Design × ICH. Oral Traditions and Expressions

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Introduction

The Design x ICH Series

A song becomes a recording. A spoken language becomes a dataset. A gesture becomes motion-capture data. A traditional practice becomes an online archive, an immersive experience, or material for training an artificial intelligence system. Each transformation may help heritage travel further, reach new audiences, or support its transmission. At the same time, it involves choices about what is captured, what is translated, what becomes visible, and what remains outside the digital representation. These choices are increasingly part of the contemporary safeguarding of Intangible Cultural Heritage (ICH)[1]. They are also, we argue, matters to which design can contribute through its capacity to examine and intervene in how cultural practices are mediated, represented, accessed, and transformed.

Oral Traditions and Expressions inaugurates ***Design x ICH***, a multi-volume research series exploring this proposition across UNESCO's five ICH domains. The series investigates the conditions under which digital technologies and design may contribute to

Note 1.
In this volume, the expression *Intangible Cultural Heritage* will also be used interchangeably with *intangible heritage* or *ICH*.

heritage safeguarding, together with the tensions that their introduction may generate.

The series is built around three interconnected pillars: Intangible Cultural Heritage as living practice; digital technologies as forms of mediation; and design as both an interpretive lens and a transformative practice.

Intangible Cultural Heritage as a living practice

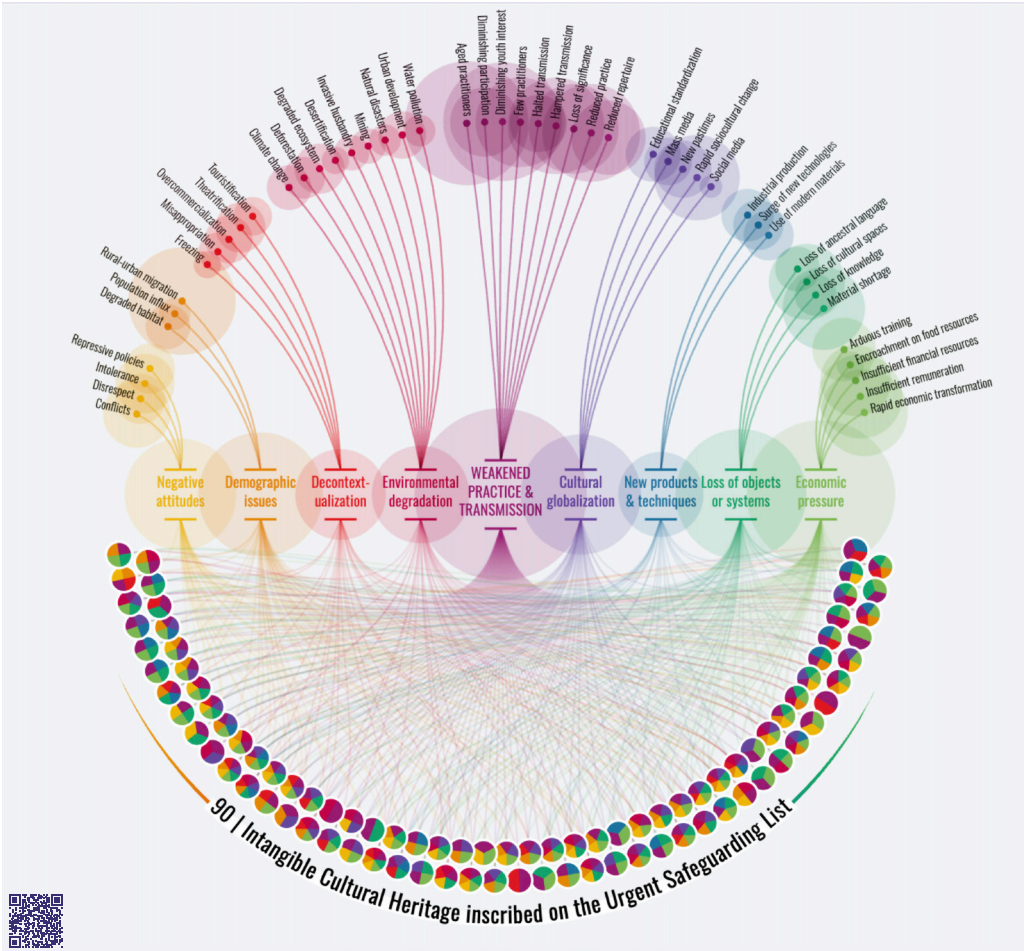
The first pillar of the series is Intangible Cultural Heritage (ICH) understood through UNESCO's 2003 *Convention for the Safeguarding of the Intangible Cultural Heritage* as practices, representations, expressions, knowledge, and skills (together with the associated instruments, objects, and cultural spaces) that communities recognise as part of their cultural identity.

The UNESCO Convention organises these manifestations into five broad, distinct domains that may coexist within individual living practices:

- oral traditions and expressions, including language as a vehicle of the intangible cultural heritage;
- performing arts;
- social practices, rituals, and festive events;
- traditional craftsmanship;
- knowledge and practices concerning nature and the universe.

These domains provide the organising structure of the *Design x ICH series*, helping foreground distinctive features and dynamics and supporting the identification of domain-sensitive approaches to valorisation.

More importantly, the Convention frames ICH as living heritage: transmitted across generations, continuously recreated by communities, and embedded in social functions. Safeguarding therefore entails a fundamental tension between sustaining the continuity of living practices and allowing for their ongoing transformation, without freezing, objectifying, exoticising, or homogenising them. Navigating this tension has become increasingly complex as demographic change, cultural globalisation, industrialisation, decontextualisation, and economic pressures reshape the environments in which heritage



Link 1 →
UNESCO. *ICH Living Heritage and Threats* interactive map. Authors' Screenshot.

is practised and transmitted (see (1 →) for an overview). The series begins from this tension between continuity and transformation.

Digital technologies as forms of mediation

The second pillar concerns digital mediation. Digitising heritage involves unpacking a practice into forms that technologies can record, process, store, and circulate. Through this process of selection and translation, technologies inevitably contribute to shaping what can be collected and shared about a practice.

Digital technologies – from audiovisual recording and digital archives to virtual environments and Artificial Intelligence (AI) – have created unprecedented opportunities for documenting, transmitting,

and engaging with ICH (Rodil & Rehm, 2015). However, this growing "*digital imperative*" (Van Heur, 2010, p. 405) also introduces new tensions, as technological mediation can foreground certain dimensions of heritage while making others less visible (Verbeek, 2005; Kiran, 2015).

Consider the apparently straightforward act of recording polyphonic singing. Microphones, cameras, and editing can make harmonic relations, timing, gestures, and vocal interactions available for repeated listening, analysis, and circulation. The resulting recording, however, cannot reproduce embodied co-presence, situated meaning, or the tacit forms of learning through which the practice is transmitted. Some dimensions are amplified, while others are reduced or displaced. As cultural expressions are translated into digital forms and circulated beyond the contexts in which they are practised, technological mediation may reconfigure how heritage is encountered, interpreted, and transmitted.

Digital valorisation therefore calls for attention to what technologies enable, select, translate, transform, and potentially leave behind. Throughout the series, we approach digital technologies through this double condition of amplification and reduction.

Design as interpretive lens and practice

The third pillar is the design perspective. The study of ICH has long been shaped by diverse disciplinary research traditions (see (2 →) for an overview). Anthropology, history, ethnography, and archaeology have widely provided methods for documenting cultural practices in context and accounting for their transformations over time. While legal and sociological scholarship has examined, for example, safeguarding as a contested institutional arena, raising questions about participation, rights, and the power dynamics between grassroots practices and bureaucratic regimes (Eichler, 2021; Meissner, 2017; Schreiber, 2017). Research across museum studies, cultural tourism, and, more recently, Human-Computer Interaction (HCI) has further expanded this landscape to consider how heritage is interpreted, experienced, and mediated through digital technologies (Arizpe & Amescua, 2013; Eichler, 2021; Hou *et al*., 2022).Within this broader research landscape, design has received comparatively less attention.

Link 2 →
UNESCO. Research references on the implementation of the 2003 UNESCO Convention.



A relatively small body of research has explored how design methods and technologies can contribute to the revitalisation of specific ICH practices, heritage education, and transmission (Dagnino *et al*., 2015; Lu *et al*., 2022; Liu *et al*., 2023; Chen *et al*., 2024; Xia *et al*., 2024). Other contributions have begun to articulate broader perspectives on the relationship between design and ICH. Hao and Misri (2025), for example, examine how Creative Product Design may support the contemporary relevance and continuity of heritage practices, while Lupo (2023) conceptualises ICH as

> **a cultural ecosystem connecting cultural contents, institutions, archives, territories, communities, users, and stakeholders [that] needs to be approached *designerly.* (Lupo, 2023, p. 604)**

Building on this perspective, the series examines real-world digital valorisation initiatives and social discourse to explore **whether and how** design intervenes in the recognition, documentation, access and use of intangible heritage.

Foundational perspectives in design research and practice help explain why this matter deserves attention.

First, design operates between continuity and change. Krippendorff's (1989) account of *product semantics* foregrounds design as a process concerned with how artefacts acquire meaning through their interpretation and use. While developed in relation to designed artefacts, this emphasis on meaning-making provides a useful lens for considering design interventions in ICH, where cultural practices and expressions are interpreted, mediated, and transformed as they encounter new contexts. Decisions about what to represent, foreground, translate, or make accessible influence how cultural practices are encountered and understood by different communities and audiences. Design therefore participates in the ways heritage is reinterpreted and re-enacted in new contexts, with potential consequences for its meanings, modes of transmission, and relationships with its communities of origin (Liu *et al*., 2023; Lu *et al*., 2022).

Second, design as a practice is well equipped to work generatively within constraints. Design reasoning engages with problem spaces characterised by uncertainty, competing values, and contex-

tual limitations (Dorst, 2015), conditions that also characterise many interventions concerned with the safeguarding and transformation of ICH, where regulatory, social, cultural, and material constraints intersect (Eichler, 2021). Importantly, negotiating these constraints cannot be separated from the communities and knowledge-bearers who sustain and transmit heritage practices. In this respect, the centrality of communities to ICH resonates strongly with the tradition of participatory design (Sanders & Stappers, 2008; Manzini, 2015). Design can scaffold collaborative and intergenerational processes, facilitate bottom-up initiatives, support situated forms of expertise, and foreground community agency in decisions concerning how heritage is interpreted, transmitted, and transformed (Paananen & Häkkilä, 2025; Lupo, 2023; Giglitto *et al*., 2019).

Its contribution may concern from the material configuration of an exhibition, archive, website, interface, or digital tool, to broader processes through which these artefacts are conceived, produced, maintained, and made accessible. At this higher level, design can also operate as a "*mediation agent*" or "*regie of processes of valorisation*" (Lupo, 2007, p. 3) and contribute to shape how cultural value is interpreted and communicated while facilitating relationships among communities, institutions, technologies, practices, and infrastructures over time.

While these perspectives suggest that design can participate in ICH valorisation, dedicated research into its actual roles remains limited, particularly in relation to real-world digital valorisation initiatives and to the specific characteristics of individual ICH domains. In this context, the present series proposes the perspective of design as a relevant and still underexplored contributor to ICH valorisation practices.

The *Design x ICH* series takes this open research space as its starting point. It examines existing initiatives to understand where design already intervenes, where its role remains implicit or absent, and which conditions shape the consequences of its involvement. In this first volume, the inquiry focuses on the digital valorisation of Oral Tradi-

tions and Expressions and on the particular vulnerabilities associated with their linguistic, performative, and relational modes of transmission.

Design is here understood in two complementary ways:

- *as a practice*, whose observable contribution may concern the development of artefacts, interfaces, services, platforms, and participatory processes within digital valorisation initiatives;
- *as a critical and interpretive lens*, through which project choices can be examined even where designers are not explicitly present, making visible what is recognised, translated into digital resources, made accessible and usable, and placed under particular forms of governance. Here, we do not mean treating every project activity as design. Rather, we intend to identify the decisions and configurations that designers would need to understand, question, and potentially help reshape if they were to participate in the process.

In light of these perspectives, the current volume asks the following questions:

How are digital valorisation practices for Oral Traditions and Expressions configured, and where does design currently – or potentially – play a role?

Each volume of the series examines this question through the distinctive forms of practice, transmission, vulnerability, and continuity associated with one ICH domain at a time.

The Volume Structure

The first volume of the series is dedicated to *Oral Traditions and Expressions, including language as a vehicle of the intangible cultural heritage*[2].

In Chapter 1, ***The research approach***, we explain how we conducted the research presented in this volume. We introduce the two complementary analytical approaches through which we investigate digital valorisation practices: a case-based analysis of existing initiatives and an exploration of emerging practices and discourses on social media. We also present the *ICH Digital Valorisation Framework*, developed as a shared interpretive structure for examining and comparing initiatives across the series. The framework provides the analytical basis for the case studies discussed in Chapter 3, while the second approach informs the trend analysis presented in Chapter 4.

In Chapter 2, ***Intangible Cultural Heritage: Oral Traditions and Expressions***, we establish the specific heritage domain examined in this volume. We discuss the normative and institutional frameworks surrounding the safeguarding of Oral Traditions and Expressions and consider manifestations including storytelling, oral narratives, dialects, and languages. We approach oral heritage both as cultural content and as a situated process of communication and re-performance, with language operating both as an expression of heritage and as a medium through which heritage is transmitted. We conclude by illustrating vulnerabilities affecting the vitality and transmission of oral heritage, including those that may emerge through safeguarding itself.

In Chapter 3, ***Practising oral traditions and expressions digital valorisation: Insights from a case-based analysis***, we apply the *ICH Digital Valorisation Framework* to seven real-world initiatives. The cases allow us to examine how oral heritage, technologies, actors, and project arrangements are configured in practice. Through a cross-case reading, we identify five heritage dimensions through which oral heritage becomes digitally legible and four recurring approaches through which it is mediated and made encounterable. We also examine key capabilities, stakeholder roles, and governance trajectories, together with the temporal and infrastructural configurations through which digital valorisation develops over time.

Note 2.
In this volume, this heritage domain might be referred to in different ways, including *oral traditions and expressions*, *linguistic heritage* and, in some cases, for the sake of brevity, *oral heritage*, while acknowledging that these expressions do not fully coincide in meaning.

In Chapter 4, ***Digital for Oral Traditions and Expressions: Emerging Trends in Social Media Discourse***, we shift the analysis from individual projects to emerging online practices and debates. We identify and examine three trends: *NLP for endangered languages revitalisation; Digital oral storytelling between oral history and podcasting;* and *Indigenous Data sovereignty in oral and linguistic heritage*. For each trend, we consider the drivers contributing to its emergence, the practices and actors involved, and the open challenges it raises. We conclude by reflecting on the methodological limitations of identifying trends in social media discourse.

Finally, in Chapter 5, ***Conclusions***, we bring the different strands of the volume together. We reflect on the ambivalence of digital valorisation in Oral Traditions and Expressions, examine how participation and authority are configured and introduce the notion of *community-based catalyst figures*. We then return explicitly to design, considering where it is currently visible in the practices examined and where further scope for intervention may exist. From this perspective, we revisit the *ICH Digital Valorisation Framework* proposing a set of guiding questions for reflexive design practice and conclude by outlining a future studies for design in the digital valorisation of oral heritage.

1. The Research Approach

Link 3 →
TRAMA Project Platform *ICH Atlas*.



The *Design x ICH series* is grounded in ***TRAMA. Cultural Transformations. Intangible Heritage and New Digital-Driven Professional Skills project***[3] (3 →), an interdisciplinary research initiative developed through a collaboration between a cultural heritage design research group at the Department of Design of Politecnico di Milano and Icoolhunt / Nextatlas, a trend forecasting company specialising in Artificial AI and Big Data Analytics. TRAMA was conceived in response to the growing complexity of safeguarding ICH in an increasingly digital world, with the aim of exploring the evolving role that design can play in this context. Its objectives included identifying how digital technologies are employed in ICH valorisation practices, mapping collaborative networks and emerging professional skills, developing interpretive frameworks to analyse and guide valorisation initiatives, and providing practical recommendations for communities of practice, designers, technology providers, cultural mediators, and policymakers involved in heritage safeguarding. Each volume of the series builds upon the tools and methodologies developed within TRAMA, extending its findings through domain-specific analyses of cases and emerging trajectories.

Across the series, the research adopts a dual analytical perspective designed to capture both existing practices and emerging directions in the digital valorisation of ICH:

The first examines a *curated corpus of current digital valorisation initiatives through a value-chain lens*, enabling a structured analysis of how ICH are currently documented, mediated, and disseminated through digital technologies. This process enables to map the set of actors, technologies, and processes involved in these transformations. We illustrate the methodology adopted to select, describe, and analyse the initiatives in section ***1.1 Reading digital valorisation practices through a value chain approach***.

The second complements the above with a *projective exploration of emerging trends*, drawing on AI-assisted analysis of online discourse on social media to identify recurring narratives, signals, and trajectories that may shape future heritage practices. We account for the methodology designed and applied to extract trends in section ***1.2 Tracing emerging trends on digital for ICH through Social Media analysis***.

The reflections emerging from this dual analysis applied to the specific domain of oral traditions and expressions enabled us to reflect on the current, potential roles, and limitations of design in digital valorisation approaches.

1.1 Reading Digital Valorisation Practices through a Value Chain Approach

Digital efforts to safeguard and valorise ICH unfold through a sequence of decisions and infrastructural arrangements through which living practices are translated into digital form and, likely, embedded within broader processes of heritage transmission (Rodil & Rehm, 2015). Capturing these configurations requires a *process-oriented perspective*, one that traces how heritage, technologies, participation, responsibility, and capabilities are configured and reshaped across actors, stages, and settings.

We therefore adopt a value-chain lens to examine how digital interventions participate in wider processes of value creation, meaning-making, visibility, legitimacy, and accessibility across ecosystems of actors. Within this perspective, we speak of the "digital valorisation of intangible heritage" to emphasise that these processes extend beyond technical digitisation or preservation alone.

Value-chain analysis has been widely used in representation of cultural and creative sectors to describe the sequential and relational processes through which cultural expressions are created, produced, disseminated, and received (European Commission, 2017; Madudová, 2017; CHARTER, 2021). The EU report *Mapping the Creative Value Chains* (European Commission, 2017) emphasises that digitisation affects all phases of cultural production, introducing new actors and modes of interaction and reconfiguring relations between creators, intermediaries, and audiences. Within this framework, creative value chains encompass four core functions: (1) Creation, (2) Production, (3) Dissemination/trade, and (4) Exhibition/reception, and three support functions (preservation/archiving, education/training, and management/regulation), as well as ancillary goods and services (Figure. 1).

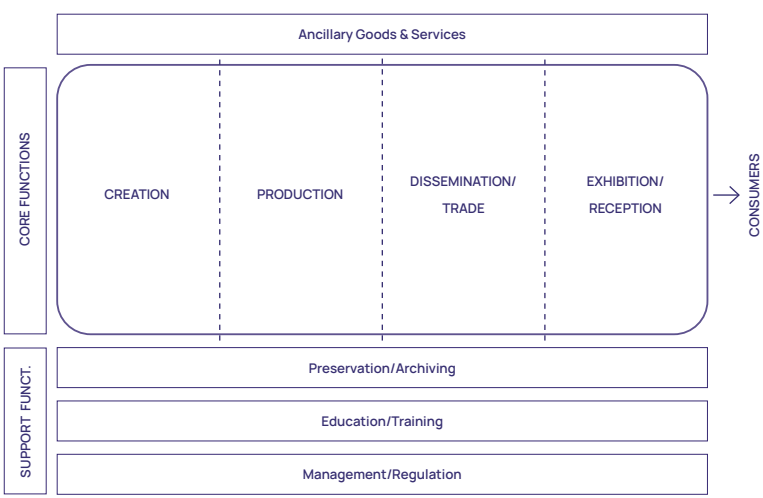


Figure 1. Stylised Creative value chain model. Adapted from European Commission (2017).

Digitisation operates across these functions, enabling new forms of distribution and fostering re-intermediation through platforms and technology providers (European Commission, 2017). Infrastructural mediations, can also encompass platform logics, algorithmic recommendations, and data-driven content management, through which agency may be redistributed (European Commission, 2017)

Developed for cultural and creative industries (CCI), the value-chain perspective offers a useful way to examine ICH digital valorisation as a process that unfolds across different actors and forms of technological mediation. Applied to ICH, it can virtually provide a means for locating moments in which heritage is reframed as it moves between situated practice and digital environments. We adopt a it to unpack and analyse initiatives, orienting questions concerning who participates in these processes, who can shape the resulting representations, and under which conditions heritage becomes accessible and reusable (European Commission, 2017; Lewis *et al*., 2020; Carroll *et al*., 2020).

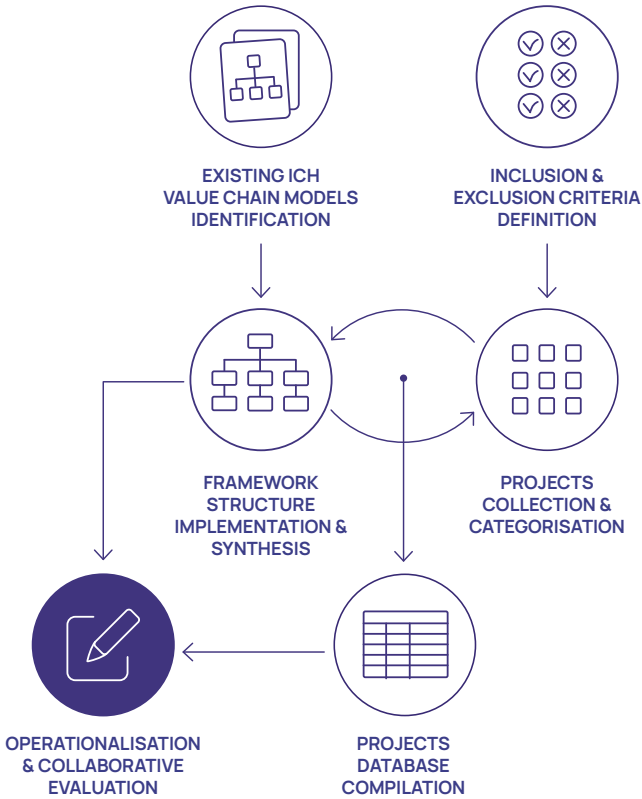
Building upon these premises, the next section introduces the **ICH Digital Valorisation Framework** as an analytical tool designed to describe, analyse, and compare projects that leverage digital technologies to support the livingness of ICH.

1.1.1 Designing the ICH Digital Valorisation Framework

The framework was designed through an *iterative* and *abductive process* combining theoretical grounding with *empirical knowledge* (Bekker *et al*., 2024). **Figure 2** illustrates the overall process behind its conceptualisation and development.

- The initial infrastructure was built drawing on existing conceptual models, including the *Creative Value Chain model* (European Commission, 2017), *CHARTER Model of the Cultural Heritage Ecosystem* (2021), and the *Tripartite Digitisation Model for Intangible Heritage* proposed by Rodil and Rehm (2015). All of the above share a view of cultural heritage valorisation as a *relational and procedural phenomenon* articulated through sequential and parallel stages.
- Concurrently, we collected and selected a curated corpus of 47 digital valorisation initiatives, each addressing ICH practic-

Figure 2.
ICH Digital Valorisation Framework iterative development process.



Link 4 →
ICH Atlas platform. *Projects Archive* page.

es associated with one or more ICH domains (see **ICH Atlas' *Projects Archive* page** (4 →) for an overview of projects). The cases were identified through a targeted search of projects recognised in design- and heritage-related awards and competitions (e.g. *ADI Design Index, ADC Awards, A' Design Awards and Competition, European Heritage Awards*), industry reports (e.g. Symbola's *Io Sono Cultura*), scientific literature, and EU-funded projects (e.g. *Heritage Research Hub platform*), complemented by snowball sampling. Inclusion criteria required a clear engagement with manifestations of ICH and either explicit attribution of design in the project credits or evidence of design-related activity in the project's conception and implementation.

- For each case, we consulted diverse types of sources (e.g., project websites, videos, reports, interviews with founders, etc.), and each project was coded verbatim in a spread-

sheet-based database structured around the framework's dimensions and sub-dimensions. Following iterative data cleaning, category consolidation, and terminology standardisation, each case was coded using a consistent set of analytical descriptors. These captured key project features including, for example, objectives, stakeholder types, and technologies employed.

- Through repeated testing and application of the framework to these cases, its categories and analytical dimensions were progressively adjusted to better reflect collected data, allowing it to evolve from an initial descriptive structure into an interpretive tool capable of supporting comparative analysis.
- We subsequently translated the framework into an online collaborative tool, the *ICH Digital Valorisation Canvas*, which we used to further test and refine the framework categories through two participatory workshops and two focus groups involving cultural heritage practitioners and researchers. Participants used the Canvas both to analyse and describe existing initiatives and to envision possible future configurations of digital valorisation projects. Their engagement with the Canvas helped us assess the clarity, relevance, and applicability of the categories and refine them accordingly (see Rubino *et al*., 2025, for a detailed account of the evaluation process and findings).

The **ICH Digital Valorisation Framework (Fig. 3, next page)** overarching structure presents three main dimensions of the cultural heritage digital value chain – *Recognition, Documentation, and Access and Use* – complemented by two transversal and intertwined dimensions that operate throughout the process: a *Strategic dimension* and a *Capability dimension*.

