



# EUROMUSE

A European Framework for Applied Music for  
Museums, Audience Insight and Inclusive Practice





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Audience Insight & Inclusive Practice



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## **Method & Authorship**

### **Methodological framework and project concept**

EUROMUSE is implemented through a structured methodological framework for applied music in museums, developed and coordinated within the project's governance and credited to the relevant project-leading entities and teams, including EARTH PR (Project Coordinator) and the Center for Applied Music – CAM (affiliated entity / methodology and research coordination).

### **Musical works and authorship**

Each musical work created within EUROMUSE remains authored by its respective composer. Museums and project platforms use the works under clearly defined licensing conditions and agreed project rules, ensuring responsible use across physical and digital museum contexts.

### **Purpose of the publication**

This publication documents EUROMUSE results and provides museums with transferable tools and implementation pathways designed for adoption beyond the project consortium and beyond Europe.

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# Foreword

Museums are not silent. Every visit already unfolds within a sound ecology: voices, footsteps, demonstrations, audio guides, and the acoustic character of rooms and thresholds shape how visitors perceive meaning and movement. If sound is left unmanaged—or added without a clear logic—it can compete with interpretation, create sensory overload, and reduce comfort.

EUROMUSE advances a clear proposition: sound and music can function as a curatorial layer when they are composed specifically for a museum’s collection, narrative, and spatial choreography, and when they are implemented systematically, with audience insight and operational documentation. This is not generic “background ambience.” It is an authored, museum-specific auditory identity designed for daily use and long-term maintenance.

While applied music is well developed in theatre and film, museum-specific composition remains relatively rare, and evidence-based models are still limited. Participatory creation, where visitors contribute structured insight during composing, is even less common. EUROMUSE brings these dimensions together by combining original synocompositions, a participatory model (Community Muse Boards), and a mixed-method research approach across different museum types, acoustic conditions, and audience profiles.

EUROMUSE builds on pioneering work by the Center for Applied Music (CAM) in Belgrade, which has explored permanent (infinite-loop) applied music for exhibitions since 2005, and on a 2021 pilot at the Museum of Science and Technology in Belgrade. That pilot indicated that original applied museum music can become an intrinsic part of the exhibition whole and support cognitive, emotional, and aesthetic dimensions of visitor experience, including for visually impaired visitors<sup>1</sup>. EUROMUSE extends this direction internationally, developing a replicable framework for Synomusic<sup>2</sup> as a museum practice.

This publication presents EUROMUSE: the framework, pilot implementations, training and residency models, research logic, and dissemination outputs intended for use beyond the consortium, and beyond Europe. It also sets the foundation for the next step: the EUROMUSE Advanced, expanding comparability across institutions and strengthening the evidence base for applied music in heritage settings.

We invite museums, researchers, composers, and cultural leaders to explore the model, adapt the toolkit, and join the growing conversation on how sound can contribute to inclusive, data-informed museum practice.

**Aleksandar VI. Marković**

Center for Applied Music (CAM) / EARTH PR

<sup>1</sup>Jokić, B., Marković, A. & Luković, I. (2022) The effects of originally composed applied music in museums on visitors’ experience: Results of the pilot study in the Museum of Science and Technology in Belgrade. *Kultura*;

<sup>2</sup>Marković, A. and Jokić, B. (2022) Synomusic - applied music for galleries and museums. Towards a new model of museum audience development and presentation of museum content, *Phlogiston*, 30, 381-396.; Aleksandar VI. Markovic, Center for Applied Music (CAM),



# EUROMUSE Summary

EUROMUSE is a Creative Europe Cooperation project that develops and tests Applied Music for Museums as a structured tool for interpretation, audience insight, and inclusive practice.

The project introduced a new sub-genre of museum-specific applied music - synocompositions - created for permanent exhibition contexts and designed as a continuous, non-intrusive layer within the museum visit. At the core is a participatory creation model that enables agile collaboration between composers, museum teams, researchers, and active visitors organised as Community Muse Boards (CMBs). This structure ensures each composition is both artistically strong and grounded in the museum's narrative, space, and audience reality.

With a multidisciplinary community of 50 contributors from 7 countries, EUROMUSE established durable links between European heritage, local communities, museums, and research institutions. Alongside artistic outputs, EUROMUSE also delivered an evidence base through a mixed-methods study of the impact of synocompositions on visitor experience, including emotion, memory, attention, mindfulness, and general satisfaction, while producing practical tools that improve decision-making across the co-creation chain (composers ↔ museums ↔ researchers ↔ CMBs).

By connecting composition, participation, implementation, and evaluation, EUROMUSE proposes a museum-ready model in which sound is commissioned responsibly, integrated across physical and digital museum environments, and adapted to diverse visitor sensibilities—strengthening the visibility and relevance of European culture through a replicable, future-facing approach.



# Policy Brief


EUROMUSE demonstrates how museum-specific, loop-designed applied music (Synomusic) can function as a measurable curatorial layer: supporting interpretation, inclusion, and audience engagement across physical and digital museum environments.

Why this matters for cultural policy

Contemporary museums are deepening interpretations, widening participations and trying to improve accessibility, while remaining operationally sustainable. Sound is already present in museums (speech, tours, exhibit mechanisms, audio guides), but is rarely treated as a planned interpretive modality. EUROMUSE provides a transferable framework that links composition, participation, technical integration, and evaluation.

## What EUROMUSE delivers

- A European framework for commissioning and managing Applied Music for Museums (Synomusic).
- Three pilot museum implementations across contrasting contexts (different countries, city-sizes, museum types, museum audiences).
- A participatory mechanism (Community Muse Boards) that grounds creative decisions in local audience reality.

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- Training and residency formats that build capacity in museums and among composers new to museum contexts.
  - A mixed-method evidence base measuring visitor experience and documenting the co-creation process.
  - Scalable dissemination outputs (album, online concerts, web/3D/360 assets, publication).
  - Policy recommendations (actionable)
  - Recognise museum sound as a legitimate interpretive layer and include it in exhibition and accessibility guidelines.
  - Support pilot implementations that start with one controllable zone and scale only after in-situ validation.
  - Encourage participatory models (e.g., CMB) as quality mechanisms—especially for youth engagement and inclusion.
  - Fund evaluation as an integral part of a project implementation
  - Promote cross-border comparability through shared KPIs, documentation standards, and knowledge exchange networks.



# Why Music in Museums, Why Now

Sound is already part of museum operations: rooms resonate differently, thresholds change what we hear, and exhibitions coexist with speech, tours, demonstrations, and interactive media. The practical question is not whether sound exists, but whether it is designed and managed in a way that supports interpretation and visitor comfort.

“Why now” reflects changes in museum practice. Exhibitions are more layered, routes more dynamic, and communication increasingly distributed across platforms: on-site, web, 3D/360, and immersive formats. In this environment, a well-integrated sonic layer can help museums maintain coherence: it supports pacing, reduces fragmentation, and strengthens inclusive engagement without turning the visit into spectacle.

EUROMUSE starts from an operational insight: many museums invest in storytelling and audience development, yet sound interventions are often handled ad hoc—either as generic ambience or as isolated elements that are difficult to calibrate, maintain, and evaluate. EUROMUSE therefore proposes a museum-grade workflow that can be adopted as a professional standard:

**brief ↔ composition ↔ integration ↔ evaluation ↔ iteration**

This workflow turns music into a curatorial layer: commissioned for a specific collection and spatial logic, integrated with acoustics and visitor flow, compatible with speech and education programmes, and refined through practical audience insight tools. The outcome is an authored auditory identity that strengthens both the live visit and the museum’s extended digital communication—measurable, repeatable, and maintainable over time.



# What is Applied Music for Museums

Applied Music for Museums is an original, museum-specific composition created to function as a curatorial layer—a designed sonic identity that supports interpretation, atmosphere, attention, and visitor comfort without competing with objects, labels, tours, or education programmes.

In Synomusic methodology, museum music is treated as a museum product with a professional workflow and measurable intent:

## **Derived from collection identity and narrative**

The composition is built from the museum’s interpretive aims: what the museum wants visitors to feel, understand, and remember—plus the cultural identity of the collection and place.

## **Structured around spatial museum zones and visitor flow**

It is composed for real movement patterns: entrances, thresholds, pauses, “speech-heavy” areas, and high-noise zones. Transitions are designed as part of the work, so sound helps stitch the visit into a coherent journey.

## **Designed for daily, long-duration playback**

A synocomposition is typically 15–60 minutes (or aligned to visit rhythm), built for seamless looping with micro-variation and “musical breathing space” so it can play all day without fatigue.

## **Integrated with interpretation and education**

It coexists with tours, audio guides<sup>3</sup>, school groups, and interactive exhibits. That means strict discipline in loudness, density, and spectral balance—especially in reverberant spaces.

## **Tested through practical audience insight**

It is refined using structured feedback (Community Muse Board / CMB + museum staff + visitor insight tools).

## **Documented for repeatability**

Deliverables include not only the master audio but also integration notes: zoning plan, level guidelines, maintenance logic, and (when needed) multiple technical variants (e.g., spatial vs. mono).

<sup>3</sup>Ethnographic Museum Belgrade / Exhibition “Memory – Field Research of the Ethnographic Museum”2024/2025, Exhibition “Ceramics: Mark” 2025/2026



# Applied Music for Museums is Not

## **Generic background ambience**

Not “Spotify in the gallery,” not a universal playlist, not mood wallpaper.

