question 12: "How can we improve our future trainings?"

A total of 13 qualitative responses were submitted to this question. The answers can be summarised into the following main categories:

- **Learning objectives and focus:** Clearer definition and stricter adherence to learning objectives were requested in 4 statements.
- **Fewer topics:** Some Participants recommended focusing each training on fewer topics or a limited set of skills, allowing more time for repetition, practice, and consolidation of key points.
- **Pacing and structure:** The need for slower pacing and more time for processing content was raised in 4 statements. Suggestions included limiting the number of topics covered per day and allowing more time for exercises and discussion.
- **Trainer preparation and alignment:** Improved briefing and preparation of trainers were mentioned in 5 statements. Respondents emphasised that trainers should be better informed about the overall objectives of the training, the purpose of RESILIENCE, and the background and expectations of the participants.

- **Practical and interactive formats:** A stronger practical orientation was suggested in 6 statements. Participants called for more interactive, goal oriented formats, group activities, and on site tasks that actively involve participants and make meaningful use of the training locations.
- **Use of location and materials:** Better integration of the physical setting into the training design was mentioned in 2 statements. Improved documentation, including references, bibliographies, and data management practices, was also raised in 2 statements.
- **Scope:** The inclusion of additional religious traditions was suggested in 1 statement.

The responses highlight the **need for clearer learning objectives, better trainer coordination, and a more focused and practice-oriented training design**, while recognising the learning value of Prototype 2 within the RESILIENCE training development process.

All suggestions for improvement were thoroughly reviewed and **fully integrated into the D2.6 Key Recommendations**. The most significant of these are summarised in the table of critical issues and mitigation measures in Chapter 3.2.5.

Question 14: Usefulness of the Training for one's own research:

Result: Strongly disagree: 0 responses; Disagree: 1; Neutral: 0; Agree: 7; Strongly agree: 2. The responses show a clearly positive assessment. The qualitative comments further explain this result. **Methodological insights and new research approaches** were mentioned in 3 statements, highlighting perspectives on religious art, space, ritual, and material sources.

Topics related to databases, digitisation, and digital cultural heritage were raised in 2 statements. The **value of networking and exchange with specialists** was noted in 2 statements. Benefits related to **training design, organisation, and the RESILIENCE prototyping task** were mentioned in 2 statements. **Practical applicability for teaching and addressing religious illiteracy** was emphasised in 1 statement. One statement expressed general usefulness without further specification, while 1 further statement indicated **limited thematic relevance** for the respondent's own research.

Question 15: Should this training prototype in Rome "Religion for the Senses" become part of the RESILIENCE Training Services?

The responses show a clearly positive or moderately positive assessment. Result: "Yes": 6; "Partly": 4; "No": 0.

60 % of the respondents fully supported the inclusion of the training prototype, highlighting its importance, its transdisciplinary approach, the effectiveness of learning through the senses and the arts, and the value of working in historically significant locations and in contact with religious communities and libraries.

The "partly" positive responses, expressed in 40 % of statements, emphasise the need for adjustments, e.g. greater coherence between sessions, clearer learning outcomes, stronger alignment with the overall goals of the RESILIENCE infrastructure, and more space for hands-on activities.

In order to obtain as comprehensive and multi-perspective an assessment as possible, two additional evaluation formats were implemented alongside the mandatory Online Evaluation:

- A) Do's, Don'ts, and General Advice for Organising a Training:** During the training, participants were asked to evaluate each session immediately after its completion by responding to the guiding question: "If you were expected to organise a training, what would you do and not do, based on your experiences in this session?" Participants were encouraged to formulate their responses in terms of practical do's, don'ts, and general recommendations for organising a training. This evaluation took place after each module. The collected feedback was shared and discussed during the training and was subsequently reviewed in a dedicated session on the final day, where it was discussed with the entire group, prioritised, and structurally organised.
- B) Five-Finger Evaluation:** In addition, a more general qualitative assessment was conducted using the Five-Finger Evaluation method. This approach was applied to gather reflective feedback on the success of the sessions and to assess participants' understanding, perceived effectiveness, and emotional responses to the training, while actively encouraging individual and collective reflection.

All implications and findings emerging from these evaluation formats were **incorporated into the Key Recommendations** presented in Deliverable D2.6.

3.2.4. Opportunities for the Further Development of the RESILIENCE Training Framework

Through the implementation and evaluation of the training prototype, the following opportunities emerged that provide valuable guidance for future training design:

- **Training on site as an essential learning format:** The evaluation clearly demonstrates a strong need for training formats that take place directly within physical settings. Access to sites, architecture, ritual spaces, graveyards, libraries, and other material resources enables participants to analyse religious practices, liturgy, and material culture in their lived and spatial contexts. This highlights a major opportunity for the RESILIENCE Training Framework to systematically integrate on site, object based, and place sensitive trainings that cannot be adequately replaced by purely digital or classroom based formats.
- **Experiential learning as a defining element:** Hands on activities and direct engagement with spaces and materials were among the most valued aspects of the training. This confirms experiential and practice oriented learning as a core strength on which future RESILIENCE trainings can deliberately build.
- **Interdisciplinary exchange and community building:** Participants repeatedly highlighted the value of meeting colleagues from different disciplines and backgrounds. This points to an opportunity to further design trainings as spaces for intellectual exchange, peer learning, and network formation alongside skills development.