- **ICH Recognition**[4] concerns the identification and framing of the heritage elements addressed in the project, including the specific elements of cultural content involved (such as stories, languages, chants, and other oral expressions), and situating the practice in relation to the ICH domains (using UNESCO's domains as references). It also entails identifying

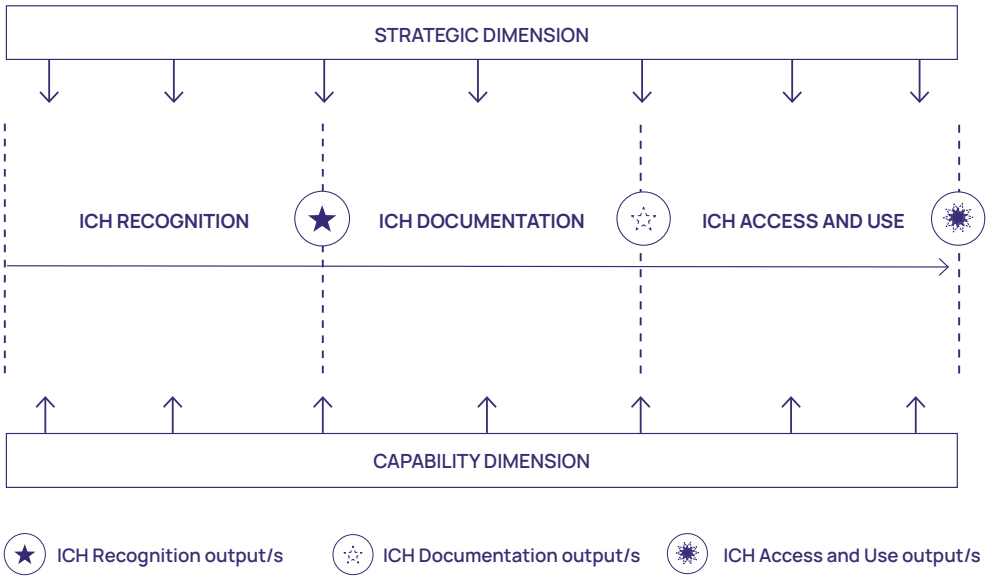


Figure 3.
The ICH Digital Valorisation Framework core and transversal dimensions.

the heritage communities and their location, the heritage practice territorial scale, and clarifying the heritage conditions of access and vulnerability (de Oliveira Pinto, 2020). Recognition addresses *what is considered heritage within the project, and under which interpretive lens*. The output of this stage (★ in **Figure 3**) is the identification of the different dimensions through which the intangible heritage manifests itself – what we call *heritage dimensions* – and that may subsequently become the focus of documentation and digital capture.

- **ICH Documentation** refers to the processes through which heritage dimensions, in terms of specific heritage manifestations, are documented and translated into digital resources. From a value-chain perspective, this dimension aligns with the *production* function (European Commission, 2017) and is highly grounded on Rodil and Rehm's *capture* and *representation* phases (2015). It includes identifying **data sources** (e.g. archival collections, heritage bearers and community contributions, or documents and reports), determining the **type of data** (e.g. oral, visual, textual, geographical), and selecting appropriate **technologies, tools and methods** for capturing (e.g. audio/video recording, surveys, database technologies, etc.) and representing heritage dimensions (e.g. audio

cleaning and mixing, subtitling, Knowledge Graphs, or Natural Language Processing (NLP) models). Each of these steps introduces layers of mediation. The resulting outputs (in **Figure 3**) can take the form of, for example, digital recordings, georeferenced maps, annotated corpora, and relational databases. The Documentation dimension therefore focuses on *how knowledge, practices, and memories are made digitally legible and translated into digital resources* that can be preserved, and potentially accessed and reused over time.

- **ICH Access and Use**, indeed, focuses on the ways in which such recognised and digitally documented heritage manifestations are rendered encounterable, interpretable, and actionable by different audiences. This stage corresponds to the *dissemination/trade* and *exhibition/reception* functions of the Creative Value Chain (European Commission, 2017) and involves the curation, mediation, and circulation of digital resources through project-specific **formats, channels, and technologies**, such as digital archives, websites, podcasts, interactive maps, reports, and immersive installations. It also includes decisions regarding **conditions of access and use** (such as open or restricted, online or venue-dependent).

In addition to the three core dimensions, the framework includes two transversal dimensions that shape decisions throughout the value chain: strategy and capabilities.

- **The strategic dimension** examines why an initiative is undertaken, its **objectives**, and whose needs it is intended to address. It considers the **project partners and other actors** involved in decision-making, the roles assigned to heritage communities, and the **organisational and financial conditions** through which the project is developed and maintained. These choices influence what is recognised as heritage, which materials are documented, how they are mediated, and who can access and use the resulting resources.
- **The capability dimension** examines the **expertise, knowledge and skills** activated to carry out prokect activities and how they are distributed among the actors involved. Depending on the project. This dimension also makes it possible to

identify which capabilities are held within heritage communities and which depend on external actors.

1.1.2 Extracting insights from oral traditions and expressions digital valorisation initiatives

Following the construction of the project analytical database, seven cases were selected as particularly significant for the domain of Oral Traditions and Expressions.

The project sources were then revisited and each case was described in detail according to the *ICH Digital Valorisation Framework*. This step was intended to complement the keyword-based coding with more extensive textual descriptions capable of accounting for the specific nuances of each case. These descriptions also traced the development of the projects over time, where possible, enabling us to capture the evolving configuration of the digital value chain.

Drawing on both the keyword-based coding in the database and the more detailed case sheets, the cases were compared through a thematic analysis guided by the framework's dimensions and sub-dimensions. This analytical step allowed us to identify recurrent themes, differences, and configurations across the cases in relation to:

- **heritage approaches**, identified through the combined analysis of **heritage dimensions** and **valorisation tactics**, comparing which manifestations of heritage each project made digitally legible and how these were documented, translated into digital form, and mediated for subsequent access and use;
- the **capabilities, types and roles of stakeholders** involved in valorisation practices;
- **governance trajectories**, examining how projects were initiated and how responsibilities and decision-making appeared to evolve across the digital value chain; and
- the **temporal and infrastructural configurations** of the digital value chain, examining how activities, outputs, and actors were connected over time.

The project case sheets and subsequent analysis are presented in Chapter 3, ***Practising Oral Traditions and Expressions Digital Valorisation. Insights from a case-based analysis***.

1.2 Tracing Emerging Trends on Digital for ICH through Social Media Analysis

Looking for signs of where cultural heritage is heading is not new. Researchers, cultural organisations, and observatories have long tried to identify shifts in the field and make sense of the changes taking place around it. They do so in different ways.

Academic studies, for example, often trace how research topics evolve over time by analysing publications and recurring keywords (Arteaga *et al*., 2021; Liu & Pan, 2023; Nugraha & Nugraha, 2025; Münster *et al*., 2024). Outside academia, similar attempts to read change can be found in *coolhunting* practices (Pedroni, 2010), sectoral observatories, and recurring reports. Examples include reports such as *Io Sono Cultura*, published by the Symbola Foundation, which follows yearly developments in the Italian cultural and creative sector through economic and social lenses, and the *IFLA Trend Report* which looks emerging information and knowledge trends that may affect galleries, libraries, archives, and museums (Dezuanni & Osman, 2024).

Other initiatives focus on the development of tools explicitly looking towards the future. **ICCROM's Heritage 2035 Driver Cards** (5 →), for instance, invite heritage professionals to consider societal, technological, environmental, economic, and political forces that may shape cultural heritage in the years ahead. The cards point to *clusters of many trends* that reflect deeper structural dynamics of change over longer time horizons and form part of ICCROM's wider work on strategic foresight (Wollentz *et al*., 2023). More recently, platforms such as the *Heritage Monitor*, developed within the Horizon Europe project *DIGICHER*, have used scientometrics and data analytics to map how research agendas in cultural heritage are evolving

Link 5 →
ICCROM's Heritage 2035 Driver Card Deck.

These initiatives provide different windows onto change. Yet most of them look through relatively formal ones: academic publications, institutional knowledge, expert interpretation, or structured datasets. But these are not the only places where change becomes visible.

For intangible cultural heritage in particular, change also unfolds in less formal spaces. Practices are shared, discussed, adapted, questioned, and given new meanings

through everyday digital interactions. A traditional practice may appear in a research publication or an institutional report, but it may also circulate through a video, a post, a comment, or an online discussion. This is why, as a second approach to trend analysis, we turned to social media platforms.

Unlike the projects mapping illustrated in Section 1.1, here we did not start by looking specifically for trends in which design already plays an active role. Rather, we aimed to surface the dynamics at work in the corpus, as a basis for a subsequent speculative discussion of the roles design may assume and the implications this may entail.Drawing on a large corpus of publicly accessible posts published over the years 2022-2025, we identified recurring thematic clusters, topic salience, and weak signals that may point to emerging trajectories. We specifically paid attention to **how digital communities frame, promote, and contest digital initiatives for ICH, and which interpretative lines gain visibility and traction in online public discourse.**

Digital environments are spaces in which heritage circulates, is interpreted, and takes on new forms. Roigé *et al*. (2021), for example, argue that observing online spaces can help capture "*the changing nature of ICH*" and counter "*a potentially fossilized view of ICH representations*" (pp. 4-5). Pukhrambam and Devi (2025) illustrate this process in relation to language and oral traditions, describing how "*fireside folktales […] [are] re-established as Facebook posts and Instagram stories*" (p. 10).

Studying social media at this scale requires combining different ways of reading the material. Previous ICH research has approached social media qualitatively, for instance through virtual ethnography (Roigé *et al*., 2021), while others computationally, using machine learning and big-data techniques to identify patterns across large collections of content (Morales-i-Gras *et al*., 2021). In our analysis, computational technologies supported the exploration and organisation of a large and heterogeneous corpus, while trends were progressively identified and articulated through interpretative reading. This iterative movement between computational exploration and qualita-

tive interpretation resonates with the hybrid approach described by Morales-i-Gras *et al*. (2021), which brings together computational and social-science perspectives, quantitative and qualitative techniques, and different forms of reasoning.

1.2.1 Designing the curated trend identification pipeline

We developed the process used to identify and curate the trends presented in Chapter 4 in two stages. First, we built the trend-identification platform. Second, we defined and deployed the analytical approach to examine and curate trends in the field of *Oral Traditions and Expressions*.

Building the trend identification platform

We developed the trend-identification system iteratively (**Figure 4**) with the TRAMA partner Nextatlas, shaping it into a multi-source, human-supervised platform for detecting emerging trends in ICH.

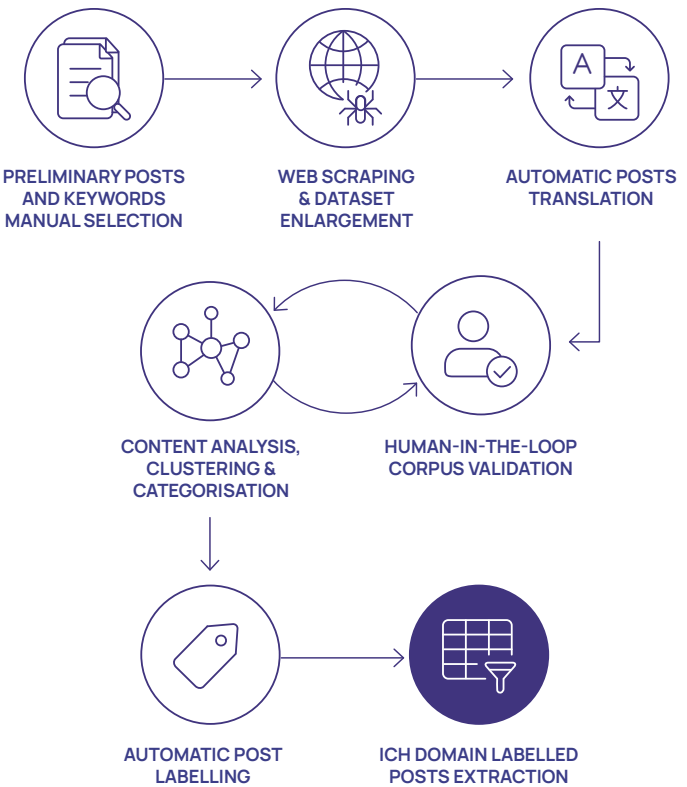


Figure 4.
Process and phases of building the trend identification platform.

Following Kontostathis *et al.* (2014), we understand a trend as a "*topic area that is growing in interest and utility over time*".

We began by manually selecting a core set of posts from X (formerly Twitter), Instagram, and LinkedIn, together with an initial vocabulary combining ICH-related terms (e.g. intangible heritage, living heritage, oral traditions) and digital technology keywords (e.g. artificial intelligence, virtual reality, blockchain).

Through successive web-scraping queries conducted by Nextatlas, the corpus was progressively expanded to include potentially relevant posts published between 2022 and 2025. Emerging expressions and thematic associations were used iteratively to refine both the vocabulary and subsequent data collection. As we imposed no geographical limits, posts were automatically translated into English to enable multilingual comparison and analysis.

The resulting corpus underwent repeated cycles of automated cleaning and human-in-the-loop review (Wu *et al.,* 2022) to reduce noise and false positives and improve its specificity to ICH and digital-related topics. This process resulted in a dataset of 5,893 posts from diverse geographical and cultural contexts.

We then analysed the curated corpus to extract and cluster ICH-related expressions, skills, technologies, and events. This analysis combined LLM-based labelling, embedding-based semantic similarity, topic clustering, and human supervision. GPT-4 supported the handling of the scale and heterogeneity of the corpus by suggesting preliminary labels and thematic groupings, while we retained interpretive control and responsibility for validation (see Di Lodovico *et al*., 2025 for details).

Each post was subsequently associated with one or more UNESCO ICH domains and labelled according to referenced skills, technologies, and events. The non-exclusive domain classification reflected the frequent overlap between different forms and contexts of ICH within individual posts. These classifications were integrated into an internal platform developed in collaboration with Nextatlas, supporting domain- and keyword-based navigation, together with metrics on mentions and projected growth derived from their data-driven trend foresight platform.

By filtering for Oral Traditions and Expressions, we obtained a corpus of 916 posts, which constituted the starting point for the qualitative trend analysis.

Curating trends on oral traditions and expressions

Emerging trends within the Oral Traditions and Expressions corpus were identified through an iterative qualitative procedure informed by thematic analysis (**Figure 5**).

We downloaded the 916 posts and read them repeatedly to identify recurring topics, expressions, and patterns of co-occurrence.

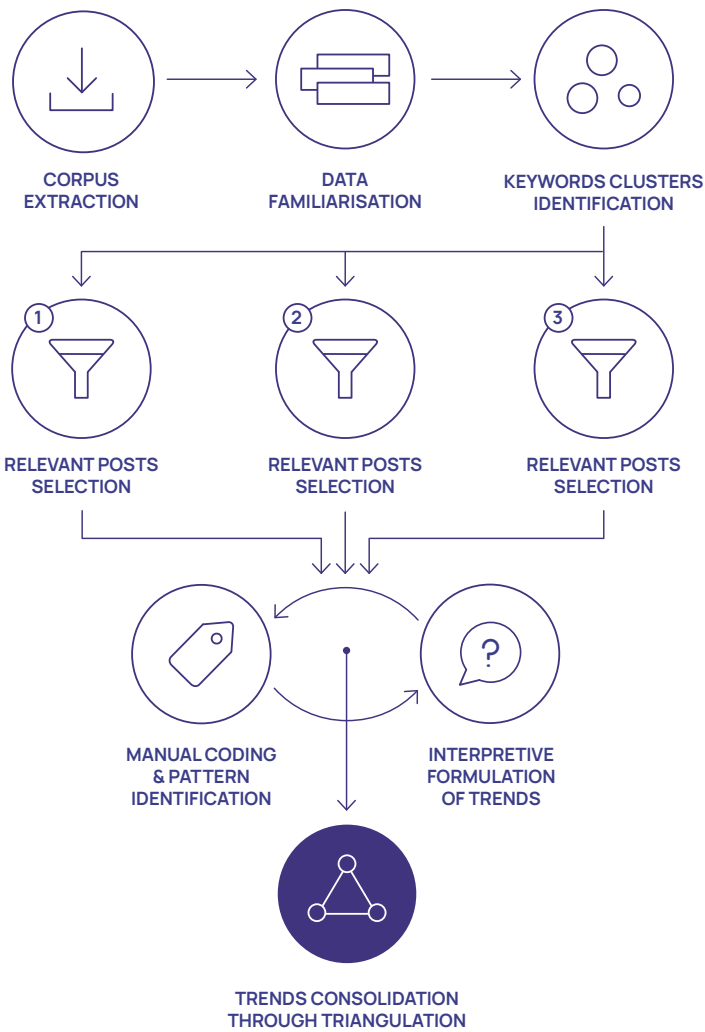


Figure 5.
Process and phases of trend curation.

These observations informed preliminary keyword clusters representing candidate thematic areas – for example, artificial intelligence/endangered languages, oral history/podcast, and data sovereignty/AI ethics.

We used the clusters as exploratory retrieval devices rather than fixed search strings: individual keywords helped identify potentially relevant posts, which we then qualitatively reviewed for contextual coherence. We manually coded selected posts according to four analytical categories: heritage manifestations, technologies, purposes of use, and events or initiatives. Recurring relationships across these categories enabled us to consolidate preliminary clusters into more coherent thematic configurations.

We then interpretively articulated each trend through a question-guided framework examining what the trend consists of, how it unfolds in practice, the discussions and drivers surrounding it, the projects and actors through which it manifests, and emerging challenges. Finally, we reflected on a series of points of attention in terms of unresolved questions and open challenges for those willing to take part to the trend.

By and large, the trends presented in Chapter 4 highlight patterns of increased attention within a specific dataset and time frame. They offer a situated, rather than comprehensive, reading of how certain manifestations of oral traditions are currently discussed and made visible on social media platforms.

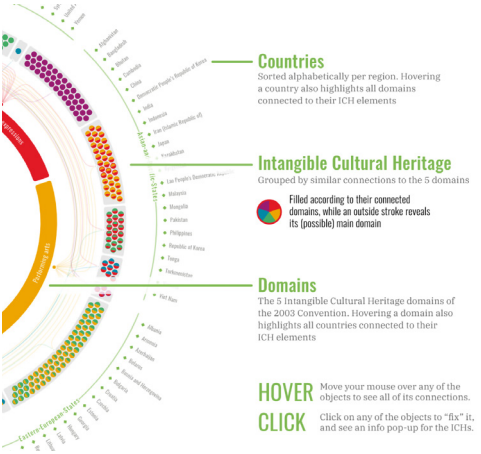
2. Intangible Cultural Heritage: Oral Traditions and Expressions

Before turning to the projects and emerging practices examined in this volume, we first clarify the heritage domain at its centre: **Oral Traditions and Expressions, including language as a vehicle of intangible cultural heritage**. UNESCO (6→) describes this domain as encompassing

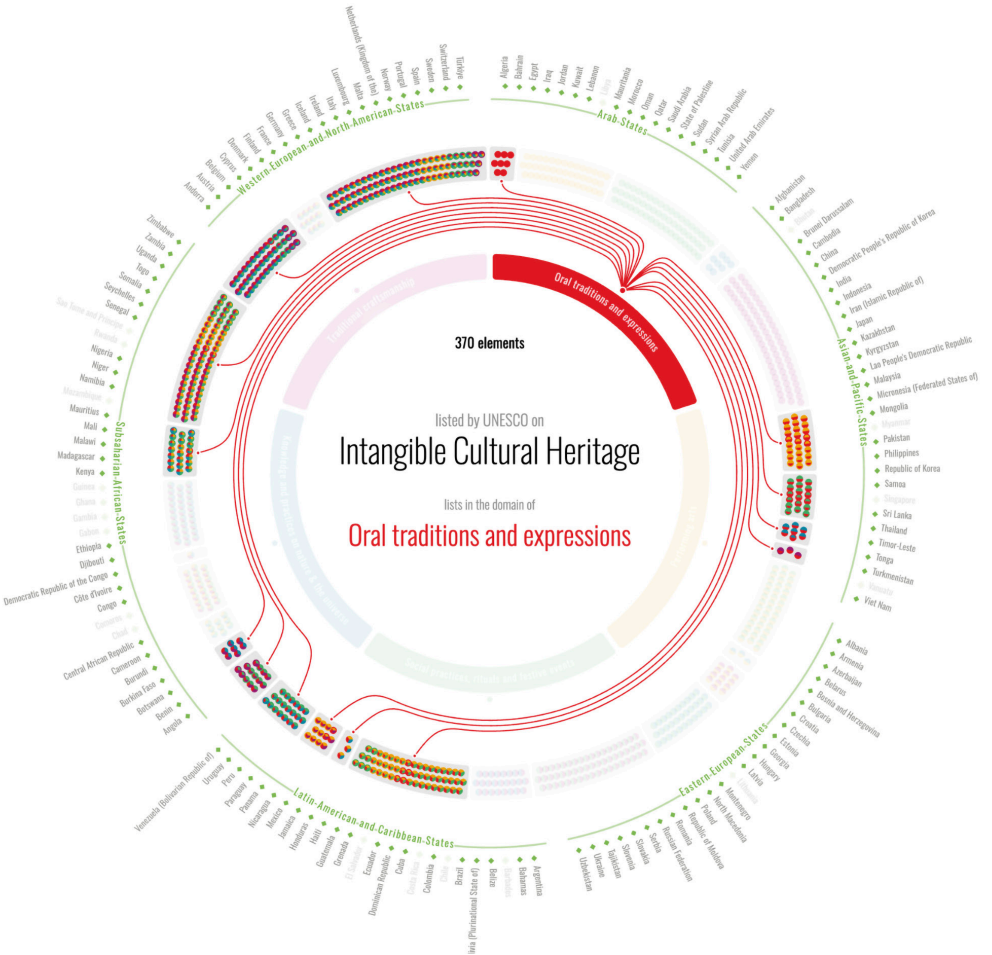
> **an enormous variety of spoken forms including proverbs, riddles, tales, nursery rhymes, legends, myths, epic songs and poems, charms, prayers, chants, songs, dramatic performances and more [...] [and] are used to pass on knowledge, cultural and social values and collective memory. (UNESCO, n.d.)**

Link 6 →
UNESCO ICH. Oral traditions and expressions including language as a vehicle of the intangible cultural heritage domain.

The interactive map in the next page (7→) provides a geographical overview of the practices inscribed in the UNESCO *Representative List of the Intangible Cultural Heritage of Humanity* across different countries. Along this diversity, oral heritage is sustained through situated and interactive acts of telling, performing, and remembering, involving language, voice, gesture, memory, and relationships among



Link 7 →
UNESCO Domain's Interactive Map. Oral Traditions and Expressions elements. Authors' Screenshot.



speakers, performers, and listeners. UNESCO highlights that "*their viability depends on an uninterrupted chain passing traditions from one generation of performers to the next*" (UNESCO, n.d.). Within oral traditions and expressions, language plays a central role: it shapes both the content and expressive forms of stories, poems, and songs, while enabling their performance and transmission (UNESCO, n.d.), foregrounding its continued enactment and adaptation by communities (Neyrinck *et al*., 2020). Drawing on these considerations, we approach oral heritage through two interconnected dimensions: cultural content and the situated processes of communication and performance through which it is transmitted and recreated.

Understanding this domain requires attention to two further, interrelated perspectives that help clarify its fluid boundaries and complexity. The first concerns the institutional frameworks through which oral heritage is recognised, documented, and safeguarded. These frameworks shape which practices become institutionally visible, who participates in their recognition and safeguarding, and which instruments support their continuity. The second concerns the social and cultural conditions that sustain oral heritage through enactment and transmission, and the vulnerabilities that arise as these conditions change.

2.1 Safeguarding and Institutional Recognition

The main international reference for defining and safeguarding Oral Traditions and Expressions is UNESCO's *Convention for the Safeguarding of the Intangible Cultural Heritage* (2003). More broadly, the Convention marked a shift in how heritage itself is understood, from a focus primarily on tangible cultural objects towards practices and processes that communities continuously recreate and transmit (Bortolotto, 2007).

This process-oriented understanding also shapes what safeguarding means. To this end, the *UNESCO Operational Directives and Basic Texts* (2008) identify measures such as identification, inventorying, documentation, community participation, and programmes supporting transmission.

While the Convention introduced a distinct understanding of intangible heritage, its implementation also relies on approaches that have longer histories within cultural heritage management and related fields. Inventorying and documentation, in particular, provide institutional mechanisms through which living practices can be identified, described, organised, and made accessible for safeguarding purposes. In the context of ICH, however, these approaches have to be adapted to a form of heritage that does not reside primarily in objects or records, but in practices, knowledge, expressions, and their continued transmission by communities. Oral Traditions and Expressions are addressed through these broader ICH mechanisms rather than through a separate dedicated system of recognition and safeguarding.

This general framework is translated differently across institutional and territorial levels. At the European level, oral traditions are mainly addressed within broader cultural heritage policies[5]. Documents such as the *Council Conclusions on participatory governance of cultural heritage* (2014) and the *Council Conclusions on the EU approach to cultural heritage in conflicts and crises* (2021) refer to the UNESCO Convention, while leaving its principles to be translated into different national systems.