## **A single soundtrack unrelated to the collection**

Not a detached aesthetic layer that could be swapped between museums without losing meaning.

## **An isolated artistic output without museum integration**

Not a concert piece “placed” into a room, and not a sound artwork installed without operational planning, zoning, or calibration.

## **An untested intervention with no baseline**

Not a one-off experiment without audience insight, without iteration, and without documentation for long-term use.

## **A solution that ignores acoustics and noise**

Not a studio-perfect composition that collapses in real conditions (reverberation, crowd noise, speech, tours).



# Why Synomusic Matters as a Methodology

(the how that makes it work)

Synomusic is the difference between “music added” and “music designed.” It treats the museum as a living system:

Collection & narrative research › define the intended visitor state (focus, calm, discovery, reflection)

Acoustic & technical mapping › what the space can carry without overload

Compositional design for loop + zones › structure, transitions, breathing space

Participatory checkpoints (CMB + curators) › local relevance

Production for museum playback › clarity at low volume, controlled spectrum

Installation + calibration + documentation › repeatable, maintainable museum asset

This is exactly why EUROMUSE is positioned not just as “artistic production”, but as an auditory engagement module that museums can adopt responsibly systematically.



# Why Museums Need New Participation and Sound Models

## Previous practice, research gaps, and the EUROMUSE response

Museums are increasingly expected to move beyond one-way delivery of content and toward participation, education, and co-creation especially with younger audiences. At the same time, sound in museums is still commonly approached through playlists, isolated sound elements, or occasional performances. These approaches can work, but they rarely form a repeatable museum practice that can be commissioned, maintained, and evaluated over time.

In practice, museum sound has most often appeared in four familiar formats: isolated sound installations or exhibit-specific audio elements, generic playlists (classical or popular music) played continuously, concert performances inspired by the museum (event-based, not permanent), and original permanent applied background music created for occasional exhibitions (still very rare globally)<sup>4</sup>.

Research has also been limited. Existing studies suggest that music can influence time spent in exhibitions<sup>5</sup> and support more positive emotional and cognitive experience<sup>6</sup>; however, most evidence refers to pre-existing music used as playlists, not to music composed for a specific museum narrative, acoustic environment, visitor flow, and interpretive goals. This distinction matters: a playlist is not designed as a curatorial tool. EUROMUSE proposes the opposite: a museum-specific auditory identity that is authored, integrated, and accountable.

EUROMUSE advances museum sound practice by combining three elements into one model: original synocompositions for permanent exhibitions (not repurposed repertoire), co-creation mediated by structured audience insight (Community Muse Boards), and a mixed-method research design exploring both the process and its effects on visitors' experiences.

This is where participation becomes decisive—not as an “engagement activity,” but as a method that keeps museum-specific composition accurate, locally grounded, and operationally workable.

<sup>4</sup>Museum of Science and Technology Belgrade 2021 Three original synocompositions for whole museum space. Centar for applied music CAM <https://www.youtube.com/@centarzaprimenjenumuziku9128>

<sup>5</sup>Briana Brenner - University of Washington “Is music important to museum visitors? Understanding the impact of exhibition music on visitor experience” 2016)

<sup>6</sup>Background Music on the Experience of Museum Visitors: A Case Study of Laiho Memorial Museum, Taiwan” 2015).



# Participation Model

## **A methodological innovation in composing applied music for museums**

In Synomusic, participation is the mechanism that turns composition into museum-realistic practice. EUROMUSE applies a participatory model that remains uncommon in museum sound work: visitors are not treated only as recipients of interpretation, but as structured contributors to the creative process with clear roles, defined checkpoints, and responsibilities.

This is not public consultation or promotional engagement. It is a quality and relevance mechanism built into the composing workflow. Applied music for museums must align with factors that a written brief cannot fully capture: how visitors move, where they pause, what distracts them, how speech-heavy zones function, and which local references feel authentic rather than decorative.

## **EUROMUSE operationalises participation through a disciplined structure:**

Clear roles: museums provide curatorial meaning and spatial knowledge; composers retain authorship; community representatives contribute experiential insight and structured feedback.

Defined checkpoints: participation happens at specific moments (direction selection › prototype feedback › post-install reflection), so feedback remains actionable.

Research-mediated feedback: inputs are gathered through guided sessions and semi-structured interviews providing deeper insight into the participatory process.

Professional compatibility: composers make the final decisions, but decisions are informed by museum and audience reality.

When implemented correctly, this model produces long-term value: stronger local relevance in the sound layer, higher institutional confidence in managing sound as a curatorial asset, improved visitor comfort and inclusion, and a repeatable workflow that supports audience development beyond a single project. In EUROMUSE, this structure is implemented through Community Muse Boards (CMBs)—a stable support body for museum teams and a reliable feedback partner for composers.



# EUROMUSE Training Programme

To ensure that applied museum music can be implemented as a repeatable museum practice, rather than a one-off artistic intervention, EUROMUSE delivered a four-part training programme for museum professionals and composers. The trainings aligned the consortium around shared terminology, workflows, and quality standards, building practical capacity that museums can reuse and sustain beyond the project.

## **Training 1 – Building Community Muse Boards (CMB)**

- Audience: curators / education / community managers
- Purpose: how to recruit, facilitate, and maintain a functional participatory group; how to run structured feedback checkpoints and document insights.
- Reusable outputs: CM role definition, recruitment script, onboarding structure, meeting formats, checkpoint templates.

## **Training 2 – Research training for museum professionals**

- Audience: museum coordinators + research liaisons
- Purpose: how to collect visitor data systematically; how to compare baseline and music conditions where feasible; how to use qualitative tools (interviews, diaries, group discussions).
- Reusable outputs: basic research workflow, consent/ethics checklist, staff observation sheet logic.

## **Training 3 – Training for composers (Synomusic methodology)**

- Audience: selected composers (first time composing for museums)
- Purpose: loop discipline, zoning logic, acoustic sensitivity, CMB checkpoints, production readiness, and museum deployment constraints.
- Reusable outputs: composer brief template, demo-checkpoint logic (3 x 1-min sketches), residency workflow.

## **Training 4 – Audio content enhancement & digital channels**

- Audience: museum professionals (tech/communication/education)
- Purpose: how to integrate synocompositions across museum platforms—on-site playback, website, 3D/360 presentation, and selected immersive/extended formats—while keeping levels, credits, and maintenance consistent.
- Reusable outputs: technical readiness checklist, zoning/levels guidance, digital adaptation pack overview (web/3D/360).



# Implementation Tiers

A simple adoption ladder for museums (and funders) that want predictable scope, cost control, and measurable outcomes.

## **Tier 1 – Pilot (1 zone)**

- Scope: 1 priority zone; 1 loop-based synocomposition direction.
- Participation: small CMB-style group (5–10) for 2 checkpoints (direction + prototype).
- Tech: basic playback + zoning plan; calibrated levels; tour compatibility check.
- Evaluation: short visitor feedback (QR + staff observation).
- Outputs: pilot master + integration notes (zone, level, schedule).

## **Tier 2 – Standard (2–4 zones)**

- Scope: multiple zones + designed transitions; optional separation micro-segments for auditive dynamics.
- Participation: CMB checkpoints (direction › prototype › post-install).
- Tech: improved coverage/zoning; optional acoustic mitigation; mono + stereo masters.
- Evaluation: pre/post indicators + short survey; operational feasibility (staff workflow).
- Outputs: masters + zoning map + maintenance plan + credits/communication pack.

## **Tier 3 – Advanced (whole floor / whole building)**

- Scope: coherent auditory identity across major routes; multi-channel where feasible.
- Participation: expanded CMB programme; inclusion focus groups; curator-led sonic mapping.
- Tech: professional system design; monitoring; documented calibration protocol.
- Evaluation: mixed-methods + route/zone analytics; accessibility indicators; digital reach KPIs.
- Outputs: full documentation suite + digital adaptation pack (web/3D/360/VR/AR) + network benchmarking.

### **Selecting the right tier**

**Choose Tier 1 if: first time implementing museum sound; limited technical infrastructure; need fast proof.**

**Choose Tier 2 if: stable zones exist; staff can maintain settings; desire stronger audience outcomes.**

**Choose Tier 3 if: building-wide strategy is supported; technical readiness is high; evaluation is resourced.**



# Key Performance Indicators Framework

EUROMUSE uses Key Performance Indicators (KPIs) that capture visitor experience, inclusion, and operational feasibility. These indicators allow comparability across institutions while respecting museum-specific goals.

## A. Visitor experience

- Atmosphere & coherence: perceived unity of the visit; comfort of ambience.
- Attention / presence: reduced rushing; higher focus on exhibits; less distraction.
- Interpretation support: perceived clarity of narrative; smoother transitions between zones.
- Emotional profile: calmness vs stimulation aligned to museum mission (children/technology/heritage).

## B. Audience development & inclusion

- Accessibility comfort: feedback from disabled visitors (incl. visually impaired) on orientation, comfort, and cognitive load.
- Participation outcomes: CMB retention, diversity indicators, and quality of feedback check-points.
- Potential audiences: intention to return; likelihood to recommend; perceived relevance.