3.2.5. Lessons Learned and Implications for the Training Framework

The following table provides an **overview of the main critical points** identified in this Prototype Training and the **associated mitigation measures** developed as part of the evaluation and prototyping process. It is only a selection; the entity of all critical points from the various evaluation formats of all prototypes were collected and assessed for deliverable D2.6 and translated into the “Key Recommendations”.

Critical Points Identified	Recommendations & Mitigating Measures
<p>Agreed learning objectives are not followed during the delivery of particular training sessions.</p>	<p>⇒ Introduce clear expectations regarding adherence to learning objectives.</p> <p>⇒ Agree on a structured Lesson Plan that ensures that learning objectives are met efficiently and consistently</p> <p>⇒ Establish a binding written agreement or contractual framework requiring strict adherence to the predefined learning goals.</p> <p>(see D2.6 Key Recommendations, 5.1.1; 5.3.1; 5.3.2)</p>
<p>Training content sometimes covers too many topics within a limited time frame.</p>	<p>Reduce thematic breadth by focusing each training on fewer topics or a limited set of core skills.</p> <p>(see D2.6 Key Recommendations, 5.3.7)</p>
<p>Training formats rely too heavily on lecture based approaches.</p>	<p>Introduce more interactive, goal oriented formats, including practical or group work and participatory exercises.</p> <p>(see D2.6 Key Recommendations, 5.3.3, 5.3.4)</p>
<p>Insufficient time is allocated for practice, discussion, and reflection.</p>	<p>Adjust pacing to allow more time for practice, repetition, and consolidation of key content.</p> <p>⇒ (see D2.6 Key Recommendations, 5.3.6, 5.3.7)</p>
<p>Documentation, references, and data management practices are not always provided systematically.</p>	<p>Ensure systematic provision of documentation, bibliographies and references.</p> <p>(see D2.6 Key Recommendations, 5.3.5, 5.3.6)</p>

<p>The breadth of some trainings remains limited to selected religious traditions.</p>	<p>Broaden the scope of future trainings by including additional religious traditions where appropriate.</p> <p>⇒ Important consideration for future training planning, as the inclusion of additional religious traditions should be guided by user needs and contextual relevance. (The prototype in Rome was explicitly developed with a focus on Christian traditions, given the site-specific setting.</p> <p>(see D2.6, Key Recommendations 5.2.4; Chapter 2. Start with the Assessment and Identification of Training Needs)</p>
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Table 6: Identified Critical Points and Corresponding Mitigation Measures for Prototype 2

Insights from the design, implementation, and evaluation of the prototype were consolidated and informed the “RESILIENCE Key Recommendations for Training Design and Delivery” (Deliverable D2.6).

3.3. Prototype 3: “AI for Religious Studies – Automatic Keyword Tagging of Multimedia Data”

This prototype is designed for our target audience especially for GLAM professionals as librarians, archivists, collection managers, but also for researchers to meet the user requirement “Software/Tools”¹³ for the study of religions.

Selection of the Prototype

This prototype was selected to address the **growing relevance of Artificial Intelligence for GLAM professionals working in the field of the study of religions**, particularly in relation to the management, accessibility, and analysis of heterogeneous cultural heritage materials.

Libraries, archives, museums, and related institutions increasingly handle large volumes of digitised and born-digital visual and textual data, including images, manuscripts, printed sources, and multimedia

¹³ See the list of prioritised User Requirements in [RESILIENCE WP3 D3.5 User-Stories-Catalogue-1st-Batch](#), Chapter 4.1, 4.2, as well as [RESILIENCE WP3 D3.6 User Stories Catalogue - 2nd Batch](#), Chapter 4.1, 4.2.

objects. Automated methods for enhancing, analysing, and annotating such materials are therefore of **strategic importance for improving discoverability, supporting research, and enabling sustainable access to religious heritage collections.**

A further decisive factor in selecting this prototype was the availability of **exceptional expertise within the RESILIENCE consortium.** The training content was prepared by **eight experts from CINECA,** a recognised centre of excellence within the Italian and European supercomputing and advanced computing ecosystem, with long-standing experience in the development and support of pioneering applications. This expertise ensured that the **training was grounded in state-of-the-art AI methodologies and reflected current developments in the field.** The strong methodological background of the trainers enabled participants to gain in-depth insights into contemporary AI tools and approaches, supported by contextual knowledge that is essential for assessing their applicability within research on religions and GLAM environments.

The prototype specifically targeted the user requirement related to advanced software and tools, with a **focus on AI-based methods applicable across different types of religious sources.** By combining high-level technical expertise with a clear focus on practical relevance for GLAM professionals, the training provided an ideal test case for **introducing complex AI technologies** in a structured, reusable, and discipline-sensitive training format within the RESILIENCE framework.

Implementation

The training prototype was developed and delivered by experts from the consortium partner CINECA in close cooperation with the Work Unit Training. The course was preceded by a **mandatory online one-hour preparatory session on 16 May 2025** prior to the course **to clarify the training structure, expectations, and technical requirements,** and to provide an opportunity for participants to raise questions. Participants were encouraged to **bring their own materials to the training,** enabling direct application of AI methods to data from their professional context.

The **eight-hour course was implemented as a full-day remote live training on 23 May 2025 with 12 participants.** It was structured into **two complementary parts.** The first part focused on image-based methods, including techniques for improving image quality and identifying visual elements within digital assets. The second part addressed text-based approaches, covering automated recognition and classification of both printed and handwritten textual content.

In each part, participants were introduced to selected open science tools available through the Hugging Face repository, with an emphasis on understanding their functionality, scope, and limitations.

Preparatory reading materials were provided in advance, and **all course presentations and training materials** were made available to participants after the training via a shared repository.