In Italy, the UNESCO Convention was ratified in 2007, bringing its principles into the Italian legal framework (*Law No. 167/2007*). The principal national framework remains the *Cultural Heritage and Landscape Code* (*Legislative Decree No. 42/2004*), whose regulatory architecture is predominantly centred on tangible cultural property. *Article 7-bis*, introduced in 2008, expressly extends the Code's attention to collective cultural identity expressions recognised under the UNESCO conventions, but only where they are represented by material evidence and meet specific conditions established under *Article 10*. More recently, *Law No. 152 of 7 October 2024* introduced provisions concerning the safeguarding of ICH and delegated the Government to develop a more specific regulatory framework.

Looking again at the Italian context, recognition and documentation appear to be more strongly embedded at the administrative level through a inventories, cataloguing standards, documentation programmes, and procedures connected to UNESCO nominations.

The Istituto Centrale per il Catalogo e la Documentazione (ICCD), an institute within Italy's Ministry of Culture, developed the BDI catalogue record standard for intangible demo-ethno-anthropological heritage. More recently, the Ministry's UNESCO service, in collaboration with ICCD, developed the MEPI inventory module for documenting elements of intangible cultural heritage. Through these instruments, oral histories, narratives, traditional singing, ritual expressions, and other forms of orally transmitted knowledge can be identified and documented within institutional information systems.

The picture changes again at the regional level. Lombardy's *Regional Law No. 25/2016* explicitly includes oral traditions and expressions, oral history, narratives, and place names within its definition of intangible cultural heritage, and assigns the Regional Archive of Ethnography and Social History responsibilities concerning oral history, traditional singing and music, documentary resources, and transmission (Regione Lombardia, 2016). Sardinia includes tangible and intangible heritage within its regional cultural policy (Regione Autonoma della Sardegna, 2006), while Sicily has developed a *Register of Intangible Heritage*, providing an administrative mechanism for identifying and documenting oral, linguistic, ritual, and performative expressions (Regione Siciliana, 2005, 2014).

These different layers produce a landscape that can be described as multilayered and uneven. The UNESCO Convention provides a common conceptual basis, while national and regional policies, cataloguing systems and inventories translate its principles into different forms of recognition and intervention. The resources, institutional expertise, and instruments available to identify and support oral heritage consequently vary across territories and communities.

This matters because institutional processes of recognition and documentation can shape which practices become visible and documented, as well as how communities access institutional resources and support for safeguarding (Stefano, 2024).

2.2 Safeguarding Vulnerabilities

The distinction between recognising heritage and sustaining its transmission becomes particularly visible in UNESCO's inscription mechanisms. At the end of 2024, the UNESCO *Representative List of the Intangible Cultural Heritage of Humanity* included 788 inscriptions associated with 150 countries (UNESCO, 2024). Inscription can increase the visibility and legitimacy of a practice while creating opportunities for documentation, cooperation, and resource mobilisation.

Lists promoted by UNESCO, however, represent only a selection of the world's living heritage. Inclusion depends on nominations submitted by States Parties, evaluation against established criteria, and approval by the Intergovernmental Committee. Differences in institutional capacity, policy priorities, and national nomination strategies can therefore shape what becomes internationally visible (Alivizatou, 2007; Schreiber, 2017).

At the same time, UNESCO places community recognition, rather than international inscription, at the basis of intangible cultural heritage recognition (UNESCO, 2003; 2015). Practices may therefore be recognised locally, regionally, or nationally without appearing on the international Lists, although inscription can create important differences in visibility, institutional attention, and access to support, with potential consequences for weakly institutionalised communities (Stefano, 2024).

Understanding safeguarding therefore requires looking beyond formal recognition to the conditions through which oral traditions are enacted and transmitted. Language is intrinsic to these practices: oral traditions are performed through language, whose idioms, metaphors, and symbolic structures shape how knowledge, memory, and social meanings are articulated (Ezema, 2025). At the same time, the continued performance of stories, proverbs, myths, chants, and ritual speech sustains the use of languages, dialects, and local varieties through which communities express cultural identity and ways of understanding the world (Ramesh, 2026). Safeguarding oral traditions therefore cannot be separated from safeguarding the linguistic forms through which they are practised and transmitted.

In this context, different social, economic, institutional, and cultural transformations can undermine the continuity of both oral traditions and the languages through which they are practised. Migration and changes in local social structures can distance communities of speakers and performers. Education systems can privilege dominant languages. Contexts traditionally associated with storytelling or ritual performance can disappear or change, while limited institutional support can make transmission more difficult (Haring, 2007; Huszka *et al*., 2024).

Vulnerability, however, should not be understood as change itself, nor as a departure from an supposedly *authentic* or original form of a tradition. Safeguarding does not imply reproducing a practice unchanged across generations (UNESCO, 2015). Linguistic change, for instance, does not necessarily entail the disappearance of an oral tradition. Translation, adaptation, and multilingual forms of transmission can allow traditions to continue and acquire new meanings in changing contexts.

Building on these premises, in this volume, we understand vulnerability as a relational and context-dependent condition that can emerge when situated social, economic, institutional, or technological transformations constrain community agency, interrupt transmission, or disrupt the settings in which practices are enacted and acquire meaning (Stefano, 2024).

Within this understanding, safeguarding practices are not external to vulnerability. As forms of institutional, documentary, and technological intervention, they can themselves reshape the conditions in which heritage is recognised, represented, accessed, and transmitted.

Institutional recognition and documentation can support knowledge, access, and continuity. At the same time, they involve choices about what is recorded, how it is classified and represented, and who can access, control, or reuse it. Safeguarding interventions may introduce further vulnerabilities when they constrain community agency, privilege particular representations, or detach documented materials from the relationships and contexts through which a practice remains meaningful.

These vulnerabilities can materialise in different ways. **First, documentation necessarily captures only certain dimensions of a living practice**. Taylor (2003) distinguishes in this respect between the *archive*, through which knowledge persists in relatively durable materials and records, and the *repertoire*, through which embodied knowledge is enacted and transmitted through practices such as speech, gesture, movement, and performance. Oral traditions rely strongly on this latter mode of transmission. While their documentary traces may persist, their continuity as living heritage depends on their continued enactment and transmission. Recordings, texts, and other materials can preserve important traces, but cannot alone sustain the embodied interactions, situated meanings, relationships, and acts of transmission through which oral heritage remains living heritage (Taylor, 2003; Haring, 2007; Oruç, 2022).

Second, inventories, classifications, archives, and exhibitions do more than document heritage. **By selecting, describing, and representing cultural practices, they contribute to making particular forms legible as** *heritage*, a process Kirshenblatt-Gimblett (2004) describes as *metacultural production*. As Bortolotto (2007) notes, this process can give practices an institutional *second life,* in which they are not only enacted within their original social contexts but also represented and performed as *heritage*. This institutional second life can increase visibility and support safeguarding, while also privileging particular versions, representations, or contexts of performance over others.

Digital technologies extend these issues through diverse forms of mediation. Reflections should move beyond optimistic or dystopian views of digitalisation as inherently preserving or threatening oral heritage. Digital mediation itself should be subject to scrutiny, as it actively contributes determining what becomes visible, how it is represented, and who can participate in these processes, thereby reshaping the conditions through which oral heritage is valorised, transmitted, and sustained.

3. Practising Digital Valorisation. Insights from Case-based Analysis

In this chapter, we examine seven cases[6] to explore how oral heritage is selected, represented, and mediated through digital valorisation practices. We approach these cases as situated configurations through which to investigate broader issues of representation and participation, without treating them as best practices to be replicated.

To support comparison, we describe each initiative using the *ICH Digital Valorisation Framework* outlined in Chapter 1. ***The research approach.*** The sources consulted in developing the case sheets are listed in (ANNEX I P. 133→). Each case sheet presents:

- the project's declared objectives, intended beneficiaries, partnerships, actors involved, capabilities, and funding arrangements **(Strategic and Capability dimensions)**;
- how oral heritage is framed within the project, including its diverse manifestations **(ICH Recognition)**;
- how these manifestations are translated into digital resources **(ICH Documentation)**;
- how the project makes these resources encounterable and accessible to support different forms of engagement among its audiences **(ICH Access and Use)**.

We then compare the cases through three interconnected lines of inquiry. First, we examine which dimensions of oral heritage become digitally legible and how they combine with valorisation tactics into recurring approaches. Second, we consider how stakeholder roles, capabilities, and governance arrangements shape organisation and responsibilities across recognition, documentation, and access and use. Third, we trace how the *ICH Digital Valorisation Framework* dimensions connect and unfold over time, identifying configurations that complicate a strictly linear understanding of the value chain.

Table 1. provides an initial overview of the cases before their detailed presentation and comparative analysis.

Project title	**Heritage focus**	**How heritage is framed**	**Main vulnerability addressed**
ADLaM	Fula language.	Repository of shared knowledge, rituals, social practices, memories, and cultural identity.	Limited writing system capable of supporting language transmission and teaching.
RISE UP. Revitalising Languages and Safeguarding Cultural Diversity	Aranese, Aromanian/ Vlach, Burgenland Croatian, Cornish, and Seto language varieties.	Carriers of cultural identity and personal roots.	Displacement under the pressure of dominant languages.
GPT for Icelandic	Icelandic language.	A living but low-resource national language.	AI-powered LLMs prioritise dominant languages, threatening Icelandic usability in digital environments.

SkoBots	Anishinaabemowin language.	A key cultural component and means through which communities communicate about the world and tell stories.	Loss of intergenerational transmission and risk of AI-driven appropriation and misuse of Indigenous data.
MODAS: Sas Boghes de sos Cantadores a Tenore	Cantu a tenore (Sardinian polyphonic singing).	A UNESCO-inscribed living practice rooted in local communities.	Uneven documentation. Continuity depends on preserving the link between singers and their communities of belonging.
Synthetic Memories	Oral memories of marginalised and underrepresented communities.	Lived narratives through which broader intangible cultural meanings can emerge.	Undocumented and unvisualised memories are at risk of fading.
MULTI. Multimedia Museum of the Italian Language	Italian language.	An evolving intangible heritage expressed through multiple forms of use.	Language heritage cannot be contained in museums like material heritage and requires more inclusive, interactive, and plural forms of access.

Table 1.
Overview of the cases, heritage focus, how heritage is framed, and main vulnerability addressed in each project.



Link 8 →
ADLaM alphabet and ADLaM Display font development story from Microsoft Unlocked website.

ADLaM

ADLaM (i.e. *the alphabet that protects the people from vanishing*) is an initiative centred on the development and diffusion of a writing system for Fula, supporting the language's continuity and use across both written and digital environments.

ADLaM was developed in the late 1980s by brothers Ibrahima and Abdoulaye Barry in response to the lack of a writing system specifically designed for Fula. From its origins in community literacy practices, the initiative progressively expanded through collaborations with technology firms, designers, typographers, and institutions. A major step was the inclusion of the ADLaM script in the Unicode Standard, followed by the development of dedicated fonts, keyboard layouts, and other digital resources that enabled its use on computers and mobile devices. The initiative primarily serves Fulani communities in West Africa and across diasporic contexts, with particular attention to literacy and younger generations. Its development has combined community-led action, education, and collaboration with external technical and institutional actors, as well as leveraging a diverse range of funding schemes to support the initiative development and expansion.

PROJECT DATE:
LATE 1980S ONWARDS.

PROJECT ACTORS:
HERITAGE BEARERS AND COMMUNITY; TECHNOLOGY FIRMS; DESIGNERS; COMMUNICATION AGENCY.

KEY CAPABILITIES:
FULA LINGUISTIC & CULTURAL KNOWLEDGE; SCRIPT DEVELOPMENT; LITERACY EDUCATION & TEACHING; UNICODE STANDARDISATION; TYPEFACE DESIGN; VIDEOMAKING; DIGITAL CAMPAIGN DESIGN & DEVELOPMENT.

FUNDING SCHEME:
SELF-FUNDING; FUNDRAISING; GRANTS; CORPORATE SUPPORT.

HERITAGE FOCUS: FULA LANGUAGE.

TERRITORIAL SCALE: TRANSNATIONAL.

HERITAGE ELEMENTS: SPOKEN LANGUAGE; ORAL NARRATIVES.

HERITAGE CONDITION: LIVING LANGUAGE; LIMITED SCRIPT SUPPORT.

ICH DOMAINS: ORAL TRADITIONS AND EXPRESSIONS.

UNESCO INSCRIPTION: NOT INSCRIBED.

ICH RECOGNITION. The heritage addressed by ADLaM is the Fula language, spoken by Fulani communities across West Africa and in diasporic contexts. Fula is a macrolanguage encompassing multiple varieties and is spoken by more than 40 million people across more than 18 countries, including Benin, Cameroon, Chad, Guinea, Mali, Niger, Nigeria, and Senegal. Given its geographical diffusion and number of speakers, it is not generally considered a language at immediate risk of extinction.

Within the initiative, language is framed as closely connected to cultural continuity and to the transmission of culturally situated knowledge. Historically, Fula was transmitted predominantly through oral practice, while written communication relied on other languages or on adapted writing systems, including Arabic Ajami and the Latin alphabet. The development of ADLaM responded to the perceived limitations of these systems in representing Fula consistently and to the broader ambition of strengthening linguistic self-determination.

Within our framework, we therefore read ADLaM's Recognition dimension as centred on language continuity, linguistic self-determination, and the conditions that enable Fula to remain usable across changing social and technological environments.

ICH DOCUMENTATION. We reconstruct ADLaM's Documentation trajectory as a cumulative process of formalisation, in which each phase creates the conditions for the next: from the development of the handwritten script, to its standardised digital encoding, and finally to usable digital resources.

DATA SOURCE: FULA SPEAKERS

DATA TYPE: TEXT; GRAPHIC FORMS

TOOLS AND METHODS: HANDWRITING

OUTPUT: SCRIPT; TRANSCRIPTIONS

- **Fula handwritten script.** From the late 1980s, the Barry brothers developed ADLaM through an iterative process that associated graphic forms with Fula phonetic values. Over more than a decade, and with the involvement of other members of the community and Fula speakers, the script was refined and used to produce transcriptions of traditional stories and poems, books, handwritten educational materials, and pamphlets. This phase stabilised a written representation of the language establishing the graphic and linguistic basis on which subsequent digital development depended.

- **ADLaM font in Unicode.** Building on its established handwritten use, the Barry brothers and collaborators documented ADLam script's character set and structural properties for submission to the Unicode Consortium. In June 2016, ADLaM was incorporated into Unicode 9.0, assigning code points to its characters and establishing an interoperable digital representation of the script. This enabled ADLaM partial integration into a few existing font families, although implementation remained uneven, and some characters were not fully supported.

DATA SOURCE: SCRIPT DOCUMENT.

DATA TYPE: CHARACTER CODES.

TOOLS AND METHODS: UNICODE ENCODING.

OUTPUT: ENCODED CHARACTER SET.

- **Development of ADLaM digital font and keyboard.** Following Unicode inclusion, a further phase focused on making the encoded script usable in everyday digital environments. In 2019, collaborations involving the Barry brothers, typeface designers, and Microsoft teams refined the handwritten forms and encoded character set into dedicated digital resources. These included font files such as ADLaM Display, keyboard layouts, and platform-specific implementations, enabling use across major operating systems including Windows and Android. In this phase, Documentation moved from standardising the script to building the technical resources required for its practical digital use.

DATA SOURCE: SCRIPT; CHARACTER SET.

DATA TYPE: TEXT; VECTOR GRAPHICS.

TOOLS AND METHODS: TYPEFACE DESIGN SOFTWARE.

OUTPUT: FONTS; KEYBOARD LAYOUTS.

ICH ACCESS AND USE. Access and Use developed alongside documentation activities, progressively connecting long-standing literacy practices with progressively wider digital and institutional infrastructures.

- **Educational and literacy activities.** Access initially relied on community-based literacy practices supported through analogue means, such as handwritten class materials and transcribed traditional stories, poems, and books. Over time, these educational activities increasingly leveraged digital typography, using early digital font support and later dedicated ADLaM fonts to extend learning beyond local settings and support broader dissemination.

MEDIA AND FORMATS: LEARNING MATERIALS; CLASSES.

ACCESS: COMMUNITY-BASED; IN PERSON AND ONLINE.

- **Downloadable ADLaM digital assets.** The availability of digital fonts as downloadable, open-source resources, combined

MEDIA AND FORMATS: FONT; KEYBOARDS.

ACCESS:
PUBLIC; OPEN-SOURCE; ONLINE.

with keyboard support, allows today ADLaM to be typed on computers and mobile devices. These resources make the script technically usable in everyday communication enabling written Fula language to circulate widely in digital environments, such as websites, messaging apps, and social media.

MEDIA AND FORMATS:
DIGITAL CAMPAIGN.

ACCESS:
PUBLIC; ONLINE.

- **Communication campaign.** Public visibility has also been extended through a digital campaign developed for Microsoft by McCann New York. The campaign presents the collaboration between the Barry brothers, typeface designers, and the technology company and communicates the script's history and cultural significance to audiences beyond existing users. Its recognition through international design and advertising awards further increased the initiative's public visibility.

MEDIA AND FORMATS:
SCHOOLS; COMMUNITY MEDIA.

ACCESS:
IN PERSON AND ONLINE.

- **Wider uptake and institutionalisation**. The expansion of ADLaM has also generated further educational, community-led, and institutional initiatives. Project and partner sources report the growth of teaching programmes and ADLaM-focused schools, as well as policy-level developments including recognition of ADLaM as an official alphabet in Mali and plans in Guinea to extend its teaching to large numbers of children. In parallel, its inclusion in Google Fonts and adoption across websites extend translocal digital access, while community-led initiatives such as online dictionaries indicate continued reuse and adaptation.



Link 9 →
RISE UP: Revitalising Languages and Safeguarding Cultural Diversity Project website. Authors' Screenshot.

RISE UP. Revitalising Languages and Safeguarding Cultural Diversity

RISE UP aims to support the revitalisation of endangered and minoritised languages in Europe by examining the conditions that contribute to language endangerment and strengthening collaboration among communities and relevant stakeholders.

The project focuses on five selected language communities – Aranese, Aromanian/Vlach, Burgenland Croatian, Cornish, and Seto – while developing methods and resources intended to be transferable to other language revitalisation contexts. RISE UP is coordinated by MINDS & SPARKS GmbH (Vienna) and implemented through a seven-partner consortium spanning six European countries, including the University of Tartu, the University of Vienna, ESPRONCEDA Institute of Art & Culture, Youth of European Nationalities, SOAS University of London, and the University of Roehampton. Its intended beneficiaries include speakers, learners, new speakers, and people who have had limited opportunities to learn their heritage language, with particular attention to younger generations. The project is funded by the European Union through Horizon Europe, Cluster 2: Culture, Creativity and Inclusive Society.

PROJECT DATE:
2023-2026

PROJECT ACTORS:
R&I CONSULTANCY; EDUCATIONAL & RESEARCH INSTITUTIONS; TECHNOLOGY FIRMS; CULTURAL & YOUTH ORGANISATIONS; HERITAGE BEARERS AND COMMUNITIES.

KEY CAPABILITIES:
LINGUISTICS & LANGUAGE POLICY; LITERACY EDUCATION; COMMUNITY ENGAGEMENT; NETWORK MAPPING & BUILDING; STORYTELLING & CULTURAL CONTENT DESIGN; DIGITAL TOOL & UI/UX DEVELOPMENT; CAPACITY BUILDING; PROJECT COORDINATION.

FUNDING SCHEME:
EU FUNDING.

HERITAGE FOCUS: ARANESE; AROMANIAN (VLACH); BURGENLAND CROATIAN; CORNISH; SETO LANGUAGE VARIETIES.

TERRITORIAL SCALE: TRANSATIONAL.

HERITAGE ELEMENTS: SPOKEN LANGUAGE; SONGS; ORAL POETRY.

HERITAGE CONDITION: MINORITISED LANGUAGES; THREATENED TRANSMISSION.

ICH DOMAINS: ORAL TRADITIONS AND EXPRESSIONS.

UNESCO INSCRIPTION: NOT INSCRIBED.

ICH RECOGNITION. The heritage addressed by the RISE UP project is minoritised and endangered language varieties in Europe, understood as carriers of cultural identity, history, emotions, oral traditions and expressions, and *personal roots* for the groups who speak them, and as a source of linguistic diversity.

RISE UP focuses on five selected language communities: Aranese (Spain-Val d'Aran, and France); Aromanian/Vlach (Albania, Bulgaria, Greece, North Macedonia, Romania, and Serbia); Burgenland Croatian (Austria, Hungary, Slovakia, and the Czech Republic); Cornish (United Kingdom); and Seto (Estonia and Russia). Their territorial configurations therefore differ, but several extend across national borders. RISE UP addresses these local and regional contexts through a comparative European framework and shared project infrastructures. The project positions endangered-language as languages facing *declining intergenerational transmission, limited domains of use, and fragmented provision across sectors*. The *state of access* motivating the project is described as a condition in which minoritised languages face sustained pressure from dominant languages and require support for vitality, learning opportunities, and community empowerment, so that languages remain used and transmitted rather than displaced.

ICH DOCUMENTATION. We read RISE UP's Documentation activities as a parallel and multi-strand process through which knowledge about language vitality, policy environments, community conditions, and existing revitalisation resources is progressively structured into comparable datasets, inventories, methods, and digital resources.

DATA SOURCE: POLICY DOCUMENTS; RESEARCH; PROJECT STAKEHOLDERS CONTRIBUTIONS.

DATA TYPE: TEXT.

OUTPUT: REPORTS; FRAMEWORKS.

- **Context and policy knowledge base.** One strand is dedicated to the development of a shared understanding of the conditions shaping language endangerment by examining language policies, language ideologies, and broader sociolinguistic, legal, and economic factors across Europe. The project draws on policy and background documentation, comparative research, and contributions from citizens, civil-society actors, and other project stakeholders. The resulting reports, frameworks and methodological outputs establish a common analytical basis for tools and engagement activities.

- **Language Revitalisation Questionnaire.** A second strand focuses on the production of structured, comparable data on language use and community situations, specifically for RISE UP's five selected communities. The data source is direct community participation via an online survey (i.e. the *Language Revitalisation Questionnaire*), offered in multiple languages and framed as a way to learn about varieties used in each community. The responses (concerning e.g. language use, vitality, policy context, ecosystem factors),are consolidated into the *Language Revitalisation Questionnaire Data*, providing a comparative dataset that supports both project analysis and subsequent public-facing resources.

DATA SOURCE: COMMUNITY RESPONSES.

DATA TYPE: STRUCTURED DATA.

TOOLS AND METHODS: ONLINE SURVEYS.

OUTPUT: SURVEY DATASET.

- **Ecosystem inventory model.** RISE UP also documents the existing language revitalisation ecosystem by defining categories and data structures for collecting resources and initiatives across minoritised languages. Community knowledge and project curation are organised into categories covering associations, events, services, digital applications, media, printed resources, and other initiatives. The resulting inventory model provides a common way of documenting existing actors and resources and creates the basis for further community contributions.

DATA SOURCE: COMMUNITY KNOWLEDGE.

DATA TYPE: TEXT; STRUCTURED DATA.

TOOLS AND METHODS: DATABASE SYSTEMS.

OUTPUT: INVENTORY MODEL.

- **Methods, guidelines, and digital toolset development.** TResearch findings and documented practices are further translated into methodological frameworks, quality criteria, recommendations, and specifications for digital tools. These outputs include guidance for practitioners, researchers, communities, and decision-makers and form part of the project's attempt to make its methods reusable beyond the five language contexts.

DATA SOURCE: ESEARCH; GOOD PRACTICES.

DATA TYPE: TEXT; SPECIFICATIONS.

OUTPUT: GUIDELINES; DIGITAL TOOLKIT.

ICH ACCESS AND USE. RISE UP makes the resources produced during the documentation phase accessible through online platforms and participatory cultural activities. The project, alongside the dissemination of digital resources, also creates spaces in which languages can be explored, heard, performed, and connected to existing communities and initiatives.

MEDIA AND FORMATS: WEBSITE; RESOURCE INVENTORY.

ACCESS: PUBLIC; ONLINE; APPLICATION-BASED.

- **Project website and repositories.** The project website provides access to reports, methods, guidelines, and digital resources developed through the research and documentation activities. It also turns the ecosystem inventory into an ongoing participatory resource through the *Language Projects* and *Language Resources* sections, where users can explore existing initiatives and submit new entries concerning associations, events, services, applications, and media. In this way, the website functions both as a dissemination channel and as an infrastructure for connecting communities, practitioners, learners, and organisations.

MEDIA AND FORMATS: WEB-BASED INTERACTIVE MAP.

ACCESS: PUBLIC; ONLINE.

- **Language Map platform.** The project combines contextual, policy, and survey information within a digital mapping platform covering official, regional, and minority languages, including languages without formal recognition. Navigable maps, country profiles, and language profiles make information on legal recognition, speaker populations, and language endangerment accessible through a comparative European interface. This shifts part of the project's documentation work into an exploratory format through which users can navigate linguistic diversity geographically and institutionally.

MEDIA AND FORMATS: VIDEO INTERVIEWS; MUSIC ALBUM.

ACCESS: ONLINE; CC-LICENSED ALBUM.

- **Artist residencies & interviews.** The project builds on the project's knowledge base and community focus by foregrounding spoken word artists and singers, representing the five RISE UP communities, in artistic production and interviews. It activates language use through documentary, performative and creative media, culminating in the Youtube Series *Meet the Artist* and *Voices of Community*, a free album encompassing collaborative songs and poetry accessible under a Creative Commons licence, supporting listening, sharing, and reuse.