## C. Operational feasibility

- Tour compatibility: does sound interfere with speech or education programmes?
- Staff workflow: number of adjustments needed; clarity of responsibilities; maintenance stability.
- Sound ecology: sound bleed incidents; complaints; peak-hour performance.

## D. Digital communication KPIs

- Engagement with sound-enabled assets: 3D/360 time-on-page; video watch time; replay rate.
- Reach & conversion: click-through from digital to visit intent (where trackable).
- Consistency of credits and EU visibility across platforms (compliance KPI).

Minimum KPI pack for Tier 1 pilots

- 1) Short visitor QR survey (5–7 items)
- 2) Staff observation sheet (peak vs off-peak)
- 3) Tour compatibility checklist
- 4) Basic incident log (complaints / adjustments)

Recommended KPI pack for Tier 2–3

Add: pre/post measures, zone-based evaluation, inclusion focus groups, and digital analytics.

Optional: silent vs music comparisons where feasible.



# EUROMUSE Museums

**Three pilot museums, three distinct contexts – one shared framework for museum-specific sound**

EUROMUSE was implemented across three very different museum environments to test whether the same methodological framework can be adapted to contrasting audiences, collections, and acoustic realities. Each museum served as a living laboratory: hosting composer residencies, establishing a Community Muse Board (CMB), enabling audience insight activities, and ultimately integrating two original synomusic compositions into its setting.

Across the consortium, the museums share a common ambition: to develop an auditory identity that strengthens interpretation and visitor comfort while remaining operationally sustainable (daily use, manageable loudness, compatibility with tours and visitor flow).



# Explora! Il Museo dei Bambini di Roma (Rome, Italy)

Explora, the Children’s Museum of Rome, is a cultural space where exploration and play are transformed into an experience of growth and sharing. With its 2,000 square meters of interactive installations dedicated to Science, New Technologies, Environmental Sustainability, Gender Equality, Art, and Research, Explora offers a unique and innovative learning opportunity that fosters curiosity, motivation, and discovery in children.

The experience, characterized by the methodological approach of learning by doing and the deductive method of Inquiry-Based Learning, always offers new opportunities for play and discovery because it takes place in a stimulating, fun, and innovative environment.

Explora is a place of learning, therefore also an inclusive and accessible environment: the museum visit is designed to respect children’s time and choices, recognizing, even in situations of repeated and apparently identical actions, an important component for their development.

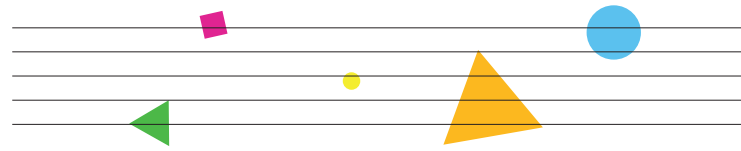
Explora develops a series of national and international projects with local, national, and European communities, building partnerships with public and private institutions.

## **Museum profile and audience**

Explora is Rome’s children’s museum: a space built around learning through play, designed primarily for children (0–11) and families, and grounded in interactive, hands-on engagement.

## **Why this museum matters for EUROMUSE**

Explora tests the EUROMUSE model in a high-energy, high-noise environment where exhibits, group visits, and active facilitation shape the soundscape. This makes it an essential pilot site for exploring if applied music can remain supportive and non-intrusive even when the space is acoustically “busy”.



### **Auditory identity (auditive image)**

Explora’s synomusic is designed as a calming, coherent layer that supports exploration and curiosity without adding fatigue—more “emotional navigation” than foreground listening.

### **EUROMUSE role and outputs**

Hosted a 7-day composer residency in April 2025; works were tailored to the museum’s atmosphere and audience.

World premiere presented via the EUROMUSE online concert format.


Composers for Explora: Maia Steinberg (Uruguay/Netherlands) and John Konsolakis/Kotsilakis (Greece).

Audio links (insert in publication)

Synomusic Track A (Explora): <https://euromuse.eu/maia-steinberg/>

Synomusic Track B (Explora): <https://euromuse.eu/john-konsolakis/>





# Kotsanas Museum of Ancient Greek Technology (Athens, Greece)

The Museum of Ancient Greek Technology (Kotsanas Museum) reveals the lesser-known genius of ancient Greek innovation. The exhibition showcases over 300 functioning models of inventions ranging from Philon's robot-servant and Heron's cinema to Ktesibios's automatic clock and the Antikythera Mechanism; spanning 2000 BC to the end of antiquity. Created by Kostas Kotsanas after 22 years of research based on ancient texts artworks and limited archaeological finds it is the world's most comprehensive and authentic reconstruction of Greek technology.

Its goal is to reveal how close ancient Greek technology came to modern engineering, introducing early versions of gears, pulleys, valves, robots automata and precision instruments. Interactive displays audiovisual guides and educational design engage visitors of all ages demonstrating that the foundations of modern technological civilization were laid by ancient Greek inventors.

## **Museum profile and audience**

The Kotsanas Museum presents ancient Greek technology through a large collection of working reconstructions—hundreds of operational models, including inventions associated with automation and the Antikythera mechanism. The visitor experience emphasizes demonstration, mechanics, and “how it works.”

## **Why this museum matters for EUROMUSE**

Kotsanas tests EUROMUSE in a context where the interpretive narrative is STEM-driven and object interaction is central. Here, synomusic must complement the sense of invention and discovery without competing with guided explanations or the cognitive load of interactive learning.



### **Auditory identity (auditive image)**

A museum of technology benefits from an auditory identity that feels mechanical-yet-human: rhythm as movement, texture as mechanism, and subtle transitions that unify multiple rooms into one “engineered” narrative arc.

### **EUROMUSE role and outputs**

Hosted the Athens residency and prototype-testing process; compositions were designed specifically for the museum’s exhibitions and spaces.

World premiere delivered as a live online concert (EUROMUSE channel model).

Composers for Kotsanas: Arianna Ferrara Gennari (Italy) and Jorge Ramos (Portugal).

Audio links (insert in publication)

Synomusic Track A (Kotsanas): <https://euromuse.eu/arianna-ferrara-gennari/>

Synomusic Track B (Kotsanas): <https://euromuse.eu/jorge-ramos/>





# The Museum of Prehistoric and Sacred Art of the Tagus Valley (Mação, Portugal)

The Museum of Prehistoric Art and Sacred Art in the Tagus Valley (The Mação museum) focuses on the origins of agriculture and art and the relevance of gesture in the constitution of humanity both for the formation of identities and for the projection of functional and artistic materialities.

The idea for the museum arose in 1943 following the important archaeological discovery in Porto do Concelho through an initiative by João Calado Rodrigues and with the support of the City Council. Following the discovery of rock engravings in the Ocreza River valley in 2000 the necessary reorganization and inventory were carried out as well as the outlining of a new program for the museum.

Museum's collections currently consists of approximately 6000 artifacts originating from surveys and excavations (with particular emphasis on records of rock art contexts and collections of lithic industries associated with the Tagus River fluvial deposits) and isolated finds of heritage value (especially from the Bronze Age). The documentary and ethnographic collection is equally important with particular mention of the Museum Centers dedicated to the ethnography of the Municipality of Mação.

## **Museum profile and audience**

The Mação museum is a heritage institution dedicated to prehistoric and sacred art of the Tagus Valley. It holds a substantial archaeological collection and is often positioned within a broader landscape of rock art, megalithism, and regional archaeology.



### **Why this museum matters for EUROMUSE**

Mação museum tests EUROMUSE in a context where heritage interpretation is tightly linked to place, deep time, and landscape memory. Synomusic here can function as a poetic interpretive layer supporting reflection, atmosphere, and slow looking/listening.

### **Auditory identity (auditive image)**

Mação's museum auditory identity is naturally suited to archaeological resonance: sparse textures, earthy timbres, and a sense of continuity that mirrors prehistoric time scales, music that feels "site-born," not imported.



## **EUROMUSE role and outputs**

Hosted residency and CMB-guided direction selection; works created specifically for the museum environment and its prehistoric landscape.

Featured as the focus of EUROMUSE Online Concert #3 (Apheleia programme context).  
Composers for Mação museum: Nataša Jevtić (Serbia) and Rafaelos Christofi (Cyprus).

Audio links (insert in publication)

Synomusic Track A (Mação): <https://euromuse.eu/natasa-jevtic/>

Synomusic Track B (Mação): <https://euromuse.eu/rafaelos-christophy/>



## **Conclusion**

EUROMUSE deliberately selected three contrasting environments: children's museum, technology museum, and archaeology/prehistoric heritage museum, to demonstrate that applied music can be:

museum-specific (rooted in narrative and space),  
audience-aware (calibrated to visitor behaviour and comfort), and  
operationally feasible (daily use, consistent loudness strategy, compatibility with tours and existing soundscapes).

This three-museum structure is also the foundation for EUROMUSE's next step: a broader, more comparable EUROMUSE Advanced, expanding tested scenarios and strengthening cross-site learning.



# Community Muse Board

## Community Muse Board in Your Museum

### A practical EUROMUSE model for participatory audience engagement

Community Muse Board (CMB) is a participatory support body that helps museum professionals involve local audiences in the creative process of developing museum-specific applied music. In each EUROMUSE museum, the CMB is formed as a group of volunteer visitors who contribute insights on atmosphere, interpretation, and visitor experience—providing structured feedback to composers throughout the process. Composers retain full artistic responsibility and make the final creative decisions, while CMB input functions as an evidence-informed, community-based reference point.