For coverage, see [Training in the Use of Artificial Intelligence - RESILIENCE](#) (30 May 2025), and [Automatic Keyword Tagging of Multimedia Data: Reflections of a Librarian - RESILIENCE](#) (11 June 2025).

The **Appendix** of this deliverable includes the following documentation related to Training Prototype 3: 9. RESILIENCE **Technical Course Description** of Training Prototype 3 "AI for Religious Studies – Automatic Keyword Tagging of Multimedia Data"; 10. RESILIENCE **Lesson Plan** of Training Prototype 3; 11. **Evaluation** of RESILIENCE Training Prototype 3.

Results

Prototype 3 was successfully implemented and demonstrated the feasibility of delivering AI training tailored to the needs of GLAM professionals in Religious Studies. The modular structure, combination of conceptual input and practical exercises, and use of openly accessible tools proved effective for introducing complex AI methods in an applied and transferable manner.

The prototype can be reused and adapted for future RESILIENCE training activities, either by focusing on specific AI methods or by applying the same training design to other types of multimedia data. The experience gained contributes directly to the further development of scalable and sustainable training formats within the RESILIENCE Training Framework.

Key Characteristics

The **table below** provides a **structured overview of the** training prototype’s **key characteristics, organisational details, and learning objectives** of the training prototype:

A. General Information	
Training ID	AI_GLAM
Short description (including topics covered)	The course aims to introduce participants to the adoption of AI for supporting several procedures in Cultural Heritage valorisation, accessibility and research, like:

	<ul style="list-style-type: none"> ● AI Image Enhancement - Improving the resolution of digital images. ● Object Detection - Detection of specific elements within visual digital assets. ● NER (Named Entity Recognition) - Classification of text content based on several categories (i.e., names of people, organisation and places). ● OCR (Optical Character Recognition) - Automatic recognition of printed characters. ● HCR (Handwritten Character Recognition) - Automatic transcription of handwritten and typewritten texts. <p>The course is released in two parts: the first one dedicated to images, and the second one to handwritten and printed texts. In each part, the audience will be introduced to selected open science tools, available in the Hugging Face repository, for supporting the appropriate procedures. Both parts foresee a hands-on section with examples of usage of the presented tools.</p> <p>More information about topics can be found in "AI, Cultural Heritage, and Art Between Research and Creativity" (A. Guidazzoli, M. C. Liguori, Workshop proceedings, February 9-10, 2024, DOI: 10.1388/IIIWORKSHOPAIBC, in "A research methodology for the evaluation of open science solutions for cultural heritage", p. 15, A. Guidazzoli, S. Caraceni, R. Pansini, M. C. Liguori, "New perspectives in managing heritage documents", p. 29, S. Imboden, G. Cardano, C. Consiglio, "Advanced solutions for automatic image and text analysis and enrichment", p.53, D. Sforzini, G. Fatigati, L. Mattei).</p>
Organising institution	RESILIENCE WP2, T2.7: CINECA, INFAL
Contact person	[Name contact Person, E-Mail]
Trainer(s) bio and contact information	[Name Trainers, Bio, E-mail]
B. Targeting and Learning Objectives	
Target audience	Librarians/archivists/collection managers/researchers; does not need to be a RESILIENCE member.
Expected learning outcomes for participants: Competences	<p>The trainees will acquire the competences:</p> <p>The trainees acquire the following competences:</p> <ul style="list-style-type: none"> ● The participant is able to understand how AI can be applied to cultural heritage. ● The participant can identify useful AI tools for cultural heritage.

	<ul style="list-style-type: none"> • The participant is able to understand and use foundational models with Hugging Face. • The participant is able to manage and perform object detection with Hugging Face tools. • The participant is able to manage and perform image captioning using Hugging Face tools. • The participant is aware of potential problems with object detection and image captioning tools. • The participant understands and can apply AI image enhancement techniques. • The participant understands and can apply Named Entity Recognition (NER). • The participant is able to manage and perform Optical Character Recognition (OCR). • The participant is able to manage and perform Handwritten Character Recognition (HCR).
<p>Expected learning outcomes for participants: Outcome</p>	<ul style="list-style-type: none"> • Users can improve the resolution of digital images. • Users can automatically recognise the individual elements in visual digital holdings. • Users can automatically identify and categorise valuable artefacts and documents. • Users can process data more efficiently by applying text recognition technologies such as Named Entity Recognition (NER), Optical Character Recognition (OCR) and Handwritten Character Recognition (HCR).
<p>Expected learning outcomes for participants: Impact</p>	<ul style="list-style-type: none"> • Users save time and resources when improving the resolution of digital images. • Users save time and resources when cataloguing documents. • Users save time in capturing and transcribing handwritten and visual characters. • Users can preserve valuable artefacts and documents digitally in high quality. • Valuable original documents are preserved by the possibility of using digital representations.
<p>Expected learning outcomes for RESILIENCE</p>	<p>Prototyping of a Training for Librarians/archivists/collection managers/researchers for the development of the RESILIENCE Training Framework.</p>