MEDIA AND FORMATS: EXHIBITION.

ACCESS: IN PERSON; VENUE-DEPENDENT; DIGITAL PANELS; ONLINE.

- **Travelling Exhibitions.** A further access layer is provided through travelling exhibitions and associated digital panels. These combine artworks, performing arts, and local activities to create public occasions in which minoritised languages can be heard, spoken, and experienced in public settings.



Link 10 →
Icelandic Government partnership with OpenAI. Authors' screenshot.

GPT for Icelandic

GPT for Icelandic Language aims to strengthen Icelandic support in Large Language Models (LLM), ensuring the language remains usable in digital services while contributing to approaches for preserving and making other low-resource languages represented in digital environments.

The project focuses on Icelandic as a low-resource language whose continuity depends increasingly on compatibility with large-scale digital infrastructures, and is developed through a partnership between the Government of Iceland and the artificial intelligence research company OpenAI. The work is carried out in collaboration with Icelandic language-technology businesses, among which Miðeind and Almannarómur, which coordinated the creation of Icelandic training and evaluation resources. The collaboration targets improvements in the conversational AI model's Icelandic performance (such as grammatical correctness, fluency, and culturally-grounded responses). The project is primarily intended to benefit Icelandic speakers and Icelandic institutions. In the initial phase, around 40 volunteers, working on behalf of Miðeind, contributed to improving GPT-4's Icelandic through human feedback cycles (prompting, ranking outputs, and editing ideal responses). The collaboration builds on linguistic resources and infrastructure developed through Iceland's national Language Technology Programme.

PROJECT DATE:
2022 ONWARDS.

PROJECT ACTORS:
GOVERNMENT;
TECHNOLOGY FIRMS;
LANGUAGE CENTRE;
HERITAGE COMMUNITY.

KEY CAPABILITIES:
ICELANDIC LANGUAGE EXPERTISE;
COMPUTATIONAL LINGUISTICS;
CORPUS CURATION;
HUMAN EVALUATION & BENCHMARKING;
LLM DEVELOPMENT;
INSTITUTIONAL COORDINATION.

FUNDING SCHEME:
PUBLIC SUPPORT;
PRIVATE COLLABORATION.

HERITAGE FOCUS: ICELANDIC LANGUAGE.

TERRITORIAL SCALE: NATIONAL.

HERITAGE ELEMENTS: SPOKEN LANGUAGE; WRITTEN LANGUAGE.

HERITAGE CONDITION: LIVING LANGUAGE; LIMITED DIGITAL RESOURCES.

ICH DOMAINS: ORAL TRADITIONS AND EXPRESSIONS.

UNESCO INSCRIPTION: NOT INSCRIBED.

ICH RECOGNITION. The heritage addressed by the project is the Icelandic language, a West Nordic Germanic language spoken by about 340,000 people, most of which in Iceland. The territorial scale is national, with transnational relevance for Icelandic speakers abroad. Icelandic is not inscribed in the ICH Representative List, however – using UNESCO domains as a reference – it can be associated with Oral Traditions and Expressions, as language is one of the medium through which intangible heritage is transmitted.

In the project's framing, Icelandic is recognised as a living language embedded in everyday and institutional practice that remains socially prevalent in Iceland, while also being treated as a low-resource language, with comparatively limited digital-language data and tools, relative to dominant languages. In this context, Icelandic is understood to face increasing pressures in digital environments, particularly for younger generations whose everyday device use is mediated by platforms that prioritise dominant languages (e.g. English). GPT for Icelandic project and national policies situate Icelandic language as a key carrier of cultural identity and a low-resource language that must remain usable in contemporary society, including digital enviroments.

ICH DOCUMENTATION. Most activities in the GPT for Icelandic initiative concentrate on ICH Documentation, articulated as a sequence of phases that strengthen Icelandic as a usable language within multilingual Large Language Model infrastructures, specifically OpenAI's GPT Models.

DATA SOURCE: TEXT CORPORA; LLM-GENERATED RESPONSES.

DATA TYPE: TEXT; EVALUATION DATA.

TOOLS AND METHODS: LLM; EVALUATION METHODS.

OUTPUT: BASELINE ASSESSMENT.

- **Baseline LLM accuracy evaluation.** The project began by auditing how well general-purpose multilingual LLMs perform in Icelandic, to establish a baseline gap for subsequent documentation actions. The assessment combined evidence from web-scale multilingual training corpora (where dominant languages are over-represented) with the project's own prompt–response tests in Icelandic. The material analysed comprised generated Icelandic outputs and recurring error patterns, including grammatical inaccuracies, culturally incorrect statements, and *translationese*, i.e., outputs that read as literal translation. This phase focused on multilingual GPT-3 and 3.5 models paired with targeted evaluation methods. The

output of this phase was the identification of uneven Icelandic performance in early OpenAI's models, which led to the need for the development of targeted resources and calibration.

- **Curated Icelandic training and test resources.** This phase aimed to produce high-quality, appropriately licenced digital language resources for Icelandic that could be used to improve and further evaluate multilingual GPT models. Data sources included large-scale Icelandic textual corpora and associated language resources, together with benchmark datasets designed for systematic performance evaluation. The methods involved selecting, cleaning, structuring, and packaging data for model training and testing. This work was carried out by the project team in collaboration with Icelandic language-technology stakeholders. The outputs of this phase included providing OpenAI with large-scale Icelandic text data for training and evaluation and establishing Icelandic evaluation benchmarks to support iterative assessment over time.

DATA SOURCE:
TEXT CORPORA; BENCHMARKS.

DATA TYPE:
TEXT; STRUCTURED DATA.

TOOLS AND METHODS:
CORPUS PROCESSING.

OUTPUT:
TRAINING AND TEST DATASETS.

- **Reinforcement Learning from Human Feedback (RLHF) cycles.** This phase aimed to generate high-quality Icelandic supervision data to calibrate AI models toward grammatical correctness and culturally grounded responses. The data source consists of around 40 volunteers Icelandic speakers, coordinated by Miðeind, who interacted with the model and served as evaluators and editors. Involved data included prompts, multiple candidate model outputs, human preference selections, and edited *ideal* completions functioning as gold-standard targets. The process followed a structured RLHF workflow, in which human judgements and edits are converted into training signals used to further adapt GPT-4. The output of this phase is an Icelandic human-feedback training data and alignment dataset, plus an operational procedure for producing it.

DATA SOURCE:
COMMUNITY SPEAKERS.

DATA TYPE:
TEXT; PREFERENCE DATA.

TOOLS AND METHODS:
LLMS; RLHF PROTOCOL DESIGN.

OUTPUT:
ALIGNMENT DATASET.

- **Integration and evaluation in model releases.** This phase aims to stabilise improvements through benchmark-driven iteration and deployment. Icelandic benchmarks are used to measure progress and inform OpenAI's models development, and Icelandic data is reported to have been incorporated into

DATA SOURCE:
DATASETS; BENCHMARKS.

DATA TYPE:
TEXT; EVALUATION DATA.

TOOLS AND METHODS: LLMS; BENCHMARKING.

OUTPUT: MODEL UPDATES.

later system iterations and broader multilingual improvements in subsequent GPT releases.

ICH ACCESS AND USE. The linguistic resources developed through the GPT for Icelandic initiative enable AI systems to process and generate Icelandic, allowing users to interact with these technologies in their own language. The initiative may also provide a methodological and technical reference for other low-resource language communities.

MEDIA AND FORMATS: LLM; CONVERSATIONAL AI.

ACCESS: ONLINE; PLATFORM-DEPENDENT.

- **Conversational AI agents.** The primary access medium is Icelandic support in GPT-powered conversational agents, including ChatGPT releases with improved Icelandic capabilities, as well as other digital services built on GPT models. Through these interfaces, users can interact with AI systems directly in Icelandic for a range of conversational and text-based activities, including asking questions, generating and revising text, and engaging with digital services in their own language.

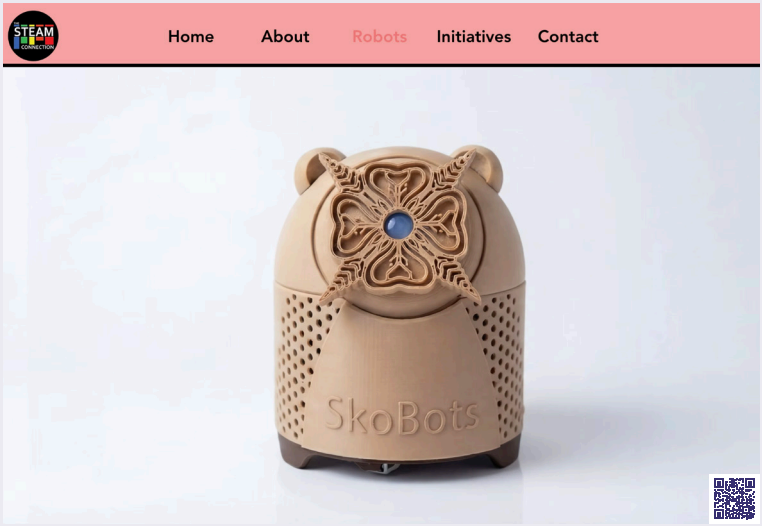
MEDIA AND FORMATS: POLICY PAPER; PLAYBOOK.

ACCESS: PUBLIC; ONLINE.

- **Transferable model and research-oriented outputs.** A second access layer is constituted by the project's documented approach (combining curated national language resources and RLHF) intended by the project promoters as a reusable model for integrating other low-resource languages into large-scale AI infrastructures. This is reinforced through research and policy-facing outputs (such as the playbook *The Icelandic Approach: Preserving and Revitalizing Linguistic and Cultural Diversity in AI* accessible at Link →11) that make the process legible to academic, institutional, and practitioner audiences.

Link 11 → "The Icelandic Approach: Preserving and Revitalizing Linguistic and Cultural Diversity in AI" Playbook.





Link 12 →
SkoBots page on The STEAM Connection website. Authors' Screenshot.

SkoBots

SkoBots aim to support Indigenous language revitalisation through a personal, wearable, 3D printed, and AI-powered interactive robot designed to respond to spoken prompts in Anishinaabemowin by using pre-recorded voices from children, elders, and language experts.

Developed to supplement rather than replace community-based language learning, SkoBots combines language revitalisation with hands-on STEM education. The initiative was created through the charity organisation The STEAM Connection by Danielle Boyer, an Anishinaabe robotics inventor, educational activist, founder of the organisation, and enrolled member of the Sault Tribe of Chippewa Indians (Michighan, US).Its development has also involved Dr. Joshuaa Allison-Burbank, a speech-language pathologist and developmental scientist, and Robert Maldonado, who contributed design mentorship. Students and community members participate in the initiative, which is developed in partnership with Tribal schools and Indigenous educational organisations receiving robots, curriculum, and mentorship free of charge. The project is also explicitly grounded in ethical AI and Indigenous data sovereignty, with language recordings remaining under the control and discretion of the communities involved.

PROJECT DATE:
2021 ONWARDS.

PROJECT ACTORS:
HERITAGE BEARER & INVENTOR; CHARITY ORGANISATION; TECHNOLOGY AND DESIGN EXPERTS; EDUCATIONAL INSTITUTIONS; HERITAGE COMMUNITY.

KEY CAPABILITIES:
INDIGENOUS LANGUAGE & CULTURAL KNOWLEDGE; EDUCATION & TEACHING; ROBOTICS & PROGRAMMING; INTERACTION DESIGN; DIGITAL FABRICATION; COMMUNITY ENGAGEMENT; CAPACITY BUILDING; DATA GOVERNANCE.

FUNDING SCHEME:
SELF-FUNDING; PHILANTHROPY; FUNDRAISING.

HERITAGE FOCUS: ANISHINAABEMOWIN LANGUAGE.

TERRITORIAL SCALE: LOCAL AND TRANSNATIONAL.

HERITAGE ELEMENTS: SPOKEN LANGUAGE; VOCABULARY; PRONUNCIATION.

HERITAGE CONDITION: ENDANGERED LANGUAGE; THREATENED TRANSMISSION.

ICH DOMAINS: ORAL TRADITIONS AND EXPRESSIONS.

UNESCO INSCRIPTION: NOT INSCRIBED.

ICH RECOGNITION. The heritage addressed by SkoBots is primarily the Anishinaabemowin language, a Central Algonquian language spoken by Anishinaabe communities across a broad Great Lakes and transborder region extending through parts of Canada and the northern United States. The project frames Anishinaabemowin as a key cultural component and means through which communities communicate about the world and tell stories, and an endangered Indigenous language whose continuity depends on continued opportunities for speaking, learning, and intergenerational transmission. More broadly, SkoBots situates language revitalisation within the vulnerability of Indigenous languages for which accessible learning resources may be limited and whose transmission has been disrupted or weakened.

The territorial scale is both local and transnational. The language is rooted in specific communities, while the pressures affecting its continuity extend across national borders. In addition to linguistic endangerment, Skobots links heritage recognition to data sovereignty and community authority over recordings, positioning language as something to be revitalised through use, transmission, and Indigenous control rather than merely digitised. This approach is also motivated by a critique of the appropriation and misuse of Indigenous language data in synthetic or extractive digital systems.

ICH DOCUMENTATION. SkoBots' Documentation activities concern the recording of spoken Anishinaabemowin and the organisation of these recordings into digital resources that can be activated through a robot. Documentation is closely connected to both intergenerational participation and the governance conditions under which language materials are collected and retained.

DATA SOURCE: COMMUNITY SPEAKERS

DATA TYPE: AUDIO

TOOLS AND METHODS: AUDIO RECORDING

OUTPUT: SPEECH RECORDINGS

- **Community oral-language recordings.** The project documents Anishinaabemowin through recordings of children and elders. The material includes pronunciations, words, phrases, and other spoken utterances intended for subsequent use in language-learning interactions. Community members support the recording process, and in some cases children participate alongside older speakers, so that the production of the recordings also creates occasions for intergenerational language practice.

- **Structuring recordings into an interactive response library.** This phase focuses on transforming community oral-language recordings into an interactive, machine-readable response library. The recorded material is organised into a structured digital resource that allows spoken prompts to be associated with corresponding pre-recorded responses. The system tailored, internally developed artificial intelligence tools, including automatic speech recognition and speech-to-text models to identify user prompts and retrieve the appropriate Anishinaabemowin audio. This phase output therefore consist on the organisation recordings as indexed response units linked to specific words, phrases, or instructional prompts.

DATA SOURCE:
SPEECH RECORDINGS.

DATA TYPE:
AUDIO; TEXT.

TOOLS AND METHODS:
SPEECH RECOGNITION AND SPEECH-TO-TEXT AI MODELS.

OUTPUT:
INDEXED AUDIO LIBRARY.

- **Data sovereignty and governance of recordings.** In Skobots, documentation also concerns the conditions under which language materials are captured and kept with data sovereignty as a central concern to the project. The project founder reports that recordings are not owned, published, or monetised by The STEAM Connection, and decisions regarding language materials remain under the authority of the communities involved, which are asked to participate directly in discussion and decision-making processes. The project declares following an ethical data governance approach that guides the controlled collection of digital recordings and the use of data-processing models, ensuring that governance remains in community hands.

DATA SOURCE:
COMMUNITY CONTRIBUTIONS.

DATA TYPE:
ORAL.

OUTPUT:
COMMUNITY-LED DATA GOVERNANCE APPROACH.

ICH ACCESS AND USE. Access and Use develop through the integration of these recorded language resources into an interactive educational device and through the wider infrastructure that supports its distribution, learning activities, and public circulation.

- **Interactive robot.** The primary access medium is the SkoBot itself: a small, 3D-printed robot worn on the shoulder that responds to movement and spoken prompts through light and pre-recorded Indigenous-language audio. Users speak to the robot, hear responses in Anishinaabemowin, and practise words and phrases through repeated listening and

MEDIA AND FORMATS:
WEARABLE ROBOT DESIGN.

ACCESS:
RESTRICTED;
OFFLINE-CAPABLE.

speaking. In this way, previously recorded language resources are activated through a responsive and embodied learning interaction.

MEDIA AND FORMATS: CLASSES; ROBOT-BUILDING MATERIALS.

ACCESS: FREE TO PARTNER SCHOOLS; IN PERSON.

- **Educational infrastructure.** Access to the robot is supported through The STEAM Connection's educational activities and partnerships with Tribal schools, Indigenous educational institutions, and youth programmes. Partner organisations receive robots, curriculum, mentorship, and related support free of charge. Students may also participate in building the robots themselves, connecting language learning with hands-on STEM education and digital fabrication. By 2025, the project website reported that more than 350 SkoBots had been distributed in schools.

MEDIA AND FORMATS: WEBSITE.

ACCESS: PUBLIC; ONLINE; APPLICATIONS.

- **Project website.** The SkoBots page on The STEAM Connection website provides information on the initiative and opportunities for participation. Through its *get involved* section, Tribal schools and Indigenous organisations interested in longer-term implementation can apply to collaborate with the project. The website functions primarily as an entry point to the educational and partnership infrastructure.

MEDIA AND FORMATS: EXHIBITION.

ACCESS: IN PERSON; VENUE-DEPENDENT.

- **Exhibitions.** The project further expanded its cultural reach through the organisation of the Anishinaabe Futurisms art series, debuted at the imagineNATIVE Film Festival at TIFF Bell Lightbox in 2023 and later exhibited at the Bedford Gallery in 2024 as part of Rediscovering Native America: Stories in Motion. Through these initiatives, SkoBots are reconceptualised as cultural artefacts linking language revitalisation to wider questions of representation, design, and Indigenous futurity.

MEDIA AND FORMATS: DOCUMENTARIES; PUBLIC TALKS.

ACCESS: CHANNEL-DEPENDENT.

- **Cascade initiatives.** SkoBots also produces wider ripple effects through national and international media coverage, international awards, and institutional recognition. The founder's story has been featured in documentaries (e.g. *The Big Idea* by MIT Solve x HP), and she has delivered talks on Indigenous languages and ethical AI in prominent institutional settings, including UNESCO, amplifying and strengthening the project's public legitimacy and indigeneous language awareness.



Link 13 →
MODAS. Sas Boghes da sos Cantadores a Tenore website. Authors' Screenshot.

MODAS. Sas Boghes da sos Cantadores a Tenore

MODAS. Sas Boghes da sos Cantadores a Tenore aims to safeguard and promote the plurality of local expressions of sardinian cantu a tenore, strenghtening the link between its singers and their communities of belonging, of which they are a living expression.

The project is promoted by the Sardinian Istituto Superiore Regionale Etnografico (ISRE) and based on a direct collaboration between ISRE and the cantori a tenore associations: the Associazione Tenores Sardegna, the Associazione Boghes a Tenore; and the Associazione CAMPOS. Specific outputs have also involved specialised professionals, including sound-design expertise. MODAS is primarily addressed to heritage bearers of the oral tradition – singers, groups, associations, and local organisations – as well as to younger generations through educational and transmission activities. Heritage bearers participate as performers, interviewees, contributors to the census, and participants in laboratories and network-building initiatives. The project is funded by the Italian Ministry of Culture under Law 77/2006, which supports safeguarding measures related to UNESCO-listed heritage.

PROJECT DATE:
2018-ONWARDS.

PROJECT ACTORS:
RESEARCH INSTITUTE; SINGERS' ASSOCIATIONS; HERITAGE BEARERS AND COMMUNITIES.

KEY CAPABILITIES:
EMBODIED MUSICAL KNOWLEDGE; ETHNOMUSICOLOGY & ETHNOGRAPHY; NETWORK MAPPING & BUILDING; INTERVIEWING & ELICITATION; AUDIOVISUAL DOCUMENTATION; EDUCATION; FACILITATION; AUDIO PRODUCTION; SOUND DESIGN.

FUNDING SCHEME:
NATIONAL PUBLIC FUNDING.

HERITAGE FOCUS: SARDINIAN CANTU A TENORE.

TERRITORIAL SCALE: REGIONAL.

HERITAGE ELEMENTS: POLYPHONIC SINGING; ORAL POETRY; DIALECTS; PASTORAL CULTURE.

HERITAGE CONDITION: LIVING PRACTICE; UNEVEN DOCUMENTATION.

ICH DOMAINS: ORAL TRADITIONS AND EXPRESSIONS; PERFORMING ARTS.

UNESCO INSCRIPTION: 2008.

ICH RECOGNITION. The heritage addressed by MODAS is cantu a tenore, a form of Sardinian polyphonic singing rooted in local communities, proposed by Italy and formally recognised as Intangible Cultural Heritage of Humanity by UNESCO in 2008, situated at the intersection of the domains of Oral Traditions and Expressions and Performing Arts.

Within the project's framing, cantu a tenore is understood as a living community practice embedded in Sardinia's agro-pastoral culture, particularly in the central and northern areas of the island. It is a four-part polyphonic vocal practice performed collectively by groups of singers and is connected both to musical expression and to the interpretation of poetry in the Sardinian language. The practice also accompanies different social and ritual contexts, including informal gatherings, poetic competitions, dances, religious occasions, and historically practices such as serenades.

MODAS places particular emphasis on the plurality of local forms through which the tradition is enacted. The project name itself refers to the Sardinian term modas, indicating locally differentiated expressive forms associated with specific villages. We read Recognition in MODAS as centred on cantu a tenore as a shared heritage practice whose continuity depends on preserving the visibility of local variation and its relationship with the communities in which it is performed and transmitted.

ICH DOCUMENTATION. In MODAS' Documentation activities are organised as a set of parallel and interconnected strands through which different dimensions of cantu a tenore are made digitally legible: its practitioner network, its performed forms, and the memories and interpretations of singers themselves.

DATA SOURCE: COMMUNITY RESPONSES.

DATA TYPE: TEXT; STRUCTURED DATA; GEOGRAPHIC DATA.

TOOLS AND METHODS: ONLINE SURVEYS.

OUTPUT: CENSUS DATASET.

- **Census and network-building.** The project documents the social and geographical structure of the practice through a census carried out across Sardinia. Data collection is coordinated by ethnomusicologists and developed with the direct involvement of singers' associations and local community referents. The survey records information on singers' roles, performance contexts and functions, participation in organised groups and events, changes in the practice, and relationships between singing and other musical or professional activities.

The resulting structured dataset documents thousands of singers across nearly one hundred villages and provides a quantitative and qualitative representation of the network sustaining the practice.

- **Audiovisual documentation of performances.** A second strand records cantu a tenore in performance through fieldwork conducted in the communities where it is practised. Audio and video recordings are produced in situ with the participation of singers in their local environments and are subsequently processed, catalogued, and associated with contextual metadata. These records typically include information on the place and date of recording, the community or village of reference, performers, and production credits. The resulting repository combines video, audio, photographs, and metadata, documenting both performance and its local context.

DATA SOURCE:
LIVE PERFORMANCES.

DATA TYPE:
AUDIOVISUAL; IMAGES.

TOOLS AND METHODS:
AUDIOVISUAL RECORDING; CATALOGUING.

OUTPUT:
MEDIA COLLECTION; METADATA.

- **Oral testimonies collection.** MODAS also documents the practice through interviews with cantori a tenore, foregrounding personal memories, experiences, and interpretations. The project frames these testimonies as a way of documenting the past, present, and ongoing transformation of cantu a tenore "through the voices of the singers". Conducted in Sardinian varieties, the interviews also preserve linguistic differences across villages. Their outputs form an audio corpus of individual narratives that complements the census and performance documentation with situated accounts of learning, change, and transmission.

DATA SOURCE:
COMMUNITY CONTRIBUTIONS.

DATA TYPE:
AUDIO.

TOOLS AND METHODS:
INTERVIEW; AUDIO RECORDING; AUDIO PROCESSING.

OUTPUT:
INTERVIEW RECORDINGS.

ICH ACCESS AND USE. Access and Use develop through a combination of research infrastructures, public digital interfaces, narrative formats, and in-person activities that activate the resources produced through Documentation for different audiences and purposes.New materials are progressively added as the project's documentation activities continue.

- **Internal Database.** The project maintains an internal database containing the complete census data and additional structured records. The database is not fully public and is intended primarily for researchers and cultural operators, sup-

MEDIA AND FORMATS:
RESEARCH DATABASE

ACCESS:
RESTRICTED

porting analysis, knowledge-building, and the development of further safeguarding activities.

MEDIA AND FORMATS: NETWORK DIRECTORY; DIGITAL ARCHIVE.

ACCESS: PUBLIC; ONLINE.

- **Project website.** The MODAS website functions as the main public digital interface. It activates different documentation resources through complementary access modes: a geographically searchable network interface presents selected census data on groups, singers, and local referents by municipality, while a digital archive provides access to curated audiovisual materials, including videos and photographs produced during fieldwork. The website therefore connects structured information about the practitioner network with documentation of cantu a tenore in performance.

MEDIA AND FORMATS: PODCAST.