### What the CMB does

CMB members actively support the process through three core responsibilities:

#### 1) Music feedback (selection + constructive commentary)

CMB members listen to three short audio sketches prepared by composers and select the option that best aligns with the museum’s narrative and visitor experience, providing clear, constructive feedback.

#### 2) Ongoing feedback during development

CMB members participate in follow-up sessions during the creative process, commenting on evolving drafts and helping the team identify where sound supports interpretation—and where it may distract, overload, or conflict with the museum environment.

#### 3) Communication with the project team (alignment with goals)

CMB members contribute to a structured exchange with the research and coordination team, ensuring the participatory process remains aligned with project goals (e.g., inclusion, accessibility, engagement, audience development).



# How to establish a CMB (step-by-step)

## **Step 1 Appoint a Community Manager (CM) in your museum**

Select one staff member (curator, PR, education, marketing) to act as Community Manager, responsible for direct coordination with the CMB and day-to-day communication.

## **Step 2 Define museum needs and participation goals**

Clarify what your museum wants to achieve through participation, such as:

- engaging young audiences,
- improving accessibility and comfort for diverse visitors,
- strengthening inclusion and community ownership,
- enhancing interpretation and visitor flow.

## **Step 3 Recruit a diverse group through an open call**

Recruit participants from different social, educational, gender, and cultural backgrounds. The open call should explicitly encourage participation from groups such as youth, students, migrants, disabled visitors, and LGBTQ+ participants, and be promoted via digital platforms, local media, and broadcast outlets.

## **Step 4 Run an initial museum tour and onboarding session**

Provide participants with:

- a guided tour of the museum/exhibition,
- a clear explanation of EUROMUSE goals,
- a short overview of the tasks and timeline,
- participation and ethics basics (consent, respectful dialogue, privacy where needed).



# Timeline (example structure from EUROMUSE Phase 01)

Formation of CMB groups: Deadline – end of March 2025

Music feedback sessions: End of April 2025; 15 and 30 May 2025

Final meeting after music implementation: September 2025

Ongoing feedback and research coordination:

Throughout the process, research activities accompany the CMB work (short notes after each meeting and a final group interview). Detailed instructions and tools are provided separately by the research team.

## Working with composers

### **Residency program (7 days in the museum)**

Museums host composers for a 7-day residency, during which composers: engage with collections and exhibition narratives, study the spatial layout and visitor flow, meet the CMB for local cultural context and visitor perspectives, begin prototyping musical ideas inspired by the museum setting.

### **First music feedback (end of April 2025)**

At this stage, CMB members review three initial audio examples and select the preferred direction for further development—supported by structured commentary on mood, clarity, comfort, and interpretive alignment.

### **Sustaining community engagement after the project**

CMB is designed to outlive the pilot phase. Museums are encouraged to: keep CMB members involved in museum events and programs, develop long-term participatory formats (youth boards, community panels, co-creation workshops), use the CMB as a recurring feedback body for exhibition communication and audience development initiatives.



# Conclusion

The Community Muse Board (CMB) provides museums with a clear and scalable method for bringing the public into a structured creative process—without compromising artistic autonomy. By connecting museum professionals, composers, and communities through facilitated feedback and research tools, the CMB model strengthens audience ownership, supports inclusive practice, and helps museums develop sound-based interpretation as a durable institutional competence. Once established, the CMB can also evolve beyond a single project into a long-term participatory resource, supporting other creative and engagement-based museum activities while building a committed community of participants who may gradually become ambassadors of the museum’s mission, values, and public relevance.



# Case Study

## Establishing Community Muse Boards in EUROMUSE Museums

Community Muse Boards (CMBs) were established in the three EUROMUSE partner museums: Museo dei Bambini Explora in Rome, Museu de Arte Pré-Histórica in Mação, and the Kotsanas Museum of Ancient Greek Technology in Athens, as participatory groups of volunteer visitors who contributed to the development of museum-inspired musical compositions. Their role was to support museum professionals and composers through feedback, dialogue, and shared reflection, while final artistic decisions remained with the composers.



Community Muse Board of Museo dei Bambini Explora in Rome

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To support the formation of these groups, EUROMUSE organized dedicated training sessions focused on participatory artistic creation, audience development, community engagement, and inclusive facilitation. These trainings equipped curators and community coordinators with practical tools for building active and functional CMBs capable of contributing meaningfully to the creative process.

Each CMB brought together participants from diverse backgrounds, including artists, educators, cultural practitioners, musicians, and local residents. This diversity enabled multiple perspectives to inform the composers' work and strengthened the connection between the museums, their communities, and the artistic process. In this way, CMBs acted as an important bridge between public experience and creative production.



Community Muse Board of The Museum of Prehistoric and Sacred Art of the Tagus Valley in Mação

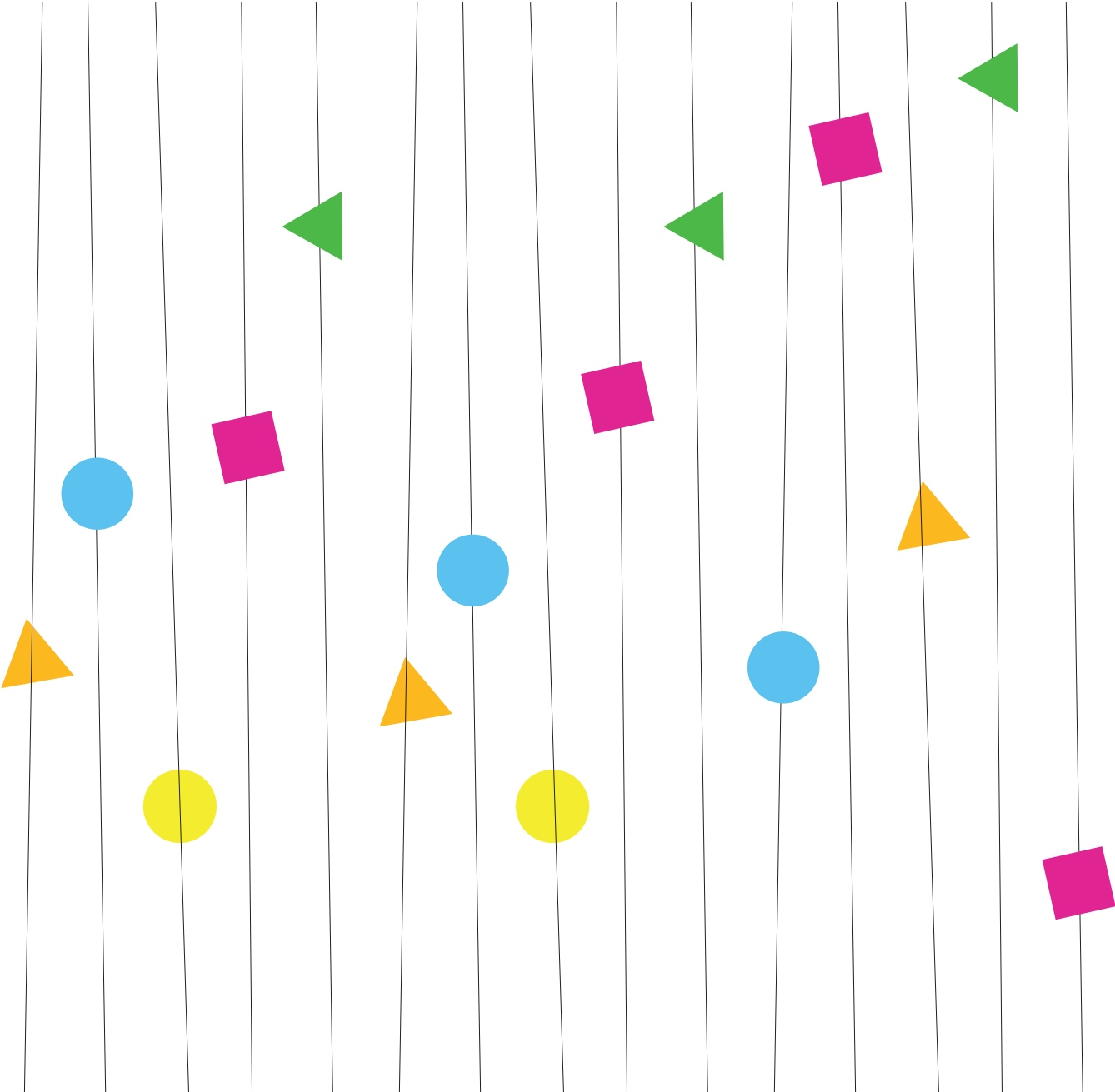


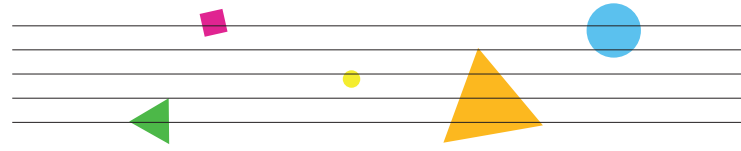
In Mação museum, the CMB engaged closely with composers through guided exhibition visits, discussion sessions, and exchanges rooted in local cultural heritage, including traditional musical references safeguarded in the community's living culture. In Rome, the museum developed the group through direct outreach to regular visitors, newsletters, social media, and collaboration with local music organizations, despite scheduling challenges related to the family profile of its audience. In Athens, the CMB was especially integrated into the seven-day composer residency, contributing local narratives, emotional associations, and feedback on sound sketches and spatial composition within the museum environment.