C. Format and Organisation	
Duration and schedule Helpdesk	May 16, 2025, from 11:00 to 12:00 CET
Duration and schedule Course	May 23, 2025, from 9:00 to 13:00 CET and from 14:00 to 18:00 CET
Format (on-site / remote / hybrid / online / live)	Remote (online, live)
Estimated effort	9 hours plus preparation and follow-up work
Participant capacity (min.-max.)	13-15
Confirmed registrations	12
Actual number of participant	12
D. Participation Requirements	
Prerequisites	To attend the course, the audience needs a personal laptop, operational internet connection, headphones, and basic skills in computer science. - The participant should be able to evaluate the training in relation to the services of the RI and the needs of the users.
Preparatory work	Participants are encouraged to send their own examples for the application of AI to (trainers] in advance, or to bring material to the session.
Registration deadline	02 May 2025
E. Resources and Documentation	
Materials required	Computer, Video signal with enabled camera, Internet access.
Course Materials	The trainers provided beforehand a lesson plan with learning goals and further literature on the topics in the online Technical description (see above). The presentations were shared after the course in the RESILIENCE Drive.
Agenda	[Agenda in form of a Lesson Plan was provided before the course]
F. Evaluation	
Evaluation form	Online [Link to online evaluation was shared immediately after the course, with deadline 1 week later]
Number of completed evaluations	8 (out of 12 participants)
Response rate	66,6 %

Table 7: Structured Overview of the Training Prototype 3 with Organisational Details and Learning Objectives

3.3.1. Evaluation of Prototype 3

Following the established RESILIENCE prototyping methodology, Training Prototype 3 included a detailed online participant evaluation. The evaluation focused on learning outcomes, key strengths of the training, and areas for further development, with participants informed in advance of this evaluative purpose. The link to the online evaluation was made available in the second half of the training and a deadline of one week was set for completion.

3.3.2. Quantitative Evaluation of Prototype 3

This section outlines the quantitative results of the Online Evaluation of Prototype 3 conducted within the RESILIENCE training prototyping process. The evaluation focused on organisational and pedagogical aspects of the training, with particular attention to the extent to which the predefined learning objectives were achieved across the individual course modules. The Online Evaluation combined quantitative and qualitative components. While the quantitative findings are presented here, the qualitative assessment of participants' overall training experience is addressed separately in Chapter 3.3.3.

Response rate: 66 %. Out of 12 participants, 8 completed the participant evaluation, so that the evaluation achieved a response rate of 66%.

Achievement of Learning Goals

The participant evaluation begins by examining whether the learning objectives, formulated as competencies and assigned to individual course modules, were achieved. Participants were asked to assess the extent to which the objectives of course parts 1 to 7, covering ten learning goals, were met using the categories "Poor", "Satisfactory", "Good", and "Very good". The results are presented in the following table.

Evaluation Question	Score "Poor"	Score "Satisfactory"	Score "Good"	Score "Very good"
Part 1 (9:00): AI and Cultural Heritage 1.1: I am able to understand how AI can be applied to cultural heritage:	0	1	3	4
1.2 I can identify useful AI tools for cultural heritage:	0	1	4	3
Part 2 (9:40): Hugging Face - Foundational Models 2.1 I am able to understand and use foundational models with Hugging Face	1	3	2	2
Part 3 (10:25): Object detection with Hugging Face tools 3.1 I am able to manage and perform object detection with Hugging Face tools	1	4	1	2
3.2 I am able to manage and perform image captioning using Hugging Face tools	1	5	0	2
3.3 I am aware of potential problems with object detection and image captioning tools:	0	1	4	3
Part 4 (12:10): AI Image Enhancement 4.1 I understand and can apply AI image enhancement techniques:	4	2	2	0
Part 5 (14:00): Named Entity Recognition (NER) 5.1 I understand and can apply Named Entity Recognition (NER):	1	5	1	1
Part 6 (14:50): Optical Character Recognition (OCR) 6.1 I am able to manage and perform Optical Character Recognition (OCR):	0	3	3	2
Part 7 (15:25): Handwritten Character Recognition (HCR)	0	2	5	1

Evaluation Question	Score "Poor"	Score "Satisfactory"	Score "Good"	Score "Very good"
7.1 I am able to understand the processes required to do Handwritten Character Recognition (HCR):(
Score sum	8	27	25	20
Score percentage	10 %	34 %	31 %	25 %

Table 8: Quantitative Results Participant Evaluation Prototype 3, Part 1–7

Interpretation of Quantitative Evaluation Results

The quantitative evaluation of Prototype 3 shows a differentiated but overall positive learning outcome across the seven training parts. When aggregating all responses, 56 percent of ratings fall into the categories "good" and "very good", while 34 percent are "satisfactory" and 10 percent are "poor". This distribution indicates that the majority of learning objectives were achieved, while also reflecting the varying levels of complexity across the different AI methods addressed.

The **strongest results** were observed in the **introductory and conceptual modules**. In Part 1 on AI and Cultural Heritage, seven out of eight responses for both questions rated the achievement of learning objectives as "good" or "very good", indicating that participants gained a solid understanding of how AI can be applied in the cultural heritage domain and how relevant tools can be identified. Similarly, awareness of potential problems in object detection and image captioning in Part 3 was rated positively, with seven out of eight responses indicating "good" or "very good", suggesting **effective critical understanding**.

More technically demanding modules show a more mixed evaluation pattern. Foundational models with Hugging Face in Part 2 and the practical application of object detection and image captioning tools in Part 3 received higher proportions of "satisfactory" and "poor" ratings. This suggests that while participants were introduced to these methods, full operational confidence was not achieved by all attendees within the available time frame. A similar pattern can be observed for Named Entity Recognition (NER) in Part 5 and Optical Character Recognition (OCR) in Part 6, where responses are distributed across all rating categories, reflecting heterogeneous prior knowledge and learning curves.