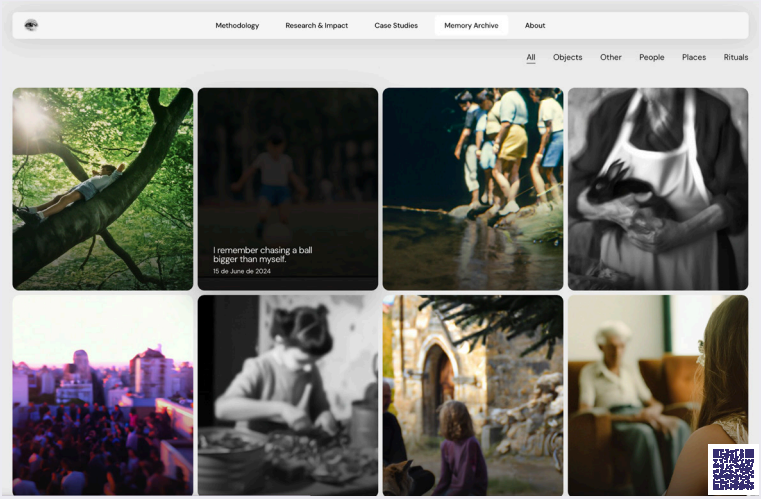
ACCESS: PUBLIC; ONLINE.

- **Podcast series.** Interviews with cantu a tenore singers are also reworked into a podcast format, providing narrative access to the heritage through oral testimonies in Sardinian. Distributed through mainstream platforms including Spotify, YouTube, and Apple Music, the series extends these recorded accounts beyond the research archive and enables asynchronous and translocal listening.

MEDIA AND FORMATS: SINGING WORKSHOPS; ENCOUNTERS.

ACCESS: IN PERSON; COMMUNITY-BASED.

- **Laboratories and community encounters.** In addition, MODAS supports access and use through in-person singing laboratories and encounters. These activities build on the network created through the census, connecting tenore groups with one another and with their communities of reference, and reactivating the heritage through shared practice within living social contexts.



Link 14 →
Memory Archive on the Synthetic Memory website. Authors' Screenshot.

Synthetic Memories

Synthetic Memories aims to preserve oral memories and explore new forms of storytelling and cultural narratives by using generative artificial intelligence to give form to memories for which visual traces are lost or undocumented.

The project frames personal memory as a culturally significant link to personal and collective roots, history, and heritage, especially where such narratives risk disappearing. The project website states the goal is to "respectfully harness the power of AI for the improvement of life quality and the fostering of a shared understanding of our interconnected societal narratives". Promoted by Domestic Data Streamers – a Barcelona-based design and research studio involving journalists, designers, artists, and technologists – Synthetic Memories combines design, facilitation, and technological capabilities to develop a participatory methodology for reconstructing and preserving memories. The project is implemented through site-specific collaborations and partnerships with cultural centres, universities, artists, healthcare organisations, local design teams, and community-based institutions. The project is primarily intended for individuals and communities whose memories are at risk of fading or invisibility, including migrants, and marginalised groups. Participants are actively involved by describing their memories and collaborating in the iterative reconstruction of images.

PROJECT DATE:
2022 ONWARDS.

PROJECT ACTORS:
DESIGN STUDIO; CULTURAL ORGANISATIONS; UNIVERSITIES.

KEY CAPABILITIES:
INTERVIEWING & ELICITATION; GENERATIVE AI & PROMPT DESIGN; STORYTELLING & CULTURAL CONTENT DESIGN; CURATION/ EXHIBITION DESIGN; ETHICS & IMPACT RESEARCH.

FUNDING SCHEME:
PUBLIC FUNDING; CORPORATE SUPPORT; PRIZES.

HERITAGE FOCUS: PERSONAL ORAL MEMORIES.

TERRITORIAL SCALE: TRANSLOCAL.

HERITAGE ELEMENTS: ORAL NARRATIVES; MIGRATION HISTORIES; EVERYDAY LIFE.

HERITAGE CONDITION: UNDOCUMENTED MEMORIES; RISK OF LOSS.

ICH DOMAINS: CONTENT-DEPENDENT.

UNESCO INSCRIPTION: NOT INSCRIBED.

ICH RECOGNITION. The heritage addressed by Synthetic Memories is personal oral memory, approached as a form of lived narrative that can exceed the individual sphere. The project understands narrated recollections as interconnected with wider cultural meanings and as able to surface elements connected to migration, loss, everyday practices, and community knowledge. In this sense, personal memories are framed as a potential entry point to explore intangible heritage narratives related to identity, belonging, roots, and shared histories. Personal memories are not, in themselves, equivalent to Intangible Cultural Heritage. Depending on their content and context, however, narrated recollections may reveal aspects connected to Oral Traditions and Expressions, Social Practices and Rituals, Knowledge and Practices Concerning Nature and the Universe, or other culturally situated practices. Language operates as the primary vehicle through which these memories are elicited and articulated.

The territorial scale is translocal. Memories are rooted in individual life worlds but can become collectively meaningful. Within the project's framing, vulnerability concerns memories that remain undocumented and may fade or disappear, particularly where the experiences of marginalised or underrepresented groups are less likely to enter institutional archives. Recognition here is centred on oral memory as a possible carrier of culturally situated meanings and on the risk that these memories, and the experiences they convey, remain undocumented or become lost over time.

ICH DOCUMENTATION. In Synthetic Memories, documentation is structured as a participatory design process through which narrated recollections are elicited, interpreted, and translated into paired narrative and visual resources through the iterative use of generative AI

DATA SOURCE: PERSONAL RECOLLECTIONS; LOCAL ARCHIVES.

DATA TYPE: AUDIO; TEXT; IMAGES.

- **Oral memory capture, AI reconstruction, and iterative co-creation methodology.** Documentation begins with a facilitated session involving a participant, an interviewer, and an AI prompter. The methodology structures an iterative dialogue around the memory. The participant narrates a memory for which a visual trace is absent or unavailable, while interviewers and prompters help articulate sensory, spatial, temporal, and culturally situated details. Narrated material is progres-

sively structured through notes and textual prompts to be processed by text-to-image systems. The visual reconstruction develops through an iterative feedback and validation loop. Prompt versions are generated from the participant's description, informing subsequent generations and memory recollections until a representation is selected. The project uses generative image systems, including DALL·E, Stable Diffusion, Flux AI, and Google Media. As a design choice, earlier models have been used to produce the *dream-like, blurry and fragmented* (Synthetic Memories, n.d.) aesthetic associated with remembering, distinguishing synthetic reconstructions from photographic records. In some implementations, location-specific imagery and archival materials are also used to increase the cultural and historical specificity of generated representations. The resulting output is a curated image, or set of images, anchored in the participant's account and iterative review, accompanied by contextual information.

TOOLS AND METHODS: PROTOCOL DESIGN; INTERVIEWS; TEXT-TO-IMAGE AI MODELS; FINE-TUNING.

OUTPUT: NARRATIVES; PROMPTS; GENERATED IMAGES.

- **Narrative-image pairs corpus.** Individual reconstructions are subsequently organised as documentation resources combining generated images, narrative fragments, and contextual metadata such as place, period, and implementation setting. Archiving and public presentation are mediated through consent and permission practices that the project frames as *care-sensitive*. Across successive implementations, these records form a growing corpus of reconstructed memories, reported by the project as involving more than 900 participants.

DATA SOURCE: NARRATIVES; METADATA; GENERATED IMAGES.

DATA TYPE: TEXT; IMAGES; STRUCTURED DATA.

TOOLS AND METHODS: DATASET.

OUTPUT: NARRATIVE-IMAGE CORPUS.

ICH ACCESS AND USE. Access and use are enabled through a set of complementary media that build both on the designed methodology and corpus generated. The project makes these resources accessible through site-specific case studies, an open archive, and public-facing formats.

- **Project website.** The Synthetic Memories website functions as a digital access point to the initiative and brings together its methodology, case studies, research and impact activities, and Memory Archive. It allows audiences to understand how a Synthetic Memory is produced, explore different implementa-

MEDIA AND FORMATS: WEBSITE

ACCESS: PUBLIC; ONLINE

tions, access reconstructed memories, and identify opportunities for collaboration, training, and local implementation.

MEDIA AND FORMATS: DIGITAL ARCHIVE.

ACCESS: PUBLIC; ONLINE.

- **Online memory archive.** The *Memory Archive* provides digital access to selected narrative-image pairs and is presented in the project website as an *open, evolving repository* connected to questions of memory, identity, and cultural heritage. The interface allows users to browse and filter records through categories such as places, people, and rituals, turning individual reconstructions into a navigable collection for public, educational, and research-oriented use.

MEDIA AND FORMATS: TEMPORARY INSTALLATIONS; WORKSHOPS.

ACCESS: IN PERSON; VENUE-DEPENDENT.

- **Locally situated participatory formats.** The *Synthetic Memories* methodology is translated into different formats through collaborations with partner organisations. The *Public Office for Synthetic Memories* in Barcelona frames AI-assisted reconstruction as a civic service for preserving memories connected to the city and its intangible cultural identity. The *Synthetic Memories Kiosk* in Valparaíso adapts the model to questions of local identity and intergenerational dialogue in a context shaped by migration and colonial history. In São Paulo, *Cultural Mediation with Migrant Communities* uses workshops with a community cultural centre to reconstruct memories of displacement and surface neighbourhood histories and narratives that may be absent from institutional accounts. Through these implementations new memory records are produced.

MEDIA AND FORMATS: EXHIBITIONS

ACCESS: IN PERSON; VENUE-DEPENDENT

- **Exhibitions.** Synthetic Memories also uses exhibitions and art installations to extend the project's public reach and provide additional contexts in which reconstructed memories and the methodology behind them can be encountered. The project was presented at the *Ars Electronica Festival* in Linz in 2025 and received the *Ars Electronica Award for Digital Humanity*.

MEDIA AND FORMATS: RESEARCH COLLABORATIONS

ACCESS: PARTNERSHIP-DEPENDENT

- **Partnerships.** Access and use are extended through collaborations and partnerships with academic institutions (e.g., Elisava, University of Toronto, University of Amsterdam, University of Southern California, and others), positioning the project as an evolving programme of practice and research through which the methodology, its impacts, and ethical safeguards are progressively tested and developed.



Link 15 →.
MULTI. Multimedia museum of the Italian language website. Authors' Screenshot.

MULTI. Multimedia museum of the Italian language

MULTI is a virtual museum designed to narrate, preserve, and contextualise the intangible heritage and history of the Italian language, and stimulate curiosity and edutainment through inclusive and interactive forms of access.

The project is promoted by a consortium of three universities – University of Pavia, University of Naples L'Orientale, and University of Tuscia – responsible for research and content development, and developed with the multidisciplinary design studio Dotdotdot, which curated the museum's identity, user experience, digital interface, and storytelling. MULTI is intended for a heterogenous audience, including non-specialists and non-Italian speakers, translating key functions of a physical museum into an online environment. The project draws on archival holdings combining a digital collection – exhibits and materials linked to the language's history – with curatorial *itineraries* that activates these resources into narrative paths, interactive content, and educational activities. The project was realised with the contribution of the Special Supplementary Research Fund (FiSR 2019) of the Italian Ministry of University and Research (MUR).

PROJECT DATE:
2021-2023 ONWARDS.

PROJECT PARTNERS:
EDUCATIONAL & RESEARCH INSTITUTIONS; DESIGN STUDIO.

KEY CAPABILITIES:
ITALIAN LINGUISTICS & LANGUAGE HISTORY; CURATORIAL/ MUSEOGRAPHIC RESEARCH; ARCHIVING; CONTENT DEVELOPMENT; UX/UI & INTERACTION DESIGN; VISUAL IDENTITY; WEB DEVELOPMENT; DIGITAL STORYTELLING.

FUNDING SCHEME:
NATIONAL PUBLIC FUNDING.

HERITAGE FOCUS: ITALIAN LANGUAGE.

TERRITORIAL SCALE: NATIONAL.

HERITAGE ELEMENTS: SPOKEN LANGUAGE; WRITTEN LANGUAGE; DIALECTS.

HERITAGE CONDITION: LIVING LANGUAGE; DISPERSED DOCUMENTATION.

ICH DOMAINS: ORAL TRADITIONS AND EXPRESSIONS.

UNESCO INSCRIPTION: NOT INSCRIBED.

ICH RECOGNITION. The heritage addressed by MULTI is the Italian language, approached as an intangible cultural heritage whose history and social vitality are expressed through multiple forms of use (spoken, written, sung, and digitally mediated). MULTI frames language as a dynamic and evolving cultural system that cannot be *contained* in the way material heritage might be, and therefore calls for museum forms able to accommodate change, plurality, and circulation over time.

The territorial scale is primarily national, while the project also addresses the circulation of Italian beyond Italy and its historical and contemporary presence in transnational contexts. MULTI recognises the value of retracing the history and evolution of a language and the need to cope with the dispersed character of the materials through which the history of the language can be reconstructed: manuscripts, printed works, photographs, films, sound recordings, artworks, and other traces are distributed across archives, libraries, museums, and digital collections. Here, recognition centres on the Italian language as a dynamic cultural heritage and on the challenge of representing its historical plurality through materials dispersed across different institutions and media.

ICH DOCUMENTATION. MULTI's Documentation activities develop as a process through which heterogeneous traces of the history and use of Italian are identified, selected, digitised or assembled, contextualised, and organised into a structured digital resources that provides the documentary basis for the virtual museum.

DATA SOURCE: MUSEUMS; ONLINE RESOURCES.

DATA TYPE: TEXT; IMAGES; EVALUATION DATA.

TOOLS AND METHODS: MAPPING AND CURATORIAL RESEARCH.

OUTPUT: CURATORIAL STRATEGY.

- **Resource identification and curatorial selection.** The project begins by defining what can meaningfully function as an *exhibit* within a museum of language and by identifying resources suitable for public dissemination. Existing language museums, archives, online resources, and materials relevant to the history of Italian are mapped and assessed as part of the preparatory research. This process establishes selection criteria, target audiences, interpretative objectives, and principles for organising the museum's content. Its output is a curatorial and content framework that guides digital collection building and narrative design.

- **Construction of a digital collection, and documentation assets.** MULTI brings together digitised materials originating from archives, libraries, museums, and other collections into a shared digital corpus. These resources include reproductions of manuscripts and printed works, images and drawings, maps, audiovisual documents, sound recordings, and other media, accompanied by captions and contextual or technical information. The resulting collection provides the documentary backbone of the museum, making heterogeneous traces of linguistic history legible within a common digital structure.

DATA SOURCE:
ARCHIVES; LIBRARIES; MUSEUMS.

DATA TYPE:
TEXT; IMAGES; AUDIOVISUAL.

TOOLS AND METHODS:
DIGITAL DATABASE.

OUTPUT:
DATASET; MEDIA COLLECTION; METADATA.

- **Design of interactive narrative paths.** To make the documented materials accessible to a wider audience, MULTI develops a modular narrative logic based on guiding questions, recurring content relationships, and combinations of textual, visual, audio, and interactive elements. The aim is to establish a format that can be applied across different thematic areas while maintaining consistency in how exhibits are contextualised, connected, and progressively revealed. To make the narrative paths interactive, the project considered animations, video and audio excerpts, photo galleries (including reinterpretations of selected materials), interactive maps, and game-based interactions. The output is a reusable curatorial and interaction model that can be instantiated across multiple museum itineraries and adapted to different linguistic themes and collections.

DATA SOURCE:
DIGITAL COLLECTION.

DATA TYPE:
TEXT; IMAGES; AUDIOVISUAL.

TOOLS AND METHODS:
MULTIMEDIA CONTENT CURATION AND DESIGN.

OUTPUT:
INTERACTIVE NARRATIVE MODEL.

ICH ACCESS AND USE. Access and Use develop primarily through the MULTI virtual museum, which makes the documented and curated resources publicly explorable through interactive narratives, collection browsing, educational content, and subsequent dissemination initiatives.

- **Virtual museum.** Since June 2023, MULTI has provided public online access through a digital-native museum interface. The experience is organised around an introductory *atrium* and a series of thematic visitor routes structured through question-driven itineraries. These paths use scrollytelling

MEDIA AND FORMATS:
VIRTUAL MUSEUM; SCROLLYTELLING.

ACCESS:
PUBLIC; ONLINE.

to combine text, images, audio, video, interactive maps, and other media within a continuous narrative flow, activating individual exhibits as interpretative resources. Alongside the guided itineraries, the digital collection can also be accessed independently, enabling more targeted consultation of individual materials.

MEDIA AND FORMATS: RESEARCH PUBLICATION.

ACCESS: ONLINE; CC BY-NC-ND.

- **Dissemination and knowledge transfer.** The partners beyond MULTI also make their research and museum-making process accessible through publications and dissemination activities. The volume *Verso il Museo multimediale della lingua italiana. Riflessioni, esperienze, linguaggi* (Antonelli *et al*., 2023) documents the project's development from conception to implementation and makes its methodological and design reflections available to researchers, educators, and cultural professionals.

MEDIA AND FORMATS: EXHIBITIONS.

ACCESS: IN PERSON; VENUE-DEPENDENT.

- **Exhibitions.** The digital museum has also been translated into situated cultural experiences. At the Italian Pavilion of the 2024 Frankfurt Book Fair, for example, MULTI was presented through interactive screens and audio stations, with thematic paths accessible through QR codes, thereby translating the digital museum into a public-facing, situational experience.

3.1 Making Oral Heritage Digitally Legible

The seven cases show how different manifestations of oral heritage become the focus of digital valorisation. A performance, a language, a practitioner network, or a narrated memory are broken down into digitally legible formats activating different forms of documentation and possibilities for access and use.

The *ICH Digital Valorisation Framework* adopted to analytically describe the initiatives support us to illuminate the diverse set of decisions involved in oral heritage digital valorisation projects:

- what is specifically recognised as heritage;
- which of its manifestations become digitally *legible*;
- who has control over the capturing and digitalisation process;
- which relations carry the heritage forward, once it has been converted into data, standards, or interfaces.

To examine these decisions, we distinguish two analytical elements: heritage dimensions and valorisation tactics. **Heritage dimensions** concern what becomes *digitally legible*, such as a performance, a linguistic system, a network of practitioners, or memories. **Valorisation tactics** refer to the interventions through which these dimensions are documented, mediated, and made accessible.

We first introduce these dimensions and tactics, then examine how they combine in four recurring approaches. These approaches connect Recognition, Documentation, and Access and Use with the technologies and stakeholder relationships through which oral heritage becomes digitally legible and encounterable.

3.1.1 Heritage dimensions

The cases show that, in the shift toward the digital, oral heritage is treated as a multidimensional asset that must be rendered into components that digital infrastructures can capture, organise, and circulate. We refer to these components as digitally legible *heritage dimensions*. Heritage dimensions are conceived here as analytical categories that isolate particular manifestations of a living practice that can be digitally captured and represented, while still remaining part of a broader cultural ecology (see **Table 2**). Making these dimensions explicit helps clarify which traces of living practice become com-

Dimension	Description
Performative	A performative event, a situated act (who speaks/sings, to whom, where, when, and within which social frame).
Linguistic	Language, linguistic structures, variation, registers.
Network	Ecosystem of practice: people, roles, places, informal/formal institutions, projects, resources that sustain continuity and transmission.
Memory	Narrated memory and situated knowledge: stories, testimonies, reflections, interpretations, and versions that articulate meanings, values, variation, and transformation of the practice.
Material	Material traces and related objects: documents, instruments, images, artefacts that support, contextualise, or evidence the practice over time.

Table 2.
Heritage dimensions.
Creation of the authors.

putable, and which remain absent because the infrastructure cannot accommodate them. Importantly, *heritage dimensions* do not define what orality is. They rather indicate which specific manifestations of living practice become digitally legible within specific technological infrastructures.

3.1.2 ICH valorisation tactics

Identifying a heritage dimension also raises the question of how a project works with it. We define valorisation tactics as situated interventions that operate at specific moments in the value chain, shaping how heritage dimensions are reinterpreted, mediated, or transformed in the passage from recognition to documentation and from documentation to access and use. These valorisation tactics are enacted through specific creative, participatory, and technological choices made throughout project development (see **Table 3** for an overview).

Valorisation tactic	Description
Elicitation	Eliciting recollections, memories, and personal narratives connected to intangible cultural heritage.
Facilitation	Developing tools, resources, or frameworks that facilitate access to, transmission of, enactment of, or interaction with intangible cultural heritage.
Formalisation	Stabilising heritage features into structured formats, standards, or datasets.
Glocalisation	Adapting and sharing local manifestations of intangible cultural heritage on global digital platforms to achieve wider dissemination.
Institutionalisation	Adopting institutionalised formats and archival/museum conventions to support the legitimisation of heritage manifestation that are not visible within existing frameworks.
Match-making	Connecting different stakeholders already involved (or potentially involved) in safeguarding intangible cultural heritage, by creating initiatives that enable collaboration and exchange.
Participation	Involving communities or specific individuals (such as cultural practitioners or heritage bearers) in heritage valorisation processes.
Storytelling	Using narrative techniques and exploratory pathways to organise and communicate the history, evolution, and practices of intangible cultural heritage.
Virtualisation	Creating a digital trace of heritage manifestation, while limiting reinterpretation.

Table 3.
Valorisation tactics. Creation of the authors.

3.1.3 Approaches to digital mediation

Through the combined analysis of heritage dimensions and valorisation tactics, we identified four recurring approaches:

- **relational documentation of oral performance;**
- **mapping and connecting oral heritage ecosystems;**
- **narrating plural memories and meanings;**
- **supporting language practice through digital infrastructures.**

A single initiative may combine several approaches or move between them over time. In the following discussion, we examine how each approach brings together particular heritage dimensions and valorisation tactics, and consider the associated possibilities and tensions for recognition, documentation, and access and use.

Relational documentation of oral performance

DIMENSIONS: PERFORMATIVE, NETWORK.

TACTICS: PARTICIPATION, VIRTUALISATION.

This approach concern documenting oral performance while retaining information about the people, relationships, places, and circumstances through which it acquires meaning through the direct involvement of heritage bearers. Audiovisual recordings preserve selected oral heritage features, such as voice, language, rhythm, gesture, and interaction, while contextual data identify performers, locations, and recording conditions.

MODAS combines field recordings of cantu a tenore groups chantors with contextual data and first-person accounts from singers, also shared through the podcast. These documentation activities form part of a broader programme that includes encounters among singers and school workshops, connecting the production of digital resources with opportunities for in-person exchange and transmission. *Sko-Bots* records the voices of elders and children in Anishinaabemowin through community-based encounters, using these materials in an interactive language-learning device. Its recording activities can themselves create occasions for intergenerational language practice. The relational character of this approach lies in the connections between the recorded material, the people involved, and the settings of its production and use. Documentation can create opportunities for strengthening social ties, however continued engagement requires time, resources and shared commitment.

Mapping and connecting oral heritage ecosystems

DIMENSION:
NETWORK.

TACTICS:
PARTICIPATION,
FACILITATION,
MATCH-MAKING.

This approach involves mapping the people, practices, organisations, places, and resources that sustain oral heritage. It documents the ecosystem in which a tradition is practised and transmitted, including resources and conditions that may affect its continuity.

Heritage bearers, researchers, community organisations, and local intermediaries contribute situated knowledge to build and populate surveys, inventories, calls, and other participatory formats. The resulting data are organised into maps, directories, datasets, or public interfaces that make actors and initiatives visible to one another and may support coordination, exchange, and future collaboration.

RISE UP and *MODAS* exemplify this approach as both collect comparable information on language vitality, practitioners, groups, activities, and available resources and make selected data publicly searchable allowing users to explore initiatives, contribute information, and identify possible partners for learning activities, events, or new projects. These activities link the documentation of an ecosystem with opportunities for people to connect within it. Their contribution to future collaboration depends on how accessible the resulting resources remain over time, the extent to which they are actually used by community members, and whether they are actively maintained across digital and offline environments.

Narrating plural memories and meanings

DIMENSION:
MEMORY,
MATERIAL.

TACTICS:
PARTICIPATION,
ELICITATION,
STORYTELLING,
INSTITUTIONALISATION,
GLOCALISATION.

This approach uses testimonies, memories, and personal interpretations to explore how oral heritage is understood and transformed by those who practise or experience it. It brings together multiple perspectives on its meanings, variations, and transmission over time.

Interviews, prompts, and guided recollection support participants articulate memories, accounts on embodied knowledge, and interpretations that might otherwise remain undocumented. These accounts are subsequently selected and organised through podcasts, archives, museum interfaces, or other narrative formats that make them accessible to wider audiences.

In *MODAS*, interviews in Sardinian provide singers' perspectives on learning, local variation, changing performance contexts, and intergenerational transmission. The podcast curates these accounts

without reducing them to a single narrative. In *Synthetic Memories*, dialogue and AI-generated images form an iterative elicitation process through which participants reconstruct and reinterpret personal memories. Both cases make personal memories accessible through tools and formats that shape how they are expressed and encountered. Interview questions, audio editing, and AI-generated images can bring particular aspects of an account into focus while leaving others less visible.

DIMENSION: LINGUISTIC, MATERIAL.

TACTICS: PARTICIPATION, FORMALISATION, VIRTUALISATION, FACILITATION, GLOCALISATION.

Supporting language practice through digital infrastructures

This approach supports oral heritage by making a language usable in contemporary educational and digital environments. Linguistic materials, such as scripts, orthographic conventions, texts, and voice recordings, are structured and converted into resources including fonts, encoded character sets, datasets, language models, and interactive learning tools. These infrastructures enable people to write, learn, communicate, and interact with digital technologies in the language.