Community Muse Board of Kotsanas Museum of Ancient Greek Technology in Athens

Across all three museums, the CMB model proved valuable not only for the creative development of syncompositions, but also for strengthening community involvement, fostering audience ownership, and deepening participants' relationship with the museum. Members gained insight into artistic creation, contributed to the shaping of new museum experiences, and became active ambassadors of the EUROMUSE co-creation process.





# EUROMUSE MUSIC PRODUCTION

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# Open Call & Selection of Composers

To ensure artistic excellence, geographical diversity, and strong motivation for interdisciplinary museum work, EUROMUSE launched an international open call and implemented a transparent expert selection procedure.

## **Open call and outreach**

An international open call for composers was launched and promoted through a coordinated digital campaign across Europe, disseminated via professional media, social networks, and composer-oriented platforms, supported by the networks of the Center for Applied Music (CAM) and Greek Music Information Centre (IEMA).

- Campaign duration: one month
- Estimated campaign reach: 50,000+ people across Europe
- Applications received: 110 from composers representing 25 countries
- Open call video: <https://www.youtube.com/shorts/j0xafNV6l-g>



## **Selection procedure**

Selection was conducted by an international expert panel and evaluated applications on artistic quality, originality, professional background, motivation, and ability to engage in participatory, museum-based creative processes.

- Misha Cvijović — composer (CAM)
- Kostas Moschos — composer (IEMA)
- Aleksandar Vl. Marković — president (CAM)
- Nastasia Beikof — musicologist (IEMA)



## Selected composers

Following a competitive evaluation process, six composers were selected for EUROMUSE Phase 01.



Maia Steinberg — Montevideo, Uruguay



Rafaelos Christofi — Nicosia, Cyprus



Jorge Ramos — Braga, Portugal



Arianna Ferrara Gennari — Bologna, Italy



Natasha Jevtić — Vranje, Serbia



John Konsolakis — Athens, Greece



### **What selected composers received**

- Expert-led online training sessions
- Seven-day creative residency at the assigned museum venue
- Participatory online workshops with museum representatives and Community Muse Boards (CMBs)
- Composing and production period (dates: two month)
- Visibility pathway: EUROMUSE online concerts and EUROMUSE Volume 01 album release
- Commposers Press kit: [https://euromuse.eu/composers\\_euromuse/](https://euromuse.eu/composers_euromuse/)





# Training for Composers

To support high-quality artistic outcomes and ensure museum-realistic implementation, EURO-MUSE delivered a dedicated training package for the six selected composers. The training introduced the project methodology, aligned expectations for composing music for museums for the first time, and prepared composers for residencies, participatory feedback with Community Muse Boards (CMBs), and the subsequent production workflow.

## **Why this training was essential**

All participating composers were composing for museums for the first time, so the training established a shared professional baseline. It provided them with a clear methodological framework and practical reference cases drawn from museum practice. At the same time, it connected artistic decision-making to the real conditions of museum spaces, including acoustics, visitor flow, guided tours, and the demands of long-term daily playback

## **Two music organisations, one shared objective**

EUROMUSE composer training was strengthened by the collaboration of two specialised music organisations: the Center for Applied Music (CAM) and Greek Music Information Centre (IEMA). Together, they provided complementary perspectives: CAM contributed museum-specific methodology and practical case-based experience in applied music, while IEMA provided technical and structural guidance for making museum music sustainable, repeatable and compatible with diverse playback systems.



## **Training focus areas**

- Methodology: composing as a curatorial layer linked to exhibition narrative and spatial choreography.
- Format: long-form pieces designed for seamless looping without obvious repetition.
- Participation: integrating CMB feedback checkpoints while preserving composer artistic autonomy.
- Residency readiness: on-site observation, curator briefings, acoustic mapping and documentation.
- Implementation constraints: volume discipline, coexistence with guided tours and exhibit sound, system compatibility.
- Dissemination: preparing works for online concerts and album release as part of EUROMUSE outputs.

## **From training to implementation: the EUROMUSE composing pathway**

Rather than treating training as an isolated event, EUROMUSE positioned it as the entry point into a complete creation chain—from open call selection to residency immersion, participatory refinement, production finalisation and museum deployment. This ensured that each composer’s artistic intent could translate into a stable museum-ready outcome.

## **Applied music beyond the museum walls**

Training materials also framed museum compositions as assets for extended digital communication: web presentation, 360/3D content, and other formats that allow museums to disseminate experience beyond the physical visit. This perspective supported EUROMUSE’s goal of developing a scalable model for museums across Europe and internationally.

## THE APP: EXPLORATIONS IN AUGMENTED REALITY

The augmented reality app "Augmented Berlin" complements the project's other components and explores life in the underground of wartime Berlin, offering an immersive experience on smartphones or tablets. Beginning on 8 May 1945 amidst the ruins of Berlin's Pariser Platz, the app takes users on a journey through time to the year 1933. Recounting the stories of Karin Friedrich (a member of the "Uncle Emil" resistance group) and Jizchak Schwersenz (a Jewish teacher who survived in the underground), users can trace the gradual exclusion of Berlin's Jewish citizens from public life, through to their deportation from 1941 onwards.

The app will be released in the [Apple App Store](#) and [Google Play Store](#) during the digital theme week.



Example of applied music in extended digital contexts (Augmented Reality reference). Misha Cvijovic composer.

### Museum realism: composing for real acoustic and audience conditions

A central lesson of the training was that museum music must survive real conditions: visitors move, talk, gather in groups; guided tours and educational programmes run in parallel; and each venue has distinct acoustic behaviour. Composers were therefore encouraged to think in zones and transitions, manage density and loudness carefully, and design music that supports attention and comfort rather than competing for dominance.

### Outputs enabled by the training

- Clear artistic and technical briefs for residencies in Rome, Athens and Mação.
- Comparable working method across six composers and three museum settings.
- A consistent workflow supporting CMB feedback, production preparation and later museum installation.
- Stronger readiness for EUROMUSE online concerts and EUROMUSE Volume 01 album.



Macao Museum-space context (example exhibition environment).



# Creative Residences for Composers

## **How a synocomposition is “born” inside a museum (a model other museums can reuse)**

In EUROMUSE Phase 01, the creative residences were the point where Synomusic moved from concept to museum reality. Instead of composing “from a distance,” composers worked inside the museums: walking the routes, listening to the building, observing visitors, and learning the curatorial logic behind the collection. This matters because a synocomposition is not written for headphones or a concert hall. It must function as a daily museum asset: loop-ready, non-intrusive, compatible with tours and education, and stable across changing visitor density and noise conditions. A residence is therefore not “artist inspiration time” in a romantic sense, it is a field method. The museum becomes the composer’s instrument: its acoustics, thresholds, materials, activity patterns, and interpretive rhythm define what will work (and what will fail) once the music is installed.

## **The residence format (simple, repeatable, scalable)**

- When: 1–15 April 2025
- Where: Rome (Museo dei Bambini), Athens (Kotsanas Museum), Mação (Museu de Arte Pré-Histórica e do Sagrado no Vale do Tejo)
- Who: 6 selected composers (two assigned to each museum)
- How long: 7 days on site per composer/museum
- Goal: develop museum-specific musical direction and material that can become a permanent synocomposition: prepared for production, installation, and long-term maintenance.

## **What happens during a residence (the Synomusic workflow in practice)**

Each residence followed a clear process that any museum can replicate:

### **1. Curatorial briefing + guided walkthrough**

The museum team shares narrative priorities, key objects, sensitive zones, educational routines, and visitor profile. This turns “museum content” into a usable compositional brief.

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## 2. Acoustic and soundscape mapping

Composers identify reflective areas, noise peaks, sound-bleed risks, and “speech-heavy” points. This step is essential because many musical ideas that work in a studio collapse in reverberant or crowded rooms.

## 3. Visitor-flow observation (real-life choreography)

Where do visitors stop? Where do they speed up? Where do groups form? Where do children gather? This observation directly informs structure, transitions, density, and level strategy.

## 4. CMB interaction (participatory checkpoint)

Community Muse Board members bring local insight and structured feedback—helping composers anchor their ideas in place and audience reality. This is where “local texture” enters the work in a concrete way.

## 5. Material capture and sketching

Composers may collect field recordings, object-related sounds, and local sonic references, then test how these materials behave in the museum context (always with restraint and interpretive purpose).

## 6. Documentation

Photo/video/audio notes are captured for production decisions, installation planning, and dissemination (3D/360 presentation, documentary, digital platforms).

## Three museums, three different composing logics

EUROMUSE selected contrasting museums on purpose to explore that one framework can produce different, mission-aligned outcomes.

### Rome — Explora (children’s museum / high energy / high noise)

Composers: Maia Steinberg (Uruguay / Netherlands), John Konsolakis (Greece)

The core challenge here is sensory density. The museum is lively, often loud, and full of overlapping stimuli. Synomusic must support curiosity and play without adding fatigue especially for accompanying adults.