The **most challenging component** appears to be AI image enhancement in Part 4, where half of the responses rated the achievement of learning objectives as "poor" or "satisfactory". This result indicates that **this topic may require more time**, additional preparatory material, or a stronger focus on hands on application in future iterations. In contrast, Handwritten Character Recognition (HCR) in Part 7 was evaluated more positively, with six out of eight responses indicating "good" or "very good", suggesting that the **structure and presentation of this module were particularly effective**.

Overall, the results confirm that **Prototype 3 successfully introduced a broad range of AI based methods relevant to GLAM professionals in Religious Studies and related fields**. At the same time, the evaluation highlights the importance of modularisation, differentiated pacing, and preparatory support when addressing advanced AI topics. These findings provide concrete guidance for refining future AI related training activities within the RESILIENCE Training Framework.

Overall Assessment of the Training

Participants were asked to rate their overall impression of the training on a scale from 1 to 10, where 10 represented the highest rating and 1 the lowest. **The training received an average score of 7.6 out of 10**, indicating a generally positive overall assessment. Most ratings clustered in the upper range (Result: Score 10: 0 participants; 9: 2, 8: 2; 7: 3; 6: 1 participant).

The overall impression of the training received an **average score of 7.6 out of 10, indicating a generally positive reception**. Only one participant rated the training with 6 points, and none rated it below that.

This distribution suggests that the training was well received by the majority of participants, while also reflecting a differentiated evaluation that aligns with the qualitative feedback.

3.3.3. Qualitative Evaluation of Prototype 3

This section presents the qualitative evaluation of Prototype 3, based on participant feedback collected through open and scaled questions addressing the overall training experience, perceived usefulness for research, and the suitability of the prototype as a future RESILIENCE training service. The analysis covers participants' reflections on strengths and areas for improvement, and their views on whether and how the prototype should be integrated into the RESILIENCE Training Services portfolio.

Perceived Usefulness of the Training for Research

Participants were asked to assess the statement "The training will be useful for my research" using a five point agreement scale. Three participants selected "strongly agree" and five selected "agree", while one participant selected "disagree". No participants selected "neutral" or "strongly disagree". Overall, this means that eight out of nine responses, corresponding to 89 percent, expressed a positive assessment of the training's usefulness for research. The organisers note that the number of responses exceeds the number of participants, most likely due to a technical issue in the evaluation tool that allowed more than one response.

The qualitative comments provide important context for this strong quantitative result. Several participants emphasised that the training helped them develop a realistic understanding of what current AI tools can and cannot achieve, which was described as particularly valuable for avoiding unrealistic expectations and inefficient research workflows. Others highlighted the strategic importance of AI knowledge for the future of humanities research and appreciated the opportunity to gain structured insight into tools such as Hugging Face, supported by reusable training materials. Participants also stressed the value of the training as a starting point for further experimentation, even when immediate daily use was not anticipated, particularly for librarians and GLAM professionals. Taken together, these responses indicate that the training was perceived not only as practically useful, but also as conceptually important for informed and responsible engagement with AI methods in Religious Studies and cultural heritage research.

Training Strengths: "What did you like most about the training"

Responses to the question "What did you like most about the training" indicate a **very strong appreciation of both the scope and the quality of the training**. Participants repeatedly highlighted the comprehensive and dense nature of the programme, noting that it **provided a broad and up to date overview of AI applications relevant to Religious Studies and cultural heritage** within a short time frame. Several participants explicitly valued the possibility of gaining this overview in a single, coherent training rather than through fragmented learning opportunities.

A second dominant theme concerns the **expertise and professionalism of the trainers**. Multiple responses emphasised the high level of specialist knowledge, the clarity of explanations, and the trainers' availability to address questions. This expertise was perceived as particularly important given the complexity of AI topics and their growing relevance for humanities and GLAM professionals. Participants also appreciated

that limitations and uncertainties of current AI tools were addressed alongside their potential, supporting a realistic and critical understanding rather than uncritical adoption.

Hands-on elements were identified as especially valuable. Participants highlighted the benefit of live demonstrations, working with real tools in real time, and the opportunity to bring and use their own data. The diversity of methods and tools presented, covering images, texts, and different AI techniques, was repeatedly mentioned as a key strength, as it illustrated the wide range of possible applications and encouraged creative thinking about future use cases.

Overall, the qualitative feedback suggests that **the training was perceived as informative, well organised, and highly relevant.**

Suggestions for Improvement

Participant responses to the question "How can we improve our future trainings?" show a high degree of convergence around issues of pacing, structure, and preparation. A recurring theme is the **density of content** and the challenge of processing a large volume of information within a single full-day training. Several participants explicitly suggested dividing the training into shorter days or extending it by half a day to allow more time for reflection, discussion, and hands-on practice. This feedback indicates that while the breadth of topics was appreciated, the learning experience would benefit from reduced intensity and a more distributed schedule.

A second major theme concerns the **balance between theory and practice**. Multiple participants expressed a wish for more practical exercises, live demonstrations, and opportunities to work actively with the tools, ideally integrated throughout the training rather than concentrated at the end. Related to this, participants valued seeing real workflows in action and working with their own data, and suggested expanding these elements in future iterations.

Participants also highlighted the importance of **clear communication and preparation**. Suggestions included providing a detailed programme and agenda in advance, sharing training materials earlier, clarifying break times, and inviting participants to submit their interests or questions before the course. These measures were seen as ways to better align expectations, improve relevance for diverse professional backgrounds, and support more effective engagement during the training. Technical and logistical

constraints, such as limited internet connectivity during hands-on exercises, were also mentioned as factors to consider in planning.