ADLaM, *SkoBots*, and *GPT for Icelandic* illustrate different configurations of this approach. *ADLaM* combines the community-led development and teaching of a writing system with its encoding and integration into digital devices. *SkoBots* brings together elders, children, language specialists, schools, and Indigenous organisations to develop a voice-based learning device grounded in community recordings and data-governance principles. *GPT for Icelandic* mobilises institutional actors, language-technology organisations, and volunteers to develop and validate the linguistic resources required for Icelandic-language culturally-sensitive integration within AI systems.

The cases differ most clearly in how they balance wider circulation with community control. *ADLaM* and *GPT for Icelandic* seek to extend language use across mainstream digital systems and translocal contexts. *SkoBots* places greater emphasis on Indigenous data sovereignty, limiting the circulation of language materials in order to retain community authority over their storage, processing, and reuse. Indeed, a key question worth of consideration when adopting this approach is: who governs the infrastructures and data through which that use becomes possible?

Across the four approaches, different manifestations of oral heritage become visible and available for continued use. Each approach foregrounds a particular entry point together with specific stakeholders and forms of authority. The comparison also raises recurring tensions. Organising heritage materials into datasets, inventories, or standards may increase their comparability and circulation while reducing situated variation to predefined categories. Testimony-based approaches can make multiple perspectives accessible through representations shaped by elicitation, selection, curation, and interface design. Language infrastructures may extend opportunities for learning and everyday use, including across diasporic contexts, while introducing dependencies on standards, operating systems, and platforms whose governance may lie partly outside heritage communities. Performance documentation can extend the reach of a practice, although a digital record cannot reproduce all the embodied, relational, and apprenticeship-based conditions through which the practice is transmitted. These tensions direct attention to the people and organisations making decisions across the value chain. The selection of materials, the design of an interface, and the conditions governing reuse all involve particular responsibilities and capabilities.

3.2 Capabilities, Stakeholder roles, and Governance Trajectories

The approaches discussed in the previous section involve different combinations of knowledge and skills. Documenting a performance, developing a language resource, or constructing an exhibition brings cultural knowledge into relation with research, design, technological development, and coordination. We examine these combinations through the Capability dimension of the *ICH Digital Valorisation Framework*, then consider the stakeholder roles and organisational arrangements through which they are mobilised[7]. This connects the analysis with the Strategic dimension, which addresses project objectives, the actors involved in decision-making, and organisational and financial conditions.

Note 7.
Our analysis draws primarily on publicly available project materials. It identifies documented capabilities, contributions, and partnerships, but offers limited access to internal decision-making and changes in authority over time.

Capability family	Description and declination
Cultural, linguistic, experiential & embodied	Situated knowledge of the heritage practice and its cultural context, including language competence, cultural knowledge, and embodied or performative expertise.
Research & documentation	Capabilities for investigating, eliciting, recording, structuring, analysing, and interpreting heritage and related data, including linguistic, ethnographic, curatorial, evaluation, and documentation practices.
Design & creativity	Capabilities for shaping representations, narratives, artefacts, interfaces, and experiences, including visual, typeface, interaction, storytelling, exhibition, sound, and communication design.
Technology & data	Capabilities for developing and working with digital standards, computational processes, software, AI systems, digital fabrication, and data-processing infrastructures.
Education, facilitation & engagement	Capabilities for supporting learning, participation, exchange, and capacity building through education, teaching, training, community engagement, and facilitation.
Coordination, governance & stewardship	Capabilities for organising actors and resources and shaping their conditions of use, including project and institutional coordination, network building, and data governance.

Table 4. Capability families identified across the case studies. Created by the authors.

For cross-case comparison, we grouped the project-specific capabilities identified in the case sheets into six broad families (**Table 4**). These families distinguish kinds of knowledge and activity, as individual actors may combine several of them.

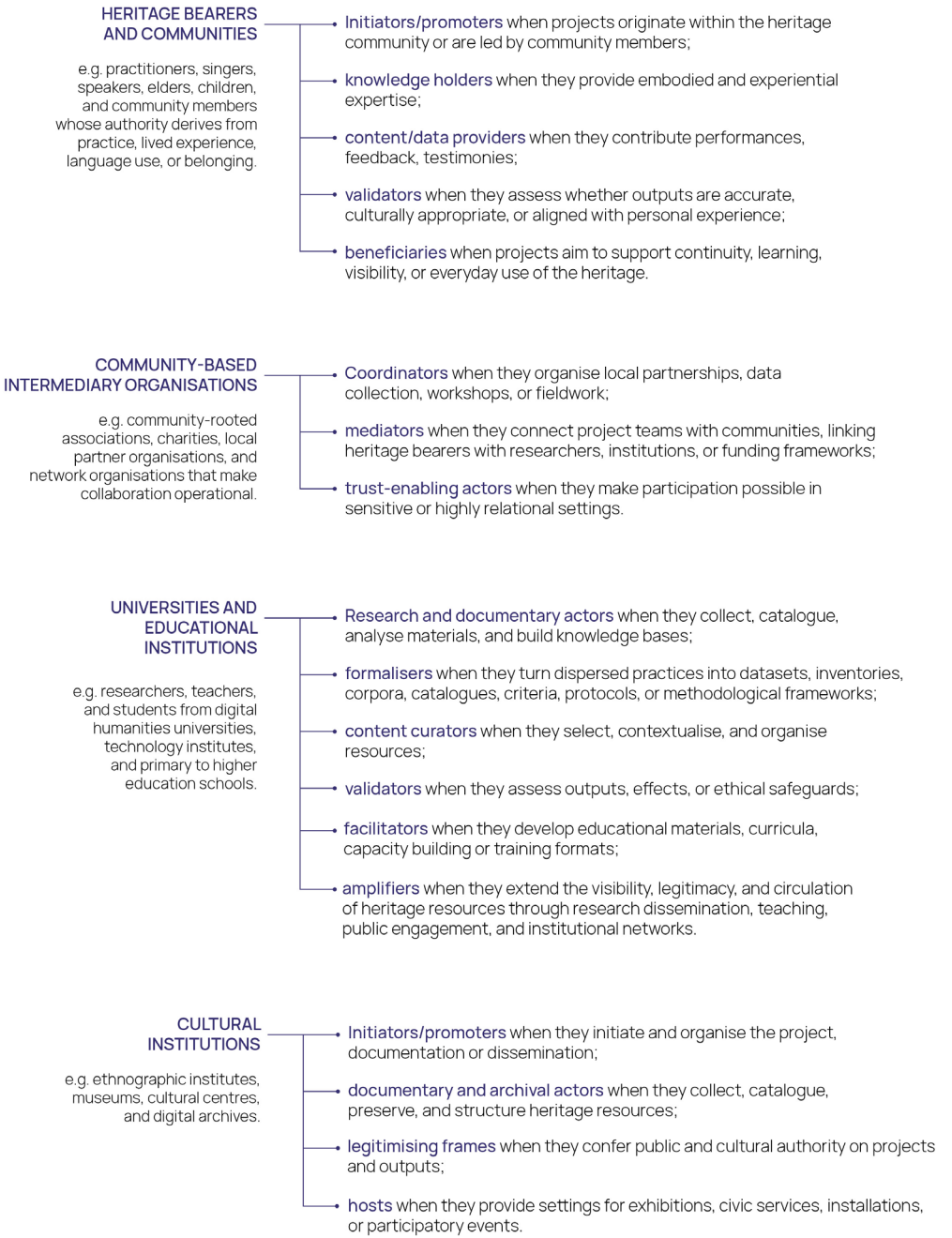
The distribution of capabilities differs across projects. In *ADLaM*, the Barry brothers' Fula linguistic & cultural knowledge, script development, and literacy education & teaching are complemented by collaborators' contributions to Unicode standardisation and typeface design. *SkoBots* brings robotics & programming into a community project through its founder, alongside contributions from speakers, educational partners, and specialists. These cases show that Technology & data and Design & creativity capabilities may be activated within community initiatives as well as through external collaboration.

In *MULTI*, the division of work is more explicitly organisational: the universities contribute research and content creation, and Dotdot-dot develops the museum's identity, user experience, interface, and storytelling. *GPT for Icelandic* connects Icelandic language expertise, corpus curation, and human evaluation & benchmarking with LLM development. These combinations make particular outputs possible, while also linking their development and use to actors responsible for standards, software, and platforms.

Capabilities become also visible through the roles actors assume across Recognition, Documentation, and Access and Use. In MODAS, for example, singers contribute as performers and interviewees, while singers' associations and local referents collaborate in a census structured by cultural and research institutions. In Synthetic Memories, participants narrate their memories and review the generated images, while interviewers and AI prompters support elicitation and visual reconstruction within a defined methodological framework. Here, contributor roles are combined with research and organisational roles that structure participation, making individual contributions collectable, comparable, and ultimately assemblable into broader documentary corpora.

Figure 6 – in the pages the follow – maps illustrative roles across the stakeholder ecosystem and identifies selected capabilities associated with them. The categories are not to be considered exclusive. A heritage bearer may also be an inventor or educator, and a cultural institution may undertake research and coordinate partnerships. Stakeholder roles are not fixed. The same actor may contribute knowledge, validate resources, organise activities, or support access and use at different points in the value chain, as well as roles and capability associations vary by project and may overlap.

Figure 6. Illustrative stakeholder roles in oral heritage digital valorisation practices.



GOVERNMENTAL INSTITUTIONS AND POLICY MAKERS

e.g. local, regional, and national authorities and public bodies; ministries and agencies; supranational institutions and bodies.

- **Initiators/promoters** when projects originate as an integral part of local or national policies for heritage revitalisation;
- **funders** when they provide financial resources to fund projects and consortia through grants, programmes, or other forms of public support;
- **legitimising frames** when projects or outputs gain official status or institutional endorsement;
- **scaling actors** when local or experimental initiatives are absorbed into wider public strategies or agendas.

DESIGNERS AND CREATIVE PROFESSIONALS

e.g. design studios, typeface designers, sound designers, communication agencies, artists, and creative technologists.

- **Facilitators** when they structure participation through online crowdsourcing formats, and in-person workshops, and co-creative sessions;
- **translators** when they reinterpret and rearticulate heritage resources into accessible digital interfaces, visual languages, and interactive experiences;
- **formalisers** when they turn variable or unstandardised forms into reusable scripts, protocols, typefaces, or physical/digital interfaces;
- **digital storytellers** when they build narrative formats and interpretive pathways tailored to different audiences;
- **amplifiers** when they extend visibility, recognition, or cultural resonance through campaigns, exhibitions, artistic outputs, or media production.

TECHNOLOGY PROVIDERS

e.g. standard-setting bodies, software companies, platform providers, AI firms, and language-technology businesses

- **Infrastructure enablers** when they provide standards, encoding systems, fonts, platforms, models, or deployment environments;
- **production environments** when technological systems (e.g. generative or conversational models) become the medium through which heritage is reconstructed or used;
- **hosts** when they host the environments, services, or repositories through which heritage resources are stored, accessed, generated, or circulated;
- **data governance actors** when their technical decisions, update cycles, or platform logics affect long-term data usability, dependence, or control;
- **amplifiers** when they extend project visibility through campaigns and media coverage.

WIDER PUBLIC

e.g. museum visitors, listeners, students, educators, policy makers, organisations, and general publics who encounter digitally-mediated heritage.

- **Audiences** when they engage with heritage through narration, exhibition, or dissemination;
- **users** when they access and navigate platforms, archives, tools, digital assets, or learning resources;
- **learners** when they acquire heritage knowledge and practice through educational, interactive, or public-facing formats;
- **secondary adopters** when they reuse methods, toolkits, or infrastructures in other contexts;
- **amplifiers** when they support further circulation, recognition, institutional interest, or new collaborations.

The cases also distinguish contributions to an output from authority over its subsequent use. In *GPT for Icelandic*, volunteers evaluate and edit model responses through a process coordinated by Miðeind. This establishes a role in producing linguistic resources, but does not establish authority over model deployment or platform access. In *Sko-Bots*, the founder explicitly reports that communities retain authority over language recordings and participate in decisions concerning them. *Synthetic Memories* documents participant review of reconstructed images and consent practices for their presentation. These differences direct attention to how collaborations are organised.

To understand how these roles and capabilities are brought together, we examine the organisational and governance arrangements through which projects develop. We distinguish four trajectories (**Figures 7-10**) according to where initiatives originate, how collaboration is organised, and how responsibilities are distributed as additional actors and capabilities become involved:

- community-led trajectories;
- institution-led trajectories;
- hybrid, consortium-based trajectories;
- hub-and-spoke trajectories.

These trajectories provide a basis for comparing the relationships among project objectives, participation, and the infrastructures supporting digital valorisation.

Community-led trajectory



Figure 7. Illustration of community-led trajectory.

Initiatives following a community-led trajectory originate with heritage bearers or community actors who identify a concern and establish the initial direction of a project. Development builds on capabilities held within the community or initiating organisation and involves additional partners as particular activities require them. Cultural, linguistic and embodied capabilities can thus inform project objectives from the outset, alongside different combinations of educational, design & technology-related expertise.

ADLaM and *SkoBots* illustrate different forms of this trajectory. The Barry brothers developed *ADLaM* through script creation and literacy education, subsequently collaborating with designers, technology companies, and the Unicode Consortium to support its digital use. SkoBots originates with an Anishinaabe inventor whose robotics and educational work develops through The STEAM Connection, with contributions from community speakers, specialist collaborators, and partner schools. Technology and data capabilities are therefore already present within the initiating organisation in SkoBots, while ADLaM's digital development brings additional capabilities into an established linguistic and educational initiative.

Importantly, community initiation does not necessarily establish the subsequent distribution of authority over every component of a project. While *SkoBots* explicitly addresses authority over language materials through its reported data governance arrangements, under which communities retain control of recordings, *ADLaM*'s wider digital use depends on standardisation and implementation within operating systems. The distinction concerns both where capabilities are located and how collaboration connects community priorities with the conditions governing digital resources.

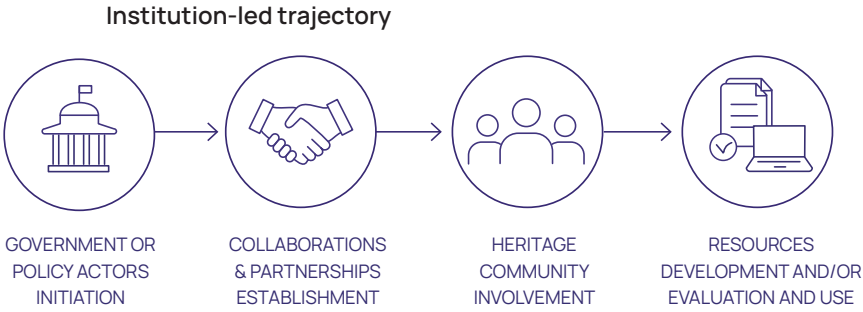


Figure 8. Illustration of institution-led trajectory.

An Institution-led trajectory develops through governmental or policy involvement and formal partnerships that establish a shared direction and organise implementation. Coordination, governance & stewardship capabilities connect institutional objectives with the work of intermediary organisations and technology providers. Community participation may enter through structured activities such as contributing linguistic materials, evaluating outputs, or validating resources.

GPT for Icelandic exemplifies this trajectory through the partnership between the Government of Iceland and OpenAI together with Icelandic language-technology organisations coordinating resource preparation and evaluation, and bringing Icelandic language expertise, corpus curation, and human evaluation & benchmarking into collaboration with LLM development. Volunteers contribute through feedback procedures coordinated by Miðeind, and the resulting resources support improvements within the provider's models.

This arrangement distinguishes responsibilities for producing and evaluating linguistic resources from those involved in developing and operating the systems through which they are used. Speakers contribute knowledge that is important to model performance, however the available materials do not establish their authority over deployment or platform access.

Hybrid, consortium-based trajectories

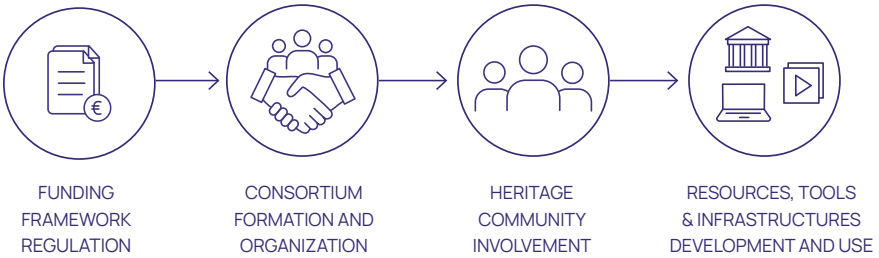


Figure 9.
Illustration of Hybrid, consortium-based trajectory.

Hybrid, consortium-based trajectories bring together organisations with complementary capabilities and responsibilities within a funded project. The funding framework establishes the outer conditions within which the project is conceived, including such as eligibility criteria, thematic priorities, timeframes, reporting requirements. Consortia respond competitively to these frameworks by proposing a specific project configuration and, if selected, receive funding to implement it. Within externally defined parameters, however, project decisions remain largely with the consortium, which determines how objectives are operationalised, how responsibilities are distributed, which capabilities and partners are involved, and how activities are organised.

For example, *RISE UP* is funded under Horizon Europe's Cluster 2 through the topic Safeguarding endangered languages in Europe. Within this funding framework, the consortium defines its own project response, combining language-policy research with community engagement, network building, and digital resource development. *MULTI* was funded through the Italian Ministry of University and Research's FiSR 2019 programme, which supports projects of strategic relevance, and combines university-led research and content development with design expertise. *MODAS* is supported under Law 77/2006 for UNESCO heritage safeguarding and develops through direct collaboration between ISRE and singers' associations, combining ethnomusicology and documentation with embodied musical knowledge, network building, education, facilitation, and media production.

Capabilities are distributed across organisational boundaries, requiring alignment to funding frameworks together with coordination between those who contribute heritage knowledge, structure resources, and develop forms of access.

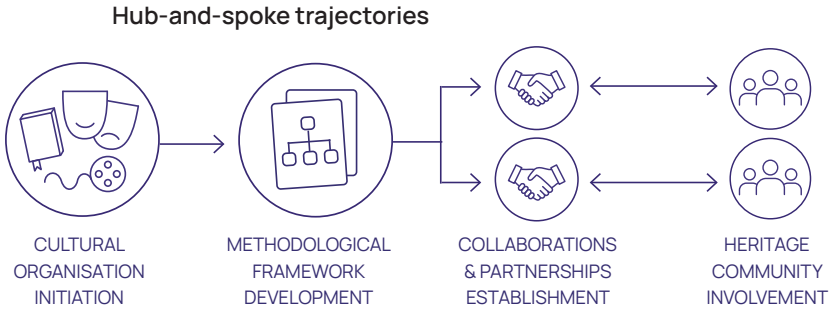


Figure 10. Illustration of Hub-and-spoke trajectory.

In this configuration, a central organisation develops a concept and methodology, which is applied and adapted to different settings leveraging dedicated partnerships. The central organisation provides continuity across implementations, and local partners contribute the relationships, settings, and capabilities needed to work with particular participants and contexts. The organisational connection between implementations rests on a common method and its situated application. In *Synthetic Memories*, Domestic Data Streamers developed the concept and methodology and applies them through collaborations with cultural centres, universities, healthcare organisations, and community-based institutions. Interviewing and elicitation, generative AI and prompt design, and storytelling and cultural content design are combined with participants' recollections and iterative review. Local implementations adapt this process to concerns such as civic memory, migration, and neighbourhood histories, and research partnerships contribute ethics and impact research.

The trajectory brings the relationship between methodological continuity and local adaptation into focus. Participants can influence the representations produced through their accounts and feedback, and partner organisations help situate the process within local activities. These contributions do not, by themselves, establish how decisions about the shared methodology, technological systems, or subsequent circulation of resources are negotiated. Understanding governance in this configuration therefore requires attention to the respective responsibilities of the central organisation, local partners, and participants.

Overall, these trajectories suggest that governance may evolve as projects move across the value chain. The analysis draws attention to changing relationships between communities and project partners, while raising questions about authority and ownership.

3.3 Beyond a Linear Value Chain: Temporal and Infrastructural Configurations

When introducing the *ICH Digital Valorisation Framework*, recognition, documentation, and access and use were presented as distinct subsequent dimensions. The cases suggest, however, that these dimensions do not necessarily unfold as consecutive stages. Their relationships are shaped by project timelines and changing stakeholder arrangements.

We identified three recurring temporal and infrastructural configurations (**Figure 11 – next page**):

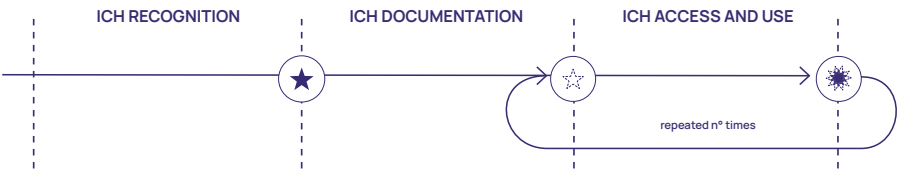
- cumulative;
- parallel, multi-strand;
- sequential and iterative.

Figure 11. Cumulative, parallel, multi-strand, and sequential and iterative configurations represented using the ICH Digital Valorisation Framework.

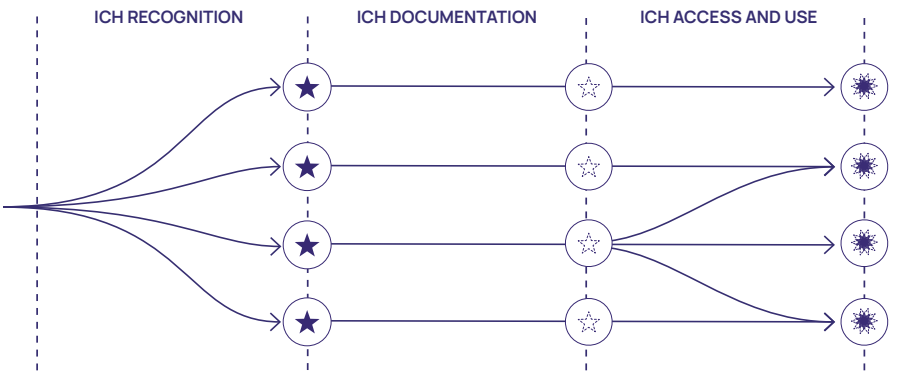
These configurations are not mutually exclusive. A project may combine them, while individual activities may follow different configurations within the same initiative.

- **Cumulative configuration.** In this configuration, a repeatable structure enables individual records to be collected and combined into a larger corpus. Inventory templates, database records, and documentation protocols establish what counts as an entry and how it is described, making successive contributions comparable and reusable. This logic can be observed in the *MODAS* census and audiovisual archive, as well as in the recurring documentation and narrative formats used by *MULTI* and *Synthetic Memories*. Occuring through progressive accumulation, it depends on continued collection, maintenance, and updating.
- **Parallel, multi-strand configuration.** In this configuration, a project develops several complementary lines of activity in

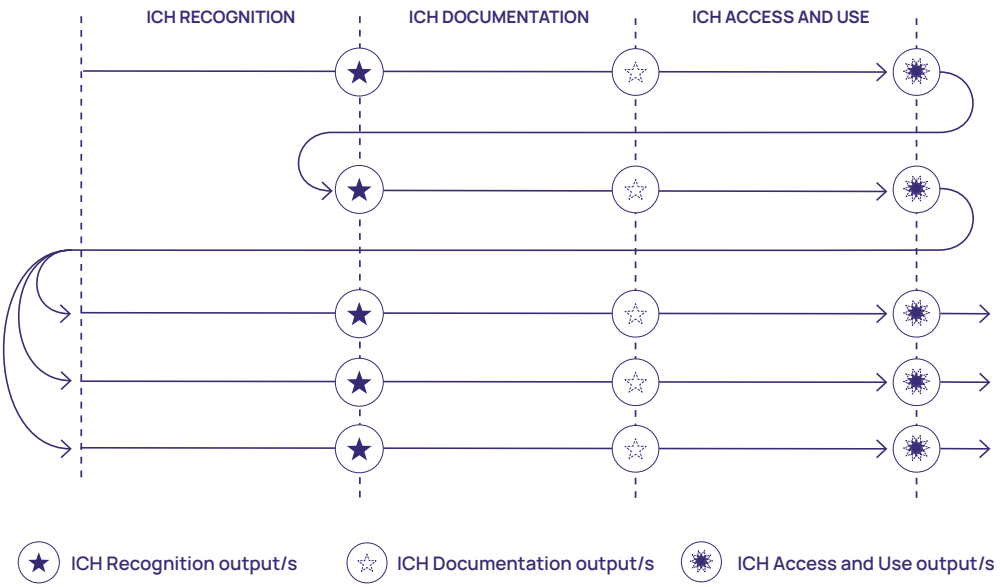
CUMULATIVE CONFIGURATION



PARALLEL, MULTI-STRAND CONFIGURATION



SEQUENTIAL AND ITERATIVE CONFIGURATION



parallel, each documenting or mediating a different dimension of oral heritage. The resulting resources and access channels are designed as parts of a shared infrastructure, recognising that no single digital format can adequately represent the heritage in its entirety. *MODAS* combines a census, audiovisual documentation, oral testimonies, and public-facing media. *RISE UP* integrates language-vitality assessments, project inventories, toolsets, and participatory activities. *MULTI* brings together curated digital collections and narrative itineraries within a virtual museum. These strands are generally planned from the outset and developed within the project's timeframe, closely connecting documentation with access and use.