The residence work emphasised careful layering, softer attacks, and integration strategies that remain stable during crowd peaks. In this context, technical decisions (zoning, speaker proximity, level discipline) are as important as composition.

### **Athens — Kotsanas (technology museum / demonstrations / multiple rooms)**

Composers: Arianna Ferrara Gennari (Italy), Jorge Ramos (Portugal)

In a museum of ancient technology, sound is already part of meaning: mechanical logic, demonstration rhythm, guided explanation. Synomusic works best as narrative glue—connecting rooms and reinforcing coherence without competing with interpretation. Residencies here tend to focus on transitions, tone consistency across zones, and balancing with existing exhibit sounds and speech.



### **Mação — archaeology/heritage / deep time / place identity**

Composers: Natasa Jevtić (Serbia), Rafaelos Christofi (Spain/Cyprus)

This environment supports a different function: reflection, continuity, and cultural memory. Residencies in Mação naturally connect to local context, landscape, and intangible heritage. Synomusic can become a subtle “deep time” layer supporting contemplation and identity rather than stimulation. Here, participation is often especially valuable for anchoring the work in local living culture.



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## **Why residences matter for museums (the concrete benefit)**

Residencies deliver three strategic advantages that make the model attractive for adoption:

- True site-specificity  
The music is shaped by the real space—acoustics, thresholds, visitor rhythm—rather than an abstract mood brief.
- Institutional capacity building  
Museum teams gain practical knowledge: how sound is planned, tested, calibrated, and maintained as a long-term curatorial asset.
- Local relevance with artistic integrity  
CMB and curators add essential local insight, while composers retain authorship and final decisions—keeping quality high and roles clear.

## **A mini “recipe” for any museum that wants to try it**

A museum does not need to start with a full-building intervention. The safest entry point is a pilot:

- pick one or two priority zones (start small, learn fast),
- form a small CMB-style group (5–10 people) for 2–3 checkpoints,
- host a short residency (7 days, or two shorter visits),
- complete acoustic mapping + zoning plan before final mastering,
- document settings and maintenance so sound remains stable after launch.

This is the practical logic behind EUROMUSE: not only producing six compositions, but proving a repeatable model that other museums can apply adapted to their mission, audiences, and acoustic realities.



# Studio Production

Following the composition and residency phase, EUROMUSE entered its music production stage where artistic ideas were translated into final, release-ready audio. This phase focused on achieving both technical excellence and a coherent sonic identity across six distinct works, without compromising each composer's individual voice.

## Production in one sentence

EUROMUSE music production turned six museum-specific compositions into a unified, professionally finished body of work through a structured workflow of editing, mixing and mastering optimized for both museum playback and public dissemination.



Music production phase — studio workflow and technical finalization (EUROMUSE).

In museum environments, sound is experienced differently than in concert halls or personal headphones. The same piece may be heard at low volume, through diverse speaker systems, in reverberant rooms, and alongside speech, guided tours and visitor movement. For that reason, production is not a purely technical step, it is part of the curatorial responsibility of museum music: clarity, comfort and consistency are essential for long-term daily use.

### **Collaborative workflow**

The production stage was implemented as a collaborative chain between composers, the EUROMUSE project manager, and the Master Studio team. Each composer remained artistically involved while benefiting from professional production expertise, ensuring that the final results preserved intent and gained technical strength.

- Kick-off briefing: each composer introduced the concept, narrative intention and technical needs (instrumentation, sound design, spatialization).
- Materials transfer: composers delivered organized stems and a proposed mix in standardized formats (e.g., 44.1 kHz / 24-bit).
- Iterative review: draft versions circulated through listening sessions and feedback rounds at editing, mixing and mastering stages.
- Project coordination: the project manager ensured timelines, documentation and cross-piece consistency.



Communication and revision loops – composers, production team, and project coordination.



## Production stages

### 1) Editing: preparing a clean foundation

Editing focused on technical precision and structural readiness. Tracks were inspected for clicks, noise, and digital artifacts; timing issues were corrected where needed, and transitions were refined to support seamless looping and stable daily playback. Session backups and archives were created to ensure traceability and long-term preservation.

### 2) Mixing: shaping a coherent museum sound

Mixing formed the artistic heart of production. The goal was to preserve each composer's identity while aligning all works with an EUROMUSE reference profile: controlled dynamics suitable for public space, balanced frequency response, and consistent loudness. Spatial effects (reverbs, delays and depth design) were used to support the impression of museum space without overwhelming visitors.

After each draft mix, composers reviewed balance, spatial impression and emotional tone, typically resulting in one or two revision rounds per piece. This feedback loop transformed the studio process into co-creation rather than post-production.

### 3) Mastering: unity, clarity, and context adaptation

Mastering unified the full collection. Each piece was analysed for loudness, dynamic range and tonal balance so that the album could be heard as a coherent journey. Importantly, mastering decisions considered museum playback conditions: the music needed to remain clear at low volume and across different sound systems.

## Museum-specific mastering choices

Two mastering variants were prepared: (1) spatialized masters and (2) mono masters, allowing museums to choose depending on their equipment.

Final deliverables were produced in multiple formats: uncompressed WAV masters and compressed high-quality files suitable for everyday deployment.



## **Deliverables and archive**

The production phase resulted in a standardized, professionally finished set of six works prepared for museum installation, online concerts, and the EUROMUSE Volume 01 release. A complete continuous file combining all compositions was also prepared for reference and internal workflow.

- Six compositions: final production-ready masters (WAV + deployment formats).
- Museum-ready variants: spatialized and mono masters (equipment-dependent).
- Project archiving: session backups and traceable file organization.

## **Training for museums (audio readiness)**

To support sustainable implementation, EUROMUSE also delivered targeted guidance for museum teams on suitable audio equipment and technical parameters. This ensured that the compositions could be deployed responsibly—matching the project goals and the practical realities of each venue.

## **Conclusion**

EUROMUSE music production was the culmination of the project's artistic chain: it transformed residency-based creative concepts into polished, durable works with a unified sonic identity. Beyond technical finishing, the production phase demonstrated how European collaboration can translate multiple artistic voices into sustainable cultural outcomes ready to resonate in museum spaces and across digital dissemination channels.



# Euromuse music album Volume 01





# EUROMUSE Key Learnings for Synocompositions in Museums (music management view)

Practical guidance derived from EUROMUSE: what worked, what did not, and what museums and composers should prioritise when developing permanent applied music for exhibitions.

## **Why this matters**

EUROMUSE explored the full chain: preparation › composing › participatory feedback › production › installation › evaluation.

Museum music succeeds when composition, acoustics, visitor behaviour, and technical deployment are treated as one integrated system.

## **Synomusic methodology (the composing framework)**

EUROMUSE treats composition as an end-to-end museum workflow, not a stand-alone artistic act. This is essential because a synocomposition must work as a daily, long-duration asset inside a real acoustic ecosystem (tours, speech, exhibit sounds, visitor density). The methodology below is presented as an adoption template for any museum joining the network.

## **The nine stages of museum-specific composing**

- 1) Investigate the collection and exhibits: identify interpretive cues and ‘acoustic exhibits’ that can become sound accents.
- 2) Investigate the acoustics and audio system: define suitable textures and production sound based on reverberation and crowd/noise patterns.
- 3) Compose and define exhibit-related audio samples aligned with themes and visitor route (object sounds, field recordings, sonic motifs).



- 4) Define duration and loop logic aligned with visitor pace (typically 15–60 minutes; longer for multi-room routes).
- 5) Define instrument sound and timbral palette: contemporary soundscape logic, with careful historic references when appropriate.
- 6) Studio recording of musical segments and sound materials (including exhibit/environment recordings).
- 7) Production: mixing/mastering tailored to museum playback (clarity at low volume, controlled high frequencies).
- 8) Implementation, testing and synchronisation in the museum space (channel balancing, zone checks, transitions).
- 9) Re-calibration and maintenance plan: museum-ready documentation so the installation remains stable over time.

### **1) Composition structure is decisive**

EUROMUSE emphasized the high importance of the internal structure of a permanent syno-composition. The piece must be designed for long-duration daily listening: stable, non-intrusive, and able to loop seamlessly without audible “start/end” cues.ytd

- Design for a 15–20 minute loop (or aligned to average visit duration), with continuity that prevents perceived repetition.
- Avoid dense narrative ‘always-on’ writing: long narrative passages without clear musical breathing space can reduce perceptual comfort and attention over time.
- Use micro-variation (timbre, register, subtle rhythmic drift) to keep interest without foreground demand.
- Plan “musical pauses” (low-activity passages) as part of the structure to support continuous listening.

### **2) Acoustics and noise level shape the composition**

A synocomposition is not completed in the studio. Its effectiveness depends on the museum’s acoustics, visitor flow, and baseline noise. EUROMUSE reinforced that acoustic conditions must influence orchestration, density, and frequency balance.

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- Map reverberation and reflections; in reflective rooms, avoid sharp attacks and excessive high-frequency density.
  - Compose for low-volume clarity: museum playback often runs at conservative levels to coexist with speech and guided tours.
  - Treat visitor noise as part of the soundscape; design textures that remain stable under fluctuating crowd dynamics.
  - Re-check the piece in situ and adjust balances after installation (levels, EQ, transitions).