This feedback suggests that future trainings would benefit from a more modular structure, increased emphasis on practical application, and strengthened preparatory workflows. Importantly, the suggestions are framed as refinements rather than fundamental critiques, indicating a generally positive perception of the training while providing clear, actionable guidance for improving effectiveness and participant experience in subsequent iterations.

Integration into the RESILIENCE Training Services (“Should this training prototype become part of the RESILIENCE Training Services?”)

Result: Six participants responded "yes", while two participants selected "partly". No participants rejected the inclusion of the prototype. This shows unanimous support for integrating the prototype into the RESILIENCE training portfolio.

Participants who answered "yes" emphasised several reasons for their positive assessment. They highlighted the relevance of the training for researchers at early stages of their projects, particularly in helping them understand the potential and limitations of AI tools. Several responses stressed the contribution of AI methods to enhancing and optimising research processes, as well as their growing importance in the contemporary digital research landscape. Participants also valued the accessibility of the tools presented, noting their suitability for researchers in the humanities who may not have a background in information technology or programming. In addition, the training was seen as addressing existing gaps in familiarity with open science tools within Religious Studies and as providing a broad and well explained overview of AI methods and workflows.

Participants who answered "partly" did not question the overall relevance of the training concept, but pointed to aspects of scope and format. One response expressed uncertainty about the relevance of the content for all RESILIENCE partners, while another suggested that the training format could be further refined, despite considering the underlying idea to be strong.

3.3.4. Opportunities for the Further Development of the RESILIENCE Training Framework

Based on the experience gained through implementing and evaluating the training prototype 3, the following opportunities were identified that can inform and strengthen future training design:

AI training as a strategic competence for GLAM and Religious Studies

The evaluation demonstrates a strong demand for structured training that introduces Artificial Intelligence as a practical and conceptual competence for researchers and GLAM professionals in the study of religions. Participants valued gaining an overview of what AI tools can realistically offer, as well as understanding their limitations. This highlights an important opportunity for the RESILIENCE Training Framework to position AI training as a foundational competence that supports informed, responsible, and methodologically sound engagement with emerging technologies.

Modular and practice-oriented AI learning formats

The feedback confirms the importance of modular, hands-on learning formats for technically complex topics such as AI. Live demonstrations, practical exercises, and the use of participants' own data were among the most appreciated elements. This points to a clear opportunity for RESILIENCE to further develop modular, practice-oriented AI trainings that combine conceptual orientation with applied workflows, allowing participants to progressively build skills according to their background and professional needs.

3.3.5. Lessons Learned and Implications for the Training Framework

The following table highlights key critical points emerging from the evaluation of Prototype 3 and the mitigation measures derived from these findings. While not exhaustive, the table reflects those aspects most relevant for training design.

Critical Points Identified	Recommendations & Mitigating Measures
<p>High content density and cognitive load: Participants reported difficulty processing the breadth and complexity of AI-related content within a single full-day training.</p>	<p>Offer modularised and distributed sessions to allow participants more time for reflection, consolidation of learning, and gradual progression through complex topics.</p> <p>Adapt content to participants’ prior knowledge and technical skills.</p> <p>Offer tiered course formats to accommodate varying experience levels, including extended sessions for beginners.</p> <p>(see D2.6 Key Recommendations, 5.3.7 Manage Time and Pacing Effectively; 5.2.1 Align Course Design with Audience Needs)</p>
<p>Limited time for hands-on practice: Participants indicated that practical exercises were insufficient in relation to the volume of conceptual input and were often concentrated towards the end of the training.</p>	<p>Expand and embedded hands-on exercises throughout the training modules.</p> <p>Practical activities should accompany individual modules and focus on applying tools to concrete use cases relevant to participants’ professional contexts.</p> <p>(see D2.6 Key Recommendations, 5.3.3 Use Activating Didactics and Engaging Teaching Methods, 5.3.4 Incorporate Hands-on Exercises)</p>
<p>Imbalance between theory and application: Some participants perceived an overemphasis on theoretical explanations at the expense of applied workflows and concrete demonstrations.</p>	<p>Strengthen the applied dimension of the training by prioritising guided practice.</p> <p>Link theoretical input closely to concrete examples illustrating practical relevance and limitations.</p> <p>(see D2.6 Key Recommendations, 5.3.3 Use Activating Didactics and Engaging Teaching Methods, 5.3.4 Incorporate Hands-on Exercises)</p>

Table 9: Identified Critical Points and Corresponding Mitigation Measures for Prototype 3

The findings derived from the design, implementation, and evaluation of the prototype were systematically consolidated and fed into the development of the "RESILIENCE Key Recommendations for Training Design and Delivery" as presented in deliverable D2.6.

3.4. Cross-Prototype Results and Synthesis

This section summarises the quantitative results across all three training prototypes, providing a comparative overview of format, delivery mode, participation, trainers and moderators, target groups, participant professions, and overall training assessment.

Category	Prototype 1 INTERTEXTUALITY_ RESEARCHERS	Prototype 2 ROME_RESEARCHERS	Prototype 3 AI_GLAM
Format	Full-day	Three days	Full-day
Delivery Mode	Remote (live)	On-site	Remote (live)
Participation	10 trainees	13 trainees	12 trainees
Trainers, moderators	1 Trainer, 2 moderators	7 trainers, 3 moderators	7 trainers, 1 moderator
Target Groups	Researchers	GLAM professionals and researchers	Researchers
Overall Assessment of the Training: Average score	9.1 out of 10	8.2 out of 10	7.6 out of 10

Table 10: Overview of Quantitative Results for Prototypes 1–3

4. Outcomes and Key Insights

"It was very important for me to be introduced by professionals on these issues which are crucial in our works as humanists and professional of cultural heritage."