- **Sequential and iterative configurations.** Here, project development follows a sequence in which each phase depends on the outputs or approvals produced by the preceding one. Linguistic resources must become compatible with technical standards and institutional requirements before they can be integrated into widely used systems. *ADLaM* illustrates this process through the progression from community literacy practices to standardisation and digital-platform adoption. *GPT for Icelandic* connects corpus development, human evaluation, and iterative integration into AI systems. These processes may extend over long periods and include pauses, adjustments, new partnerships, and the adaptation of existing technologies. Design operates primarily by negotiating compatibility across the different components of the system.

Although the three framework dimensions of recognition, documentation and access and use were presented sequentially for analytical clarity, the cases analysis demonstrate that the digital value chains for oral traditions and expressions valorisation should not be interpreted as operating through a strictly linear pipeline. Indeed, its core dimensions may overlap, extend, or loop over time, configuring themselves as recursive and mutually reinforcing.

Figure 12.
The recursive relationships among ICH Recognition, Documentation, and Access/Use.

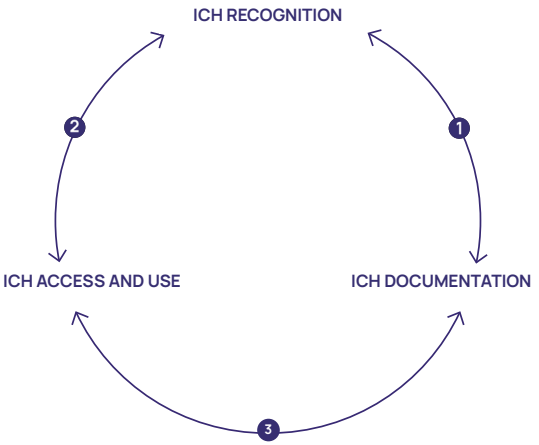


Figure 12 illustrates four relationships through which ICH Recognition, Documentation, and Access and Use can inform and reshape one another.

❶ **Documentation to Recognition.** Documentation can deepen or revise the understanding of the heritage under consideration. Recording practices, gathering testimonies, and examining their contexts may reveal previously overlooked meanings, knowledge, or relationships. These findings can broaden what is recognised as culturally significant, even before the documentation is made available for wider access and use.

❷ **Access and Use to Recognition**. Encountering, interpreting, and using heritage can lead communities and other actord to reconsider its significance. Through engagement with documented resources, people may develop a renewed recognition of heritage articulatinh new meanings, strengthening their sense of connection, or questioning established interpretations.

❸ **Access and Use to Documentation.** Access and Use can reveal possibilities for further documentation by demonstrating how heritage materials can be connected and used. These experiences may inspire new directions for data collection, encouraging the gathering of additional accounts to complement existing materials.

4. Digital for Oral Traditions and Expressions: Emerging Trends in Social Media Discourse

Complementing the case-based analysis illustrated in the previous pages, this chapter shifts scale from projects to social media discourse. It examines how digital technologies and oral traditions and expressions, including languages, are currently framed, promoted, and debated in online environments, and it identifies a small set of recurring trends that appear in this domain based on our computationally-enhanced analysis (see Chapter 1):

- **NLP for endangered languages revitalisation;**
- **Digital oral storytelling between oral history and podcasting;**
- **Indigeneous data sovereignty in oral and linguistic heritage.**

Each trend is presented through the same analytical structure. We first introduce its defining features and the keywords through which it emerged from the analysis. We then consider the factors contributing to its growing visibility, examine how it takes shape through emerging patterns identified in the corpus, illustrate opportunities for ecosystem actors (described using the categories and roles introduced in the preceding chapter), and conclude with the tensions and open questions it raises for researchers, communities, and designers.

4.1 Trend: NLP for Endangered Languages Revitalisation

The trend *NLP for endangered languages revitalisation* points to a growing interest in the potential use of artificial intelligence, particularly Natural Language Processing (NLP), to support the preservation, revitalisation, and promotion of endangered languages.

INTANGIBLE HERITAGE: ENDANGERED LANGUAGES; INDIGENEOUS LANGUAGES; MINORITY LANGUAGES; REGIONAL DIALECTS.

TECHNOLOGIES: AI; NLP; ML; LLM; LOW-RESOURCE LANGUAGE MODELS; MACHINE TRANSLATION.

SKILLS: LANGUAGE DOCUMENTATION; COMPUTATIONAL LINGUISTICS; LEXICOGRAPHY; DATA ANNOTATION.

Across posts, NLP is commonly associated with technologies such as machine translation, automatic speech recognition (ASR), text-to-speech (TTS), large language models (LLMs), and conversational agents including chatbots and virtual assistants. Within this discussion, endangered languages are generally framed as languages experiencing weakened or disrupted intergenerational transmission, often linked in posts to processes such as globalisation, urbanisation, mobility, schooling in dominant languages, and broader socio-economic pressures. Posts also frequently extend this discussion to Indigenous languages, regional dialects, and other minoritised language varieties.

Language endangerment is generally framed in the corpus as an urgent issue for both linguistic diversity and cultural continuity. Institutional and academic references are often cited to reinforce this framing, including UNESCO estimates that around 40% of the world's approximately 7,000 languages are endangered and that one language disappears on average every two weeks (UNESCO, 2022). In these discussions, language loss is often associated with the erosion of knowledge systems, oral traditions, rituals, and cultural identities, echoing UNESCO's characterisation of language as a key component of intangible cultural heritage (UNESCO, 2003).

A further recurring concern is the uneven representation of languages within digital infrastructures. Posts draw attention to the fact that online platforms and AI systems predominantly support a relatively limited set of dominant languages. As a result, languages that remain actively spoken within particular communities or territories may nevertheless have limited presence within digital environments, a condition that can be understood in terms of *digital minoritisation* (Henley, 2018).

Drivers

- Growing international attention to language endangerment and its implications for cultural continuity and linguistic diversity.
- Advances in multilingual NLP and low-resource language models, which are expanding the technical possibilities for processing languages with limited digital data.
- Increasing policy interest in language technologies, as infrastructures for digital inclusion, linguistic sovereignty, and cultural representation.

Emerging patterns

This trend reflects growing interest in addressing digital linguistic inequalities by documenting, digitising, and computationally enabling endangered languages. From the corpus, we reconstruct three interrelated areas in which NLP is discussed in relation to endangered-language revitalisation.

The first concerns **building foundational linguistic resources** that make minoritised languages computationally processable. Posts refer to textual and speech corpora, lexicons and grammatical resources, orthographic support, fonts and keyboards, and annotated datasets as foundations for subsequent technological development. This resonates with research identifying data creation and documentation as a critical challenge for primarily oral and low-resource languages (Bird, 2020).

A second area involves **training or adapting NLP and machine learning models** using these linguistic resources. Examples include systems for analysing linguistic structures, morphology, and synthax, recognising speech, identifying patterns, translating content, and generating text in endangered of minoritised languages. Depending on data availability, this may involve extending multilingual models, fine-tuning existing ones, or developing models specifically for low-resource linguistic contexts (Joshi *et al*., 2020).

A third area concerns **embedding models supporting endangered languages into public-facing digital interfaces**, including translation and transcription tools, educational applications, chatbots, conversational agents, and multimodal interfaces. Here, the discussion moves from computational processing to the opportunities

these technologies create for speakers to encounter and use their languages in digital environments, particularly for learning, communication, cultural promotion, and intergenerational transmission.

Examples discussed in relation to this trend include online translation tools (e.g. *AFAAI Multi-Language,* AI real-time translation platform featuring Igbo, Yoruba, Hausa, and AAVE and *Neurotõlge TartuNLP*, an open source machine translation engine supporting languages and dialects from the Finno-Ugric language family), automatic subtitles and audio platforms, AI-powered educational materials, as well as apps combining NLP with computer vision supporting object-text translation, such as the *Google's Wooraloo app*.

Ecosystem actors

- **Heritage bearers and communities,** contributing linguistic knowledge and expertise, speech and textual materials, as well as validating linguistic and cultural representations.
- **Community-based intermediary organisations**, facilitating participation, connecting language communities with technical and research partners, and coordinating language documentation and revitalisation initiatives.
- **Universities and educational institutions**, contributing linguistic documentation, dataset development, NLP research, model training and evaluation, and educational applications.
- **Technology providers**, developing and integrating language-processing models, digital infrastructures, and public-facing tools for translation, transcription, speech recognition, and language generation.
- **Governmental institutions and policy makers,** supporting language revitalisation through policy frameworks, funding programmes, and investment in linguistic and digital infrastructures.
- **Designers and creative professionals**, translating technological capabilities into accessible interfaces and learning experiences that support language use and engagement.

These actors often collaborate across community, research, technological, and institutional settings.

Open challenges

Despite widespread optimism around NLP for endangered languages (often summarised by the slogan *No language left behind*), we call on those seeking to engage with this trend to reflect on the following points:

How can language technologies work with limited and uneven data without reproducing existing forms of exclusion? Many endangered languages have relatively few digitised textual or audio resources, and some lack widely adopted writing systems or digital input tools. These conditions can affect model performance and limit their inclusion in multilingual AI systems, even as research develops methods requiring smaller datasets.

How can linguistic variation be represented without establishing one dialect, orthography, or speaker group as the authoritative version of a language? The selection of data for training and evaluation may privilege varieties that are already better documented or institutionally recognised. This can make other forms less visible and reproduce inequalities within language communities. The issue is therefore not only how much data are available, but also who contributes them, which varieties they represent, and who determines the standards used by digital systems.

Who should decide which linguistic materials can be digitised, processed, and reused? Language datasets may include culturally sensitive, sacred, or restricted knowledge that communities do not wish to make publicly accessible or available for automated processing. Translation and generation systems may also misinterpret culturally specific meanings or produce grammatically plausible but culturally inappropriate outputs. These concerns make consent, Indigenous data sovereignty, and community-led governance central to the development of language technologies (Walter & Suina, 2019; Carroll *et al*., 2020). The trend *Indigeneous data sovereignty in oral and linguistic heritage* (p. 102) examines these questions in greater detail.

4.2 Trend: Digital Oral Storytelling between Oral History and Podcasting

The trend *Digital oral storytelling between oral history and podcasting* points to a recurring interest in the use of recorded speech to document, interpret, and circulate heritage-related narratives through digital audio formats.

INTANGIBLE HERITAGE:
ORAL HISTORIES;
ORAL TRADITIONS;
CULTURAL MEMORIES;
COMMUNITY HISTORIES.

TECHNOLOGIES:
PODCASTS; AUDIO STREAMING SERVICES;
DIGITAL ARCHIVES;
ORAL HISTORY ARCHIVES.

SKILLS:
ORAL HISTORY RESEARCH, AUDIO RECORDING & EDITING, STORYTELLING, EDITORIAL CURATION, SOUND DESIGN.

Across the corpus, many examples concern museums, libraries, archives, and other cultural institutions producing podcast series based either on materials held in their oral history collections or on newly conducted interviews (Rander & Rupinski, 2019). Alongside these institutional initiatives, the corpus also includes creator-led and grassroots projects that use digital audio formats to document and disseminate cultural memories, community histories, and tradition-related knowledge. Digital recording is used to collect first-person testimonies, while podcast and streaming platforms support their wider circulation through edited audio content. Platforms such as Spotify, YouTube, and Apple Podcasts recur as channels through which these narratives are made accessible beyond the contexts in which they were originally recorded.

This pattern also resonates with scholarship on the public reuse of oral history archives and their transformation into public-facing resources (Ryan *et al*., 2023; Casucci *et al*., 2025), as well as with research on community-led digital storytelling for the preservation and reassertion of cultural identity (Ajitoni, 2024; Shiri *et al*., 2021).

Here, oral history and podcasting, while different in scope and approach, are seen as converging in their potential to contribute to the public circulation of ICH (Yagual *et al*., 2023). The trend primarily concerns the documentation and narration of heritage rather than the direct transmission of heritage practices. As such, both mediate ICH by referencing, contextualising, or interpreting its manifestations, but do not automatically constitute ICH themselves (Neyrinck *et al*., 2020).

Drivers

- Lower costs and wider availability of digital recording, editing, and publishing tools.
- The expansion of on-demand audio consumption through podcast and streaming platforms (Sullivan, 2019).
- Growing institutional interest in making oral history collections and heritage research accessible to wider publics.
- The use of first-person storytelling to engage dispersed, intergenerational, and diasporic audiences.

Emerging patterns

Across the corpus, we identified three recurring ways in which oral history and podcasting intersect with heritage-related practices.

A first pattern focuses on oral history projects connected to heritage. Oral history is a research method based on the collection and preservation of first-person spoken narratives through interviews, understood as detailed, reflective, situated, and interpretive accounts of the past (Shopes, 2011). Whether biographical or topic-specific, oral history interviews have long been used to integrate lived experience into historical interpretation and to foreground voices often absent from written records (Portelli, 2017). In relation to ICH, posts show their use in documenting memories, everyday practices, and forms of knowledge for preservation, research, education, and public engagement.

A second concerns podcasts connected to heritage. Podcasting uses editing, narration, and sound design to create curated audio narratives for public circulation. Across the posts, podcasts combine interviews, archival materials, testimonies, and historical commentary to narrate heritage-related content and reach wider, including dispersed and diasporic, audiences.

A third pattern involves oral history materials transformed into podcasts, Here, interviews and testimonies are selected and edited rather than presented in full, and reworked into structured narratives for public listening. Moving from oral history to podcasting involves editorial selection, storytelling, and reframing for different audiences, and can present additional editorial and production challenges (National Park Service, 2023).

Among the initiatives shared in the posts, we recognised three additional recurring configurations of audio formats:

- **SIngle focus series** centre on one heritage element or geographically bounded practice across multiple episodes, enabling in-depth exploration. The *MODAS* podcast is an example, focusing on cantu a tenore through different biographies and perspectives.
- **Anthology series** present multiple heritage traditions within a broader cultural or regional frame. The *Mediterranean Intangible Heritage Soundscape* podcast follows this model by dedicating each episode to a different UNESCO-listed element in the Mediterranean area, combining expert commentary with archival audio excerpts.
- **Everyday community narratives** are not explicitly designed as heritage documentation, but address family histories, personal memories, or community experience within which oral traditions and place-based practices emerge. *Heather Murphy's Stories in Our Roots* offers an example of this format.

Ecosystem actors

- **Heritage bearers and communities,** contributing testimonies, memories, performances, and situated knowledge.
- **Community-based intermediary organisations,** initiating or coordinating grassroots storytelling initiatives, facilitating participation, and connecting heritage bearers with researchers and creative professionals.
- **Cultural institutions,** including museums, archives, and cultural centres, collecting, preserving, contextualising, and making oral history materials available for research and public engagement.
- **Universities and educational institutions,** contributing oral history research, interviewing and documentation methods, archival interpretation, and educational reuse of recorded materials.
- **Designers and creative professionals,** including audio producers, journalists, artists, and sound designers, initiating, facilitating and developing curated narratives activating

storytelling, writing, narration, sound design, and production capabilities.

- **Technology providers**, supplying recording, hosting, and streaming infrastructures through which audio materials are produced, accessed, and circulated.
- **Wider public and secondary users**, engaging with audio narratives as listeners, learners, and potential amplifiers of commenting and sharing heritage-related content.

Open challenges

As oral testimonies move across archival, editorial, and public-facing formats, we call for reflection on a series of issues surrounding reuse, representation, and accessibility.

Under what conditions can oral history interviews be repurposed for podcasting? When public dissemination and editorial adaptation were not anticipated during collection, renewed consent may be necessary. Recording quality also acquires a different significance: whereas oral history prioritises documentary integrity and long-term preservation, podcast production requires audio suitable for editing, narration, and public listening.

How can podcasts foreground individual testimony without presenting it as representative of an entire community or cultural practice? Editorial choices need to acknowledge the situated and subjective character of each account, as well as internal diversity, contested interpretations, and different forms of authority within communities.

How can language choices balance cultural and linguistic continuity with wider accessibility? Using the language in which a tradition is practised can support cultural identity, intergenerational transmission, and linguistic vitality, while potentially limiting access for other audiences. Conversely, adopting a dominant language may extend circulation but risks marginalising the original language and reproducing linguistic homogenisation. Translation, subtitling, and multilingual formats may provide partial responses, although they also involve decisions about what meanings and linguistic features can be carried across languages.

4.3 Trend: Indigenous Data Sovereignty in Oral and Linguistic Heritage

The trend *Indigenous Data Sovereignty in Digital Oral and Linguistic Heritage* points to recurring concerns around how technologies used to document, digitise, analyse, and circulate oral traditions and expressions should be governed in relation to Indigenous rights, ethical frameworks, and cultural authority.

INTANGIBLE HERITAGE: INDIGENOUS KNOWLEDGE SYSTEMS; CULTURALLY SENSITIVE KNOWLEDGE; ORAL AND LINGUISTIC HERITAGE; ORAL TRADITIONS.

TECHNOLOGIES: AI; DIGITAL ARCHIVES; DATA INFRASTRUCTURES; DIGITAL PLATFORMS; METADATA SYSTEMS.

SKILLS: DATA GOVERNANCE; DATA SOVEREIGNTY; ACCESS AND PERMISSIONS MANAGEMENT; RIGHTS AND REUSE MANAGEMENT; DATA STEWARDSHIP; AI ETHICS.

Across the corpus, these concerns are associated with critiques of unrestricted openness, extractive data practices, and universal models of access (Carroll Rainie *et al*., 2019). Posts discuss heritage digital valorisation through the lenses of Indigenous data sovereignty, ethical AI, and technological decolonisation, with particular attention to questions of control, custodianship, and situated governance.

Oral traditions (whether languages, narratives, songs, rituals, ecological knowledge, or historical testimony) are increasingly recognised as relational knowledge systems embedded in social settings, protocols, and rights. As a result, recurring questions concern who decides what can be digitised, under which conditions, and for whose benefit.

These concerns have acquired renewed visibility with the expansion of AI, platform-based distribution, and large-scale data infrastructures. Posts and scholarship particularly question whether AI systems trained on speech, text, and audiovisual archives may reproduce extractive relationships when cultural materials are incorporated into datasets without appropriate consent, attribution or credit and benefit-sharing.

In response, this trend advances the idea that heritage preservation and revitalisation technologies themselves must be redesigned to align with Indigenous epistemologies and philosophies, contextual needs, governance models, and ethical priorities (Ndasauka, 2024).

Drivers

- Growing recognition of the risks posed by applying data-intensive technologies to Indigenous knowledge without adequate consent, contextualisation, or community authority.
- The consolidation of Indigenous rights, data justice, and decolonial movements that question universal models of open access and individual consent.
- The increasing role of commercial platforms and AI providers in storing, processing, and circulating cultural data, raising concerns about ownership, dependency, and accountability.
- The development of Indigenous-led principles and governance frameworks, which provide alternatives to data governance based exclusively on openness and reuse.

Emerging patterns

The analysis of the posts revealed three recurring points of attention through which Indigenous data sovereignty is discussed in relation to oral and linguistic heritage.

A first concerns **differentiated access.** Posts increasingly call for differentiated access models, challenging the notion of languages and oral traditions as universally preservable or shareable. Rather than assuming that all digitised materials should be openly accessible, these models distinguish between community-restricted, educational, research, and public uses (Carroll Rainie *et al*., 2019). Initiatives such as *Reviving Indigenous Voices (RIV)* emphasise alignment with Indigenous data sovereignty movements (e.g. *#DataBack*), explicitly rejecting unrestricted reuse.

A second concerns the **incorporation of governance rules into technical and organisational infrastructures**. Access permissions, attribution requirements, cultural protocols, and conditions for reuse are discussed in relation to metadata, licences, community-managed repositories, and other forms of data infrastructure.

A third combines **technological capacity-building with the right of refusal**. Community control is associated both with the necessity to develop their own technical expertise and infrastructures and the possibility to determine which knowledge should not be recorded, modelled, circulated, or retained.

Ecosystem actors

This trend is inhabited by a heterogeneous and often cross-sectoral ecology of actors.

- **Heritage bearers and communities,** like Indigenous knowledge holders, determining cultural protocols, conditions of access and reuse, and the extent to which linguistic and oral heritage materials may be documented, processed, or circulated.
- **Community-based intermediary organisations,** including Indigenous-led organisations and language networks, coordinating community participation, mediating institutional partnerships, and supporting the development of community-controlled infrastructures and governance arrangements.
- **Universities and educational institutions,** contributing research, documentation, technical expertise, and capacity-building, while negotiating research practices and data management arrangements with Indigenous communities.
- **Cultural institutions,** including museums and archives, acting as custodians of heritage materials and implementing access restrictions, attribution requirements, and culturally appropriate documentation and preservation practices.
- **Designers and creative professionals,** translating community-defined protocols and governance requirements into digital interfaces, access mechanisms, and participatory processes.
- **Technology providers,** developing and maintaining repositories, platforms, AI models, and data infrastructures whose technical architectures and operating conditions affect community control over heritage resources.
- **Governmental institutions and policy makers,** influencing data governance through legislation, policy frameworks, institutional recognition, funding, and support for Indigenous-led initiatives.

Again, these actors rarely operate in isolation. The trend is sustained by coalitions that span community organisations, research institutions, policy bodies, and philanthropic actors, often negotiating competing values around openness, scalability, and control.

Open challenges

Questions of control and community authority do not remove the tensions surrounding digital valorisation projects for oral heritage. Rather, they lead us to reflect on a different set of issues:

When does openness support Indigenous communities, and when does it undermine their authority? Open access to linguistic resources may facilitate education, visibility, and revitalisation, but it can also expose culturally sensitive knowledge to decontextualisation, appropriation, or commercial reuse. It is therefore important to consider whether heritage data should be open in principle, and who determines the appropriate forms and conditions of access.

Can digital technologies accommodate Indigenous knowledge systems without translating them into incompatible technical categories? AI, immersive media, and large-scale digitisation may support documentation and intergenerational transmission, while also abstracting knowledge from the relationships, places, and protocols through which it acquires meaning. This raises questions that concern epistemic compatibility as well as technical accuracy.

How can consent remain meaningful over time? Once oral materials have been copied, circulated, or incorporated into datasets and models, restricting their subsequent use may be difficult. Digital heritage infrastructures must therefore address whether consent can be revised or withdrawn, who is responsible for long-term stewardship, and what should happen when community protocols change. Finally, conflicting perspectives within communities might contest the very notion of *consent*.

Who has authority to decide on behalf of a community? Indigenous communities are internally diverse, and perspectives may differ regarding what should be digitised, which language varieties or narratives should be prioritised, and how access and benefits should be distributed. Community governance should therefore not be treated as a single or automatically consensual position, but as an ongoing process of negotiation.

4.4 Limitations and Challenges of Detecting Emerging Trends

Identifying and curating trends in Intangible Cultural Heritage through an AI–powered analysis of social media was far from a trivial task. As discussed in our previous work on the development of the ICH Atlas platform (Di Lodovico *et al*., 2025), which underpins the trend identification process adopted here, a number of conceptual and methodological challenges emerge when shifting from institutional narratives to the heterogeneous and informal environments of online social platforms. These challenges concern both availability and technical implementation, as well as deeper tensions related to language, representation, and interpretation.

After outlining the trend identification process and presenting its outcomes, it is therefore important to clarify some of issues encountered throughout the analysis to help ensure a greater transparency.

First, there is an overall issue of **representativeness**. As discussed in Chapter 1, identifying trends in oral traditions and expressions entails observing an increased level of attention over time within a delimited dataset. Our dataset was constructed through keywords selection, web-scraping, and subsequent selection of posts. This necessarily involved decisions about which platforms, posts, and forms of expression were included. As a result, the dataset captures what becomes visible and discussable on such platforms, rather than what is necessarily practiced offline. For these reasons, trend analysis in this context cannot be understood as fully representative of valorisation practices in the field of oral traditions and expressions. It should be read instead as indicative of emerging discourses subjected to the above criteria. This aspect should be taken into account when considering the resulting trends.

Second, because **the system is based on the recurrence of words in online discourse, it may be affected by the buzzwords** that structure public attention in contemporary digital environments. Terms such as *Artificial Intelligence* and *podcast*, while clearly relevant to the trends identified here, may also have overshadowed other practices that are equally significant and possibly growing, but less widely cited or labelled in comparable ways online.

Interestingly, a closer examination of the dataset also revealed that **many posts were likely (entirely or partially) written with LLMs**, which itself seems a growing practice. These posts (most of which were connected to the trend *NLP for endangered languages revitalisation*) largely reflected optimistic views of the use of AI for the valorisation of endangered languages, often downplaying the unresolved challenges involved. Without human supervision, a purely automated analysis could have produced a form of synthetic feedback loop, in which LLM-based systems select and analyse posts that amplify artificially mediated voices rather than lived experiences. This is a relevant issue when extracting and interpreting large volumes of online data.

Given the focus of this book, and especially its attention to language, two further issues should be noted.

In order to **standardise the dataset and make it comparable for insight extraction, we translated the corpus into English**. This inevitably led to some flattening of linguistic nuance and possible misinterpretation, especially in posts originally written in languages other than English. As one of the identified trends also suggests, AI-powered tools make it possible to collect and analyse multilingual content, expanding the dataset beyond what individual researchers could manually process. At the same time, most AI models are trained predominantly on dominant languages and cultural contexts. This raises both methodological and ethical concerns related to bias, misinterpretation, and the flattening of culturally specific meanings that are central to intangible heritage. The result is a persistent tension between the need for comparability across large datasets and the need to preserve linguistic and cultural specificity.