### **3) Technical audio readiness of museums matters**

EUROMUSE highlighted a practical reality: the best composition will fail if playback is unstable or poorly zoned. Technical capacity is part of the artistic outcome.

- Audit the existing audio system early (speaker placement, coverage, noise floor).
- Use zoning wherever possible to prevent sound bleed across unrelated areas.
- Prepare delivery variants when needed: spatialised master (multi-channel) and mono master (simple systems).
- Document integration settings so the museum can maintain the work long-term.

### **4) Participation works when it is structured (CMB + curators)**

EUROMUSE emphasized the value of participatory input from CMB members and curators—especially for adding local texture that connects place, collection identity, and composer inspiration—when the process is structured and roles are clear.

- Use CMB sessions at defined checkpoints (direction selection, prototype feedback, post-installation reflection).
- Keep authorship clear: CMB informs direction; composers retain final creative decisions.
- Curator participation is essential for narrative alignment and for identifying sensitive zones.
- Capture feedback in a repeatable format (short forms + guided discussion) to avoid anecdotal drift.

### **5) Authentic sounds and instruments increase relevance**

EUROMUSE supported the value of integrating authentic references: original sounds, materials and (where appropriate) instruments connected to the period or context of the exhibits. These references deepen interpretive credibility without requiring literal historical imitation.



- Use field recordings and object-related sounds as subtle accents, not theatrical effects.
- Integrate historical instruments creatively; avoid pastiche focus on resonance and meaning within a contemporary language.
- Place recognisable references strategically (entry zones, transitions, focal exhibits) to avoid over-use.

## 6) Add micro-structure for auditive dynamics

A single continuous layer can become perceptually flat. EUROMUSE suggests that short separation segments—alongside the core synocomposition—can support auditive dynamics while maintaining a minimalist base layer for all-day listening.

- Maintain a strict minimalist base layer for continuous daily playback.
- Add optional short separation segments (very brief, low-level) to articulate zones or transitions.
- Ensure additional segments are consistent in loudness and do not interrupt visitor comfort.

## Quick checklist for museums and composers

### Before composing

- Confirm museum goals (comfort, orientation, interpretation, mood).
- Map zones and acoustic constraints; identify speech-heavy areas.
- Agree on deployment (multi-channel / stereo / mono) and loudness strategy.

### During composing

- Design for loop, micro-variation and musical breathing space.
- Test early drafts against museum reality (noise, tours, visitor density).
- Use CMB and curator checkpoints to validate direction and local relevance.

### Before installation

- Prepare masters in required formats (spatialised + mono if needed).
- Provide integration notes and a maintenance plan.
- Run an on-site listening session with staff and adjust levels.



# EUROMUSE RESEARCH

This chapter is adaptation of the full research report prepared by the CAM research team.

More details on the research: [https://euromuse.eu/euromuse\\_research/](https://euromuse.eu/euromuse_research/)





# EUROMUSE Research Highlights

Research findings point toward a broader shift in how music is conceptualized in museum contexts.

Rather than functioning as a decorative or supplementary element, music emerges as a form of sonic mediation, shaping the relationship between visitors, space, and heritage.

At the same time, the specific function of music is highly dependent on context. In Kotsanas Museum case, it primarily supports orientation and accessibility; in Museo dei Bambini, it contributes to regulation and modulation of a complex sensory environment; and in Museum Mação, it reinforces identity, memory, and connection to local heritage. These variations demonstrate that the role of music cannot be generalized but must be understood as situated and relational.

Participatory processes further enhance this dynamic by ensuring that musical interventions are both contextually grounded and socially meaningful. By involving community members and diverse user groups, museums not only improve the design of sonic environments but also foster a sense of inclusion and co-ownership.

Finally, the inclusion of visually impaired participants highlights the dual role of music as both the crucial element in connecting otherwise disconnected pieces of experience, and the contributor to accessibility of museums resources. Their perspectives reveal limitations in existing practices while also pointing toward new possibilities for multisensory and audio-based design.

## **Practical recommendations based on the research results**

The importance of context-sensitive sound design cannot be overstated. Music should not be treated as a transferable or generic solution, but rather as a site-specific intervention that responds to the spatial, institutional, and audience characteristics of each museum. This intervention includes careful consideration of exhibition typology, visitor flow, and the overall sensory environment. Early-stage analysis of these factors can significantly improve the alignment between the music and the intended visitor experience.

The acoustic conditions and technical implementation play an important role in how music is perceived. The Museo dei Bambini case, in particular, demonstrates that even well-designed compositions may lose their impact if sound levels, speaker placement, and ambient noise are not adequately addressed. Museums are therefore encouraged to invest in acoustic planning, includ-

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ing testing different sound zones, adjusting volume levels across spaces, and, where necessary, introducing sound-absorbing materials to reduce auditory clutter.

Participatory approaches should be considered a core component of sound-based interventions. The involvement of community members, as demonstrated through CMB groups, not only enhances the relevance and quality of musical compositions but also fosters a sense of ownership and inclusion. Museums are therefore encouraged to integrate participatory formats (e.g. workshops, consultations, or iterative feedback sessions) throughout the development process, rather than limiting them to a single stage.

The integration of music should be aligned with broader strategies of multisensory accessibility. Insights from visually impaired participants highlight the potential of sound to support orientation, navigation, and interpretation. However, this potential can only be fully realized when combined with other accessibility measures, such as tactile elements, audio descriptions, and clear spatial cues. Developing audio-based guidance systems and enhancing sound cues for navigation can significantly improve the experience for visually impaired visitors, while also benefiting wider audiences.

Staff training emerges as a critical factor in ensuring inclusive and effective implementation. Museum staff should be equipped not only with technical knowledge about sound installations, but also with an understanding of how different visitor groups perceive and interact with multisensory environments. Training programs that address accessibility, communication, and user support can substantially enhance the overall visitor experience.

Museums should adopt an iterative and flexible approach to sound integration. Visitor feedback (both formal and informal) should be continuously collected and used to refine sound design over time. As demonstrated across the case studies, perceptions of music may change depending on context, audience composition, and even time of day. Ongoing evaluation therefore allows museums to adapt and optimize sonic environments in response to real use conditions.

# EUROMUSE Research: Problem, Method, Main Learnings

## 1) What did the research set out to explore?

We designed EUROMUSE research to learn more about the place of original applied museum music i.e. synomusic as the permanent element of exhibition design.

We wanted to explore the effects of music on multiple dimensions of visitors' experience to find out more about 'how' music becomes a meaningful part of the exhibition design and not just 'if' it works.

Previous research showed that in museums with high baseline visitor satisfaction<sup>7</sup> the impact of additional interpretative elements, such as music, may not be visible through the simple metrics of change in the overall visit satisfaction score. For this reason, in addition to overall satisfaction, we placed our emphasis on several different dimensions of visitor experience, such as emotional experience, mindfulness, and memory —as primary channels through which synomusic has been expected to exert its effects.

Specifically, in the EUROMUSE research we planned to explore:

What are the effects of participative processes i.e. collaborations between composers, curators, and visitors (Community Muse Boards-CMB), on the music compositions? What are the similarities and context-specific effects in three museums?

What are the effects of synomusic versus no music on visitors' experience in different museum contexts? Are there any similarities and context-specific effects in this sense?

## 2) What research methods did we use?

We used mixed research methods, qualitative and quantitative, to capture the richness of lived experiences in the three different museums, but also to explore the measurable effects of music on the large groups of visitors.

With qualitative methods we aimed to capture the rich processes, the creation of meaning and collaboration in different museum target groups.

We interviewed 4 curators and 6 composers to explore creative decision-making and institutional perspectives in the process of creating compositions.

<sup>7</sup>Zhao, X., and Mao, R. (2023), 'Are Visitors' Satisfaction Reliable? A Perspective from Museum Visitor Behavior', *Museum Management and Curatorship*, 1–17; Jokić, B., Marković, A.V. and Luković, I. (2022). 'Effects of Applied Music Originally Composed for Museums on Visitor Experience: Results of a Pilot Study in the Museum of Science and Technology in Belgrade', *Kultura* 177: 111–131.

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We had 32 dedicated museum visitors organised in Community Muse Boards (CMB), writing diaries and taking part in group discussions to capture the audience's input on creating compositions and participatory dynamics.

We interviewed the group of 23 blind and visually impaired museum visitors to better understand their experience, the accessibility and multisensory engagement, in the context of the EUROMUSE project.

In quantitative research we wanted to observe, measure and compare multiple indicators of visitors' experience.

We administered exit surveys to the total of 1337 visitors in silent and music test conditions in the three museums (including 474 parents of children in Museo dei Bambini)

We administered cognitive tasks to 45 children aged 3 to 15 in Museo dei Bambini

EUROMUSE explored the synomusic effects in contrasting environments:

Kotsanas Museum of Ancient Greek Technology, Athens (ancient technology museum, demonstrations and interactive narrative, large city context)

Museu de Arte Pré-Histórica e do Sagrado do Vale do Tejo, Município de Mação (heritage/archaeology, reflective pacing, smaller town context)

Explora! Museo dei Bambini, Rome (children's museum, high activity and layered noise, large city context)

### **3) Main Learnings**

The EUROMUSE research design proved to be a fertile basis for exploring the potential of synomusic to shape visitors' experience in the museum contexts.