Participant of the AI Training, May 2025

This section summarises the **main outcomes and key insights derived from the training activities, evaluations, and prototyping processes** conducted within RESILIENCE. It consolidates lessons learned, strategic decisions, and forward looking implications that inform the further development of the RESILIENCE Training Framework and its sustainable implementation.

4.1. Outcome: Development of the RESILIENCE Training Framework

Through a structured and participatory process, the consortium developed the **RESILIENCE Training Services Management Plan (D2.6)** as a central outcome of the Preparatory Phase. The Plan defines a coherent framework for academic training activities tailored to RESILIENCE and its target audiences of researchers and GLAM professionals engaged in the study of religions. It builds on disciplinary and methodological insights from the predecessor project RelReS, reflects the combined capacities and strategic priorities of the consortium partners, and provides **clear and practical guidance for the design, delivery, and evaluation of training activities**. In doing so, it establishes a robust foundation for future training programmes, including support for researchers in using RESILIENCE services and in developing their own training materials.

4.2. Outcome: Systematic Identification of Training Needs

RESILIENCE established a **systematic, user driven approach to the assessment and design of training services**. Training needs were continuously identified through interviews, workshops, focus groups, and prototype evaluations involving researchers and members of the GLAM sector. This process resulted in a **clear structuring of training areas, including RESILIENCE services, emerging skills, core competences for the study of religions, and basic or transversal skills**. The outcome further includes a prioritisation of

researchers as the primary target group, complemented by GLAM professionals, and the definition of competence based training design principles.

In addition, **specific transversal skills relevant to research on religions**, such as ethical sensitivity, data protection, and research in politically or religiously sensitive contexts, were identified as integral components of future training provision. Overall, these results provide a robust foundation for a coherent, needs based, and sustainable RESILIENCE Training Framework. (see D2.6, Chapter 2.)

This needs based approach is further corroborated by external evidence from the **ATRIUM Skillset Assessment and Gap Analysis study**,¹⁴ which identifies comparable skill gaps across the Social Sciences and Humanities. The ATRIUM study highlights a persistent mismatch between conceptual awareness and practical competence, particularly in areas such as digital methods, data management, FAIR practices, and transversal research skills. These findings reinforce the relevance of the RESILIENCE approach to competence oriented, modular, and user driven training design, and confirm that the identified training needs reflect structural challenges that extend beyond the immediate project context.

4.3. Outcome: Development of the RESILIENCE Key Recommendations for Training Design and Delivery

A central outcome is the development of the **“RESILIENCE Key Recommendations for Training Design and Delivery”**, which constitute one of the core components of the Training Services Management Plan (D2.6, Chapter 5). These recommendations represent a comprehensive synthesis of lessons learned from all training prototypes implemented during the Preparatory Phase, the systematic evaluation of identified critical points and corresponding mitigation measures, and the accumulated experience gained through the predecessor project ReReS since 2018.

The Key Recommendations provide an integrated and practice oriented framework that translates empirical evidence and long term operational knowledge into actionable guidance for future training activities. They cover all essential dimensions of training design and delivery, including **course planning and practical**

¹⁴ See [ATRIUM Skillset Assessment and Gap Analysis Report](#), August 2025.

organisation, alignment of course design with learner needs, didactical design and pedagogical techniques, evaluation, feedback and impact assessment, and the development of FAIR by design training materials. Together, these recommendations offer a robust and validated foundation for high quality, sustainable, and scalable RESILIENCE training services, grounded in both prototyping experience and established best practices.

4.4. Outcome: Towards a Sustainable Training Management and Delivery Platform

Another important outcome of the training prototyping process is a strategic orientation towards a **sustainable training management and delivery solution for RESILIENCE**. Based on experience from training activities and a comprehensive analysis of requirements for a RESILIENCE training platform, informed decisions were prepared regarding future technical and organisational options.

As part of this process, detailed **user requirements were collected and analysed from both trainee and trainer perspectives**,¹⁵ resulting in a structured overview of functional, organisational, and usability needs for a RESILIENCE training platform. The analysis showed that a dedicated training platform would be the ideal solution, while also identifying the **Training Centre integrated into the RESILIENCE HORTUS platform, developed by the ITSERR¹⁶ project**, as a promising option for further exploration, with sustainability currently ensured for a limited period.

Within the **HORTUS Training Centre**, structured learning pathways are being developed in the form of Moodle based courses and blended learning formats. These courses consist of modular learning units that combine text, short videos, quizzes, and curated readings, and are grounded in concrete case studies related to tools and software developed by the ITSERR project. The Training Centre is conceived as an open and scalable environment, designed to integrate additional training resources over time and to adapt

¹⁵ See Chapter 6.1 of Deliverable D2.6, Training Services Management Plan, which presents a **comprehensive collection of user requirements for a RESILIENCE training platform**. The chapter systematically documents and contrasts requirements from both trainers and trainees with derived **functionality requirements for a RESILIENCE training platform**.