Finally, **the language used in institutional frameworks often differs significantly from the informal, hybrid, and evolving vocabularies found on social media**, where practices, narratives, and meanings do not necessarily align with predefined categories. Our initial keyword selection, together with the automatic retrieval of semantically similar terms used to expand the corpus, may therefore have introduced a form of confirmation bias by privileging posts that already aligned with those linguistic frames. It is possible that other relevant posts addressed similar projects or perspectives through

different terms and expressions, and were therefore excluded from the dataset.

A final disclaimer concerns the **presence of design in the corpus**. As the identified trends show, design is almost absent as an explicit category, even though many of the projects referenced in the posts are, in practice, designed interventions. Design does not emerge as a key competence in any of the trends. Even so, if designers are to take on a role in these areas, they must engage with the complexity of the opportunities and open challenges that shape them. This point will be discussed further in the next chapter.

5. Conclusions

In this volume, we aimed to examine how digital valorisation initiatives for Oral Traditions and Expressions are configured, where and how design contributes, and where further intervention may be possible.

The case-based and trend analyses provide different forms of evidence for addressing these points. Specifically, **Chapter 3** make visible how oral heritage is selected, translated, mediated, and made accessible within situated project configurations. **Chapter 4** broadens this perspective by identifying emerging practices and debates around language technologies, digital oral storytelling, and Indigenous data sovereignty.

These insights show a field in which design is present unevenly and often implicitly. Its contribution ranges from identifiable outputs such as interfaces, typefaces, digital stories, and interactive artefacts to the structuring of processes through which heritage materials are elicited,

transformed, validated, and encountered. In some cases, design also intervenes in the technological forms of mediation themselves, shaping how digital representations are generated, contextualised, and presented to participants and audiences.

The following sections bring these findings together. We first return to what the analysis reveals about the configuration of digital valorisation practices in the specific domain of Oral Traditions and Expressions and emerging tensions in digital valorisation. From this basis, we examine the role of community authority and the different positions design can occupy across the valorisation process. We then revisit the ICH Digital Valorisation Framework as a critical device for interrogating the choices made across these processes and identify areas of inquiry that remain open.

5.1 The Ambivalence of Digital Valorisation

Digital valorisation expands the possibilities for oral traditions and expressions to be documented, encountered, and used. It also shapes the forms through which they become accessible and the relationships on which their circulation depends. The possibilities of amplification and reduction introduced at the beginning of this volume coexist within these processes: making heritage digitally legible brings selected manifestations into view through formats and infrastructures that cannot encompass the entirety of living practice.

Our analysis gives this ambivalence a more specific form. It concerns the relationship between documentation and transmission, the conditions under which wider circulation is negotiated, and the continuing support required by digital resources.

A first tension lies between what documentation makes available and what continued transmission requires. Recordings, narratives, datasets, and interfaces preserve and communicate particular manifestations of oral heritage. Their production involves choices about what to elicit, record, classify, and present. Even when

multiple voices contribute, the accounts encountered by an audience remain shaped by the tools and processes through which they were collected and mediated. This selectivity matters because oral traditions continue through socially situated acts of speaking, listening, performing, and learning. Digital resources can preserve traces of these acts without reproducing the full embodied and relational conditions through which knowledge is transmitted (Taylor, 2003; Hou *et al*., 2022). Making a record accessible and sustaining the practice it documents are therefore distinct achievements. Documentation can nevertheless become part of transmission when it is integrated in a wider plan where Access and Use retain a strong relational dimension. Collecting recordings may create occasions for intergenerational exchange; documented materials may support learning, renewed performance, or encounters among practitioners. The relationship depends on how digital resources enter continuing social practice and their availability creates possibilities whose realisation cannot be established from the existence or visibility of an output alone.

A second tension concerns the extension of circulation and authority over its original conditions. Oral traditions acquire meaning within specific social and linguistic environments. Digital mediation introduces them into infrastructures governed by different classificatory, institutional, and commercial logics. As scholars have shown, digital archives may reproduce existing asymmetries by redistributing authority among communities, researchers, platforms, and cultural institutions, thereby reshaping who is entitled to access, interpret, and circulate oral knowledge (Christen, 2012; Oruç, 2022). Communities and heritage bearers may consequently lose effective control over storage, access, reuse, translation, and algorithmic processing. Digital resources may circulate according to priorities that do not necessarily align with community protocols or shared norms of custodianship, including monetisation and platform visibility. By proxy, the vulnerability at stake is a matter of both representation and authority. Community participation and community authority consequently require separate attention.

These relationships also depend on infrastructural continuity. Digital resources remain usable depending on the continuing work of people and organisations responsible for their custody, update,

and accessibility. As Cucurullo *et al.* (2025) observe, the continued accessibility of language archives requires active maintenance, for which dedicated funding is often uncertain. In addition, technological obsolescence and platform dependency expose the possibility that heritage data could be inaccessible or unusable over time. In this sense, software updates, format migration, and metadata management become relevant aspects to consider for the durability of digital valorisation initiatives. Digital valorisation therefore should be conceived in terms of an ongoing infrastructural care, resisting one-off intervention. This raises an unresolved question about how the resources produced through an initiative will remain accessible and usable as its organisational and technological conditions change. In this sense, digitisation may relocate vulnerability onto an infrastructural level rather than resolving it.

Digital mediation intervenes in a field that is already dynamic, selective, and relational. It actively participates in redefining what is recognised as oral heritage, which voices and manifestations of oral practices are rendered digitally legible and accessible, and under what conditions they may continue to circulate.

5.2 Community-based Catalyst Figures

UNESCO's Ethical Principles for Safeguarding Intangible Cultural Heritage state that "*Communities, groups and, where applicable, individuals should have the primary role in safeguarding their own intangible cultural heritage*" (UNESCO, 2015). This principle directs attention to the opportunities communities have to shape safeguarding initiatives, including their objectives and the conditions under which heritage is documented, accessed, and used.

Our analysis shows different positions from which community actors enter digital valorisation processes. They may contribute recordings or linguistic knowledge, participate in elicitation and co-creation processes, review or validate outputs, take part in public activities, or help define the concerns an initiative addresses. These positions

afford different forms of agency and are not equivalent. Influence over how a particular representation is produced does not necessarily entail authority over why materials are collected, which technologies are used, how infrastructures are configured, or how resulting resources may subsequently circulate.

Within this range of involvement, projects following a community-led trajectory (see Chapter 3) bring a particular role into view.

We propose the notion of community-based catalyst figures to describe heritage bearers and community members who connect situated cultural knowledge with the mobilisation of capabilities, partnerships, technologies, and resources. Their contribution begins with identifying an issue and giving direction to an initiative, and may continue through the establishment of collaborations that support its development.

In some contexts, these actors may also adopt an activist role, connecting heritage continuity with broader claims concerning cultural rights, representation, and self-determination (Faud-Luke, 2009). The significance of these figures lies in how they bring capabilities into relation. Some capabilities may be held by community-based catalysts themselves – like cultural knowledge, technological, and coordination capabilities –, while complementary ones may enter through collaboration. The combination varies according to the initiative and the resources available.

This role helps us understand how locally situated concerns can become connected to wider technological and institutional networks. External collaboration can support the development of tools, infrastructures, and forms of access that would otherwise be difficult to establish, however, it also introduces dependencies as institutional actors may progressively shape what an initiative can do.

The discussion of Indigenous data sovereignty reinforces the importance of this distinction. It connects oral and linguistic materials with rights, protocols, and community authority over their treatment. From this perspective, the ability to initiate a project opens a further question:

Under what conditions can community actors continue to influence the infrastructures through which their oral heritage is processed and circulated?

Community-based catalyst figures may contribute to establish the conditions through which such influence becomes possible. However, whether this early proximity translates into sustained authority depends on the governance arrangements, capabilities, resources, and infrastructures through which the project develops.

If communities are to retain influence over how digital valorisation initiatives evolve, their role cannot be limited to contributing cultural content or knowledge. Cultural and linguistic expertise needs to be combined with technological, design, and governance capabilities that communities can develop internally or retain meaningful control over. This becomes particularly important as oral materials move into datasets, platforms, AI systems, and other infrastructures whose development and operation may otherwise depend largely on external actors. The words of the *Indigenous Protocol and Artificial Intelligence Working Group* (Lewis *et al*., 2020, p. 17) make this point, and surfaces new stimulus for these figures to further lead and foster capacity building for oral traditions and expressions digital valorisation processes:

> **How do we create capacity in our communities to design and build such systems ourselves? We need people capable of working at all layers of the [technological] development stack, who are either trained themselves or capable of working closely with cultural knowledge and language-keepers. How do we undertake the challenging work of more consciously translating our cultural values into computational concepts that can then be implemented in code?**

These questions connects community control with the capacity to intervene in the infrastructures of valorisation. The following section examines the position design currently occupies within these processes and the wider role it might assume.

5.3 Design across the Digital Valorisation Chain

The role of design across the material examined in this volume is neither uniform nor always explicitly acknowledged. In some initiatives, the role of design emerges through clearly identifiable activities, including typeface and keyboard design, video-making and sound design, exhibition and installation design, interactive artefact prototyping, digital storytelling, and the UX and UI development of interfaces, apps, and web-based platforms. These contributions shape how oral heritage is represented, accessed, and used in digital and public-facing environments. Other activities see the role of design in the configuration of processes rather than discrete outputs. These include designing and devising participatory formats through for oral heritage elicitation, collection, documentation, and validation.

The contribution of designers also varies depending on when and where they become involved in an initiative. Designers may focus on specific outputs at the Access and Use stage of the value chain, contribute to shaping interactions and mediation processes from earlier stages, such as Documentation, or participate in decisions that define the overall direction of an initiative, thereby influencing its Strategic dimension. The scope of design intervention, however, depends on the extent to which these decisions remain open to its influence. When project objectives, governance arrangements, partnerships, and technological infrastructures have already been established, designers tends to operate within predefined conditions, with its contribution largely focused on the development of specific outputs rather than on actively shaping the initiative itself.

These possibilities for action can be understood through Lorusso's (2025) differentiation between *design* and *plan*. Designers usually give form to artefacts while having limited influence over the wider configuration that determines its purpose, actors, resources, and scope. Moving beyond outputs requires design to participate earlier in the process, at the level of the *plan*. It requires engagement with how a heritage-related concern is framed, which forms of continuity are prioritised, which partnerships and technologies are selected, and how authority is distributed. At this level, design should no longer

be limited to *design for the plan*, making existing plans functional or accessible, but need to move closer to the broader role of the "*mediation agent*" or, more radically, of "*regie of processes of valorisation*" (Lupo, 2007, p. 3). In this role, design may contribute from the outset to questioning dominant institutional or platform-based arrangements and articulating alternative ways of organising documentation, access and use making different configurations visible, discussable, contestable, and revisable.

The capabilities required to operate at this level correspond closely to what Cross (1982, 2025) describes as "*designerly ways of knowing and doing*": navigating ill-defined problems, moving iteratively between problems and possible responses, modelling alternative configurations, and translating abstract values into operational decisions. These capabilities extend beyond the professional role of the designer. Community members, researchers, technologists, cultural mediators, and other actors may mobilise them within their own roles when they contribute to framing problems, configuring processes, exploring alternatives, or translating priorities into project decisions.

Recognising these as distributed designerly capabilities draws attention to forms of inquiry, synthesis, materialisation, and experimentation that can support action across multi-actor initiatives. They become particularly relevant when community-based catalysts seek to work across the digital valorisation chain, coordinate heterogeneous actors, and maintain alignment between technological development and community priorities.

For actors seeking to participate in the digital valorisation of Oral Traditions and Expressions, we identified four areas that can be addressed designerly:

- **Consider representation of oral heritage in ways that remain attentive to plurality and situated meaning.** Dataset construction, linguistic formalisation, recording, editing, translation, and interface design can establish particular dialects, orthographies, speakers, or testimonies as refer-

ence points. Such choices may be necessary for computational processing and public communication, but they can also marginalise internal variation or present an individual account as representative of a wider community. Design may help make these selections more transparent by documenting provenance, contributors, purposes, and limitations, for example through data statements (Bender & Friedman, 2018). In oral history and storytelling projects, it may similarly support editorial structures that retain multiple voices, contextualise disagreement, and distinguish testimony from collective representation. Original-language recordings accompanied by transcripts, translations, captions, or parallel editions can widen access without entirely displacing the linguistic forms through which meaning is expressed. These arrangements should also acknowledge the human and computational intermediaries through which translation and interpretation occur.

- **Shape access and use around the kinds of encounters and forms of engagement the initiative seeks to enable.** Communication and dissemination activities contribute to bringing practices to wider audiences and can reinforce their public visibility and recognition. Exhibitions, installations, interactive artefacts, and other situated formats create occasions through which people encounter heritage manifestations, documentary materials, and the communities or practices to which they refer. Design can also contribute to translating research findings, participatory processes, surveys, and documented materials into interfaces and navigable resources through which audiences can explore, interpret, and engage with a practice. These forms of access do not have the same relationship with heritage continuity. Some primarily support visibility and knowledge, while others may create opportunities for learning, participation, reinterpretation, or renewed performance. Designers therefore need to consider what kind of encounter a particular format enables, who it is intended for, and how access may connect with continued processes of speaking, listening, remembering, learning, performing, and transmitting.

- **Translate governance principles into operational arrangements for access, attribution, reuse, and restriction.** Decisions about access, attribution, reuse, and restriction need to be considered as part of a project infrastructure. Metadata, permissions, interfaces, repository structures, licences, platform architectures, and access mechanisms can enable or restrict how recordings, narratives, and linguistic resources circulate. Moreover, open accessibility of heritage resources should not be taken for granted, but consider which level of accessibility, under which protocols, and for whose benefit. Different materials may require different arrangements: some may be publicly available, while others may be restricted to educational, research, community-specific, or time-bound uses. The CARE Principles offer one relevant framework by complementing the FAIR Principles – which promote data that are *Findable*, *Accessible*, *Interoperable*, and *Reusable* (Wilkinson *et al*., 2016) – with attention to *Collective Benefit*, *Authority to Control*, *Responsibility*, and *Ethics*, thereby foregrounding questions of rights, interests, and governance in data practices (Carroll *et al*., 2020). Designers entering projects therefore need to understand who has authority to determine access, attribution, reuse, and restriction, and how these decisions are materially implemented.
- **Treat consent and stewardship as ongoing processes as materials, technologies, and uses evolve.** As oral heritage materials are transcribed, edited, archived, translated, published, or incorporated into computational systems, new uses may raise distinct questions of consent and authority. This requires distinguishing, where relevant, between consent for preservation, public dissemination, and AI training (Keller, 2025). Here, design may support communities and other stakeholders by making possible uses, conditions, and consequences more intelligible, and by developing facilitation and trust-building practices through which future uses can be discussed and negotiated. It may also support interfaces and procedures for review, renewed authorisation, access restriction, or withdrawal. Such mechanisms can strengthen

community authority and position consent and stewardship as continuing dimensions of project governance.

Overall, designerly approaches to digital valorisation can support plurality, align documentation and access with intended forms of engagement and transmission, and strengthen community authority, ongoing consent, and long-term stewardship. Their contribution depends on where they enter the process, which decisions they can influence, and how their choices remain open to community scrutiny.

5.4 Guiding Questions for Reflexive Design Practice

The *ICH Digital Valorisation Framework* was introduced in Chapter 1 as a means of describing and comparing how digital valorisation initiatives are configured. Its application to Oral Traditions and Expressions showed that individual project decisions cannot be understood in isolation.

Recognition, **Documentation**, and **Access and Use** were distinguished in the framework for analytical clarity. We show that these dimensions **interact recursively in practice**. Documentation can generate renewed recognition of a practice, public access can bring previously overlooked voices or resources into view, and new forms of use can initiate further documentation or require existing resources to be revised. We also identified cumulative, parallel multi-strand, and sequential-iterative configurations through which activities, outputs, and actors enter the process at different moments.

In light of these insights, the framework can also serve as a critical reading device for design engagement as it can help make explicit the choices, exclusions, dependencies, and forms of authority that shape how oral heritage is recognised, made digitally legible, made accessible, and used. For designers seeking to participate in these processes, these are not secondary considerations. Decisions concerning recording, language standardisation, translation, interface design,

access, data governance, or technological infrastructure can influence subsequent possibilities for representation, reuse, community authority, and transmission. The guiding questions proposed in Table 5 therefore invite designers to examine the wider conditions within which their interventions take place and the effects that decisions made at one point may produce elsewhere in the process.

Table 5. Design-sensitive reflexive guiding questions following the ICH Digitalisation Framework. Creation of the authors.

Dimension	Guiding questions
Transversal dimension: **Strategy**	• What form of continuity is the initiative seeking to support, and who defines it? • Is the priority documentation, language use, learning, performance, intergenerational transmission, public recognition, or another objective? • Who is expected to benefit, and how are oral heritage communities involved in setting priorities? • Which partnerships, platforms, standards, and funding arrangements are required, and what dependencies may they introduce?
Core dimension: **Recognition**	• Which voices, language varieties, performances, memories, practitioner networks, or other manifestations are recognised as relevant to the heritage? • Who participates in defining this frame? • Whose knowledge and authority are legitimised through this process? • Does recognition reproduce existing hierarchies or create space for underrepresented practices, communities, and language varieties?
Core dimension: **Documentation**	• Which dimensions of oral practice are recorded, elicited, transcribed, formalised, translated, or transformed into data? Which aspects remain difficult to capture? • How do technologies and standards shape what becomes computationally processable or accessible? • Who participates in selection, recording, validation, translation, and data governance?

Core dimension: **Access and Use**	• Through which interfaces, languages, formats, and channels do people encounter the resulting resources? • Do they enable consultation only, or also learning, speaking, interaction, reuse, and re-performance? • Who determines conditions of access, restriction, reuse, and revision?
Transversal dimension: **Capability**	• Which forms of cultural, research, technological, design, educational, and governance expertise are required? • Where are these capabilities located? • Who assumes responsibility for maintenance and stewardship over time?

A whole-chain perspective is necessary to follow how oral heritage moves between situated practice and digital infrastructures and how decisions accumulate or change meaning as projects evolve.

The questions cannot be answered through abstract principles alone. Their relevance depends on their application on real-world initiatives where a particular language, practice, community, technological environment, and other stakeholders come into play

5.5 Future Research

We began this book with a question and conclude with more questions than answers. We see these open questions as a useful starting point for further inquiry. Here we acknowledge the limits of our work and indicate where we believe further research would be valuable.

First, future studies might examine the relationship between digital resources and continued oral practice over time. The existence, accessibility, or popularity of an archive, platform, application, podcast, or language technology cannot by itself establish whether an oral tradition is being sustained. Longitudinal and community-based research could investigate whether digital interventions

become connected to language use, learning, re-performance, intergenerational exchange, renewed participation, or other forms of continued practice. Evaluation would consequently need to complement measures of reach and engagement with criteria defined together with heritage bearers and communities regarding what meaningful use and continuity mean in their particular context.

Second, research might follow how transformations and authority accumulate across the digital valorisation process from within projects. The cross-case analysis in Chapter 3 shows that recognition, documentation, and access and use may overlap and recursively influence one another, but documentary sources cannot fully reveal how decisions are negotiated in practice. Ethnographic and longitudinal studies could trace how a performance becomes a recording, how a language becomes a dataset or computational resource, how testimonies become a podcast, how heritage communities interprets such materials and how authority moves among heritage bearers, researchers, institutions, designers, and technology providers during these transitions.

Third, further work might explore the governance of oral heritage and linguistic data across changing uses and infrastructures. Recordings or texts originally collected for documentation, research, or education may later become usable for model training, automated translation, speech technologies, or other purposes that were not anticipated at the moment of collection. Comparative studies could investigate how consent, differentiated access, cultural protocols, and rights of refusal or withdrawal can be implemented in practice in community-led, institution-led, hybrid,consortium-based, and hub-and-spoke initiatives.

Finally, research might examine how design capabilities can be developed within oral heritage communities and organisations, and the conditions that allow these capabilities to translate into a real capacity to influence strategic, technological, and governance decisions. This volume shows that design is unevenly and often implicitly present in digital valorisation initiatives focused on oral traditions, with its documented contributions more commonly concentrated on specific outputs than on the definition of project objectives, governance arrangements, partnerships, or technologi-

cal infrastructures. Future studies could investigate when and how design moves beyond this primarily executive position and becomes involved in shaping the wider *plan* of valorisation.

Notes

Note 3.
The project *TRAMA. Cultural Transformations. Intangible Heritage and New Digital-Driven Professional Skills* was funded under the public call of the Italian National Recovery and Resilience Plan (PNRR), Mission 4 – Component 2 – Investment Line 1.3, within the programme *CHANGES – Cultural Heritage Active Innovation for Next Generation Sustainable Society*, PE 00000020, Spoke 2, CUP G53C22000430006, funded by the European Union – NextGenerationEU.

Note 4.
Recognition does not necessarily coincide with formal validation processes, such as UNESCO inscription. While some projects engage with institutionally recognised heritage, others address oral practices or memories that remain outside official classifications but are still fundamental to support oral traditions and expressions' continuity. Recognition is therefore understood as an analytical and cultural act shaped and reinforced by project objectives, contexts, and promoters' values, rather than a purely institutional status. This phase corresponds to the *creation* and early *production* functions of the Creative Value Chain (European Commission, 2017), while placing greater emphasis on the social actors and relational contexts through which oral heritage is enacted.

Note 5.
At the European level, different legal and policy frameworks should be distinguished. Within the European Union, Decision No. 1194/2011/EU establishing the European Heritage Label is legally binding and encompasses intangible heritage associated with heritage sites, including oral traditions, rituals, and performing arts, but does not establish a general safeguarding regime for intangible cultural heritage (European Parliament & Council of the European Union, 2011). Other EU resolutions, Council conclusions, and policy documents addressing intangible cultural heritage and linguistic diversity are predominantly non-binding. The principal binding instrument specifically concerning intangible cultural heritage remains UNESCO's 2003 Convention, ratified individually by European states, which explicitly identifies oral traditions and expressions as one of its five domains (UNESCO, 2003). The Council of Europe's Faro Convention, which is binding on the states that have ratified it, adopts a broad and community-centred understanding of cultural heritage but does not regulate oral traditions as a distinct heritage category (Council of Europe, 2005).

Note 6.
The case study analysis presented in this volume reflects the projects and their development as of September 2026. As some of the initiatives were still ongoing at the time of writing, the case studies should be understood as a time-bounded account rather than a record of their final outcomes. Further outputs, developments, and impacts may emerge after this date and therefore fall outside this analysis.

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Annex I

This annex provides the list of online sources consulted for each case study presented in Chapter 3. *Practising Digital Valorisation. Insights from Case-based Analysis*. These sources informed the research and compilation of the corresponding case study profiles.

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OneClub (nd). 2024 ADC Awards – Typography ADLaM https://www.oneclub.org/awards/adcawards/-award/54377/adlam/

Rise Up. Revitalising Languages and Safeguarding Cultural Diversity

https://www.riseupproject.eu/

https://www.riseupproject.eu/resources/

https://www.riseupproject.eu/language-projects/

https://www.riseupproject.eu/app/uploads/2026/01/RISE-UP-Policy-Recommendation-for-Revitalising-Minoritised-Language-Varieties.pdf

GPT-4 for Icelandic

https://openai.com/index/government-of-iceland/

https://mideind.is/en/frettir/gpt-4-fra-openai-nu-mun-betra-i-islensku-med-hjalp-mideindar

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SkoBots

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MULTI. Multimedia Museum of the Italian Language

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Her work explores how digital technologies, collaborative practices, and design-driven approaches can shape cultural and creative ecosystems, with a particular focus on intangible cultural heritage, fashion-tech, self-tracking technologies, and generative AI-mediated experiences. She has collaborated with several academic institutions, including the University of Milan (Department of Cultural and Environmental Heritage), the University of Turin (Department of Computer Science), and Eindhoven University of Technology (Department of Industrial Design). As a research fellow at the University of Milan within the CHANGES project, she contributed to the development of design research methodologies, mapping approaches, analytical frameworks, and digital tools for valorising intangible cultural heritage.

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PARTNER







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The Design x ICH series explores the contribution of design to the valorisation of Intangible Cultural Heritage across UNESCO's five ICH domains, as digital technologies become increasingly involved in the safeguarding of living heritage practices.

The first volume focuses on Oral Traditions and Expressions, including language as a vehicle of intangible cultural heritage. Through seven case studies, examined using a shared analytical framework, it investigates how oral heritage is made digitally legible and accessible, and how these processes may, in turn, contribute to reshape its recognition. The analysis considers the technologies, stakeholders, skills, and forms of collaborations involved in different approaches to digital valorisation.

A complementary exploration of emerging trends in social media discourse examines developments in AI for endangered language revitalisation, digital oral storytelling, and Indigenous data sovereignty.

Bringing these perspectives together, the volume reflects on the ambivalence of digital mediation and the conditions shaping community participation and authority, introducing the notion of community-based catalyst figures. It examines the roles design currently plays, or could assume, in shaping the artefacts, processes, and relationships through which oral heritage is interpreted and transmitted, and offers guiding questions for reflexive design practice in future valorisation initiatives.

FrancoAngeli
La passione per le conoscenze