By applying a shared methodological framework across three museums differing in national context, city size, institutional profile, and audience structure, we were able to identify both the shared patterns and the context-specific effects.

While shared patterns uncovered important learnings about the common framework to be used, each case study also revealed the distinct orientations in the effects of synomusic shaped by the institutional context, spatial conditions, and audience characteristics.

#### **3.1 Shared patterns across contexts**

In all three museums, qualitative studies showed that target groups expressed similarities in line with their specific roles in the EUROMUSE project:



Curators expressed the tendency to frame music in relation to institutional objectives, such as audience engagement and program development.

Composers, on the other hand, approached it as a process of translating spatial and contextual constraints into sound, negotiating between artistic intention and external requirements.

CMB members primarily engaged with music at the level of meaning-making and evaluation, drawing on personal experiences, cultural knowledge, and community perspectives + they highlighted the value of the participation process as a meaningful contribution that fostered a sense of connection to the final outcome.

Visually impaired visitors, while recognizing the role of music in contributing to a coherence and continuity across the museum space, also emphasized its functional and sensory dimensions in terms of clarity, orientation, and accessibility.

Importantly, the perception of synomusic and its role in the museum had some similarities in all three museums and across all target groups.

Music was not perceived as a central interpretive layer, but rather as a supportive and integrative component of the museum experience. Participants repeatedly described music as something that enhances atmosphere, introduces a sense of continuity, and contributes to a more coherent and immersive experience of space. Importantly, its effectiveness was associated with its non-intrusive character, suggesting that its role lies in subtly shaping perception rather than demanding focused attention.

“Music can be used to create a more enjoyable and pleasant atmosphere in the museum.”  
(Museo dei Bambini, Rome, Project Manager)

“I think that music really contributed to improving the atmosphere in the museum. It is more articulated now.” (Kotsanas Museum, Athens, curator)

There was a strong convergence around the idea that music must be carefully adapted to the specific context of each museum. Across all groups, participants emphasized that music cannot be generic and must respond to spatial conditions, institutional missions, and audience profiles. This insistence on contextual fit points toward an emerging understanding of music as a situated practice, closely tied to the characteristics of a particular environment.

“The compositions often blend seamlessly with the environment. Here in the Museum, we realized that we need to balance sound layers. Implementing sound panels could improve acoustics...” (Museo dei Bambini, Project Manager, December 29th, 2025)

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“When we talked with visitors, some found it agreeable and relaxing, while others didn’t notice the music. That I find important because it shows how well music blended into the atmosphere. It almost became artefact.” (Museum Maçao, curator, January 19th, 2026)

Synomusic was also consistently discussed in relation to multi-sensory engagement. Rather than being treated as an isolated auditory layer, it was understood as part of a broader sensory environment that includes touch, movement, and spatial perception. This is particularly evident in the accounts of visually impaired visitors. Music thus emerges as a component of a multisensory ecology, contributing to how visitors navigate, interpret, and emotionally engage with exhibitions.

“The music creates harmony and emotional balance within the space. It appears to soften the intense mechanical sounds of certain exhibits and contributes to a calmer visitor flow.” (Kotsanas Museum, Diarist 1, Meeting 3)

“Continuing to focus on multisensory experiences will make it even more inclusive in the future.” (Kotsanas Museum, Visually Impaired FG, Participant F)

What if effects remain below detection thresholds? The note about contextual and methodological factors

Because museum visits were already highly pleasurable experiences; no increase in satisfaction levels was observed in the music versus silent condition. Furthermore, unlike the pilot study in the Museum of Science and Technology Belgrade (Jokic, Markovic & Lukovic, 2022), EUROMUSE study showed no significant effects of synomusic on visit duration (time between entry and exit) or memory (number of exhibits recalled after the visit).

These findings can be explained in part by the contextual and methodological factors affecting the measures, including variations in the visit formats (individual vs. group), scheduling constraints, seasonal influences, and differences across museum settings. The memory readings may have also been sensitive to factors such as fatigue, motivation, and the broader context of visits (e.g. organized tour settings that included multiple activities within a single day).

Dwelling deeper to explore the experience of museum visitors in our survey, we found out that all other parts of their experience are indeed strongly contextually influenced, meaning that the music and its effects differed between museums in interesting ways. So, what became visible when we interviewed the composers, the curators and the visitors-members of CMBs, surfaced again in



our exploration of a large group of museum visitors. Therefore, now we move forward to discuss the multitude of context-specific patterns revealed in the EUROMUSE study.

### 3.2 Context-specific patterns

In the Kotsanas Museum case, the role of music was most strongly articulated in relation to accessibility and spatial orientation. Visually impaired participants, in particular, emphasized how music contributes to structuring the experience and supporting navigation within the museum. Although the museum was already perceived as partially accessible due to tactile elements and Braille materials, participants highlighted the potential of sound to further enhance independent navigation and cognitive mapping of space.

“Music helped me feel more oriented in space and made the environment feel more complete.” (Kotsanas Museum, Visually Impaired FG, Participant G)

“It [music] added a sense of flow while moving through the space.” (Kotsanas Museum, Visually Impaired FG, Participant C)

The Museum Macao case, by contrast, foregrounds music’s role in relation to heritage, collective memory, and community identity. Both CMB members and focus group participants emphasized the importance of local traditions, environmental sounds, and intangible cultural heritage. Music was perceived as deeply embedded in the cultural context of Maçao and the Tejo Valley, particularly through references to local practices such as Alvoradas tradition. Participants described how music enabled a sense of temporal immersion, transporting them to the past and fostering reflective engagement with the exhibition. In this case, music functions less as a navigational or regulatory tool and more as a carrier of cultural meaning and collective memory.

“It was suggested to bring the adufes and the mortar and pestle, since these are played at the Feast of Santa Maria during the Alvoradas, which are very old chants.” (Museum Maçao, Diarist 3, Meeting 1)

“I think that it connects us with Maçao. And I think they connect us with space, with the Museum. There’s a connection there... there’s a different feeling if we don’t have sound, if we don’t have music.” (Museum Maçao, Group discussion, Participant R)

The Museo dei Bambini case is defined by the challenges of implementing music in a highly dynamic, interactive, and acoustically complex environment. Museo dei Bambini is characterized

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by constant activity, movement, and noise, which significantly shape how music is perceived. Moreover, given that children are the primary audience, a specific methodological approach was implemented to capture the experiences of both children and accompanying adults.

An experimental study assessed the effects of auditory conditions on children’s cognitive functioning<sup>8</sup>. Unlike the survey-based components of the project, this study focused directly on children and used performance-based measures, which are more appropriate for younger participants. The study involved 45 children (aged 3–15) and was conducted in the museum under controlled conditions (same room, lighting, time of day, and research team). Children performed an attention task (NEPSY-II A1 subtest) under three different auditory conditions: silence, originally composed museum music, and a 40 Hz sound condition introduced as an exploratory element. Results suggest that auditory stimulation can support attentional performance, with higher scores observed in both the music and sound-stimulation (40 Hz) conditions compared to silence, although differences for the music condition did not reach statistical significance. These results point to the potential of sound to facilitate cognitive engagement, while also indicating that its effects in complex, high-noise environments remain subtle and dependent on contextual factors.

Project manager and CMB members (parents of children visiting the museum) on their behalf focused less on the conceptual role of music and more on technical and spatial considerations, such as volume, sound distribution, and acoustic conditions. Participants (particularly visually impaired visitors) highlighted the difficulty of perceiving music amidst background noise, while also recognizing its potential to regulate the atmosphere. As a result, music is understood as a tool for modulating energy and structuring experience, especially in relation to children’s behavior and engagement.

“As we are a children's museum, of course it is still noisy, but we, who work here, noticed a shift towards more articulated ambience. It feels more focused on exhibition segments and activities that are taking place there.” (Museo dei Bambini, Project Manager, December 29th, 2025)

“Music is barely audible, and I didn't really understand the style and composition. Yet, when it was turned off, I felt a kind of loss.” (Museo dei Bambini, Visually impaired FG, Participant 7)

<sup>8</sup>The experimental study was designed and conducted by the team of the Pegaso University



## Subtle (potential) effects of synomusic in museum contexts

The surfacing of important context-specific layers of meaning and group differences, described in the previous paragraphs, was also met when we administered surveys about experience to the large groups of museum visitors. We assumed that the effect of the special musical compositions created on site and specifically for the particular exhibition, would be positively enhancing the overall enjoyment in the visit even further, while at the same time subtly affecting the quality of the visitors' presence in the museum<sup>9</sup>. The quality of the visitors' presence would translate into enhanced sensorial receptivity and openness to notice and be affected by the atmosphere, which would further result in increasing visitors' mindfulness and boosting the emergence of the emotional profile favorable for taking in the exhibition in its intended way and, possibly, for leaving the museum in one overall positive state<sup>10</sup>.

We recorded that visitors in Kotsanas Museum only, when exposed to the synergy of the museum venue plus music, expressed more feeling under the impression or 'drawn into' the story of the exhibition. In addition, the feeling of satisfaction with the atmosphere in the museum space seemed to be enhanced when the special musical compositions are added as the carefully crafted layer to the fiber of the visits. The musical layers didn't have such an effect in Macao or Explora Museums.

Next, the visitors in the music condition in Kotsanas Museum