¹⁶ [ITSERR \(Italian Strengthening of the ESFRI RI RESILIENCE\)](#) is an interdisciplinary and distributed Research Infrastructure for Religious Studies whose main purpose is to strengthen the RESILIENCE RI in its preparatory phase through the development, testing, and integration of services, tools, training activities, and organisational frameworks.

continuously to emerging research and training needs within the study of religions and the wider SSH domain. Additionally, training outputs are informed by a **structured Training Needs Analysis** process that supports the systematic identification of competency gaps, target audiences, and operational constraints across the project. This approach ensures alignment between training activities, expected learning outcomes, and infrastructural services, while framing training as an adaptive and reusable process that can evolve alongside the RESILIENCE research infrastructure.

In the RESILIENCE Transition to Implementation Phase Project (2026–2028), the HORTUS Training Centre will be tested through concrete use cases, including remote live training formats. This test phase will serve to evaluate the suitability, usability, and sustainability of HORTUS as a training management platform for RESILIENCE. During this period, flexibility will be maintained with regard to the hosting and dissemination of training materials, including the use of complementary repositories on Zenodo and partner infrastructures, in order to ensure accessibility and interoperability while long term decisions are being prepared.

4.5. Outcome: Cooperation within the SSHOC Training Pillar

Another Outcome is the potential **cooperation within the SSHOC Training Pillar**,¹⁷ in which RESILIENCE aims to strengthen the visibility, accessibility, and strategic alignment of its training activities within a broader European SSH training ecosystem. The collaboration is expected to support better discoverability of existing training offers, foster cross infrastructure exchange, and contribute to more coherent, user oriented, and interoperable training approaches across SSHOC partner infrastructures.

4.6. Outcome: Establishment of Standardised Evaluation Practices

A further outcome is the **consistent use of structured evaluation procedures**, developed by WP4 “Communication and Dissemination” in cooperation with the WU “Training”. Clearly formulated learning goals, uniform rating categories, and online evaluation tools were applied across training formats, allowing

¹⁷ See Chapter 2.3 in this deliverable.

for systematic comparison of results. This framework **supports quality assurance** and provides a **reliable basis for future training development and evaluation**.

4.7. Outcome: Foundation for Scalability and Transferability

Finally, the systematic documentation of formats, delivery modes, key recommendations, challenges, and evaluation outcomes in this deliverable D2.13 provides a **structured knowledge base for future use**. This evidence base supports the **potential scaling of the training programme and its transfer to other contexts or institutions**.

5. Conclusion and Outlook

"I learned new approaches, met new people, and discovered new sources."

Participant of the Training in Rome, March 2025

The Training Management Report consolidates several years of experience in designing, delivering, and evaluating training activities within RESILIENCE and its predecessor initiatives. Through needs assessment, iterative prototyping, and comprehensive evaluation, a **coherent framework for future RESILIENCE training services** has been established, including **clear management procedures, pedagogical principles, and evidence-based Key Recommendations** for training design and delivery.

Looking ahead to the period 2026–2028, the next project phase offers an important opportunity to operationalise and further refine this framework. Planned training activities conducted by InfAI in collaboration with CINECA will allow for the **practical testing of the full training management cycle**, including planning workflows, evaluation procedures, the application of the Key Recommendations, and the use of the HORTUS training environment. These test cases will provide valuable feedback on the scalability, sustainability, and usability of the proposed training management approach under real implementation conditions.

In the future, a **targeted and sustainable training programme for the core services of RESILIENCE** can be progressively developed as these services become available. Once the final composition of the RESILIENCE partners for the Implementation Phase and the complete portfolio of services are clearly defined, the training programme can be further specified and structured in a way that closely aligns user needs, learning objectives, and service development. In this way, RESILIENCE is well positioned to move from prototyping to a mature, service-oriented training programme that supports researchers and GLAM professionals in research on religions.

6. Appendix

The Appendix is confidential and available on request. It includes:

1. RESILIENCE Technical Course Description of Training Prototype 1 "Uncovering Intertextuality through Digital Tools"
2. RESILIENCE Lesson Plan of Training Prototype 1
3. Evaluation of RESILIENCE Training Prototype 1
4. Programme Booklet for RESILIENCE Training Prototype 2 "Religion for the Senses: How to Read, Treat and Hear Religious Sources"
5. RESILIENCE Technical Course Description of Training Prototype 2
6. RESILIENCE Lesson Plan of RESILIENCE Training Prototype 2
7. Evaluation of RESILIENCE Training Prototype 2
8. Exposé on Evaluation Discussion on the RESILIENCE Training Prototype 2: Key Findings and Lessons Learned
9. RESILIENCE Technical Course Description of Training Prototype 3 "AI for Religious Studies – Automatic Keyword Tagging of Multimedia Data"
10. RESILIENCE Lesson Plan of Training Prototype 3
11. Evaluation of RESILIENCE Training Prototype 3
12. RESILIENCE Lesson Plan Template
13. RelReS Training Toolbox Report

7. Applicable Documents

Applicable documents are documents from which all requirements must be fulfilled in the context of the Grant Agreement, although they are not repeated in the present document.

ID	Date	Title/Reference
A1	28/08/2022	Grant Agreement 101079792

8. Reference Documents

Reference documents are intended to provide background and supplementary information.

ID	Date	Title/Reference
R1	28/07/2025	RESILIENCE WP2 D2.6 Training Services Management Plan
R2	31/10/2023	RESILIENCE WP3 D3.5 User-Stories-Catalogue-1st-Batch
R3	27/11/2024	RESILIENCE WP3 D3.6 User-Stories-Catalogue-2nd-Batch
R4	11/10/2018	ReIReS-WP5-D5.1-Training Programme
R5	10/05/2019	REIRES-WP2-D2.3 Training Toolbox Report (included in Appendix, part 13)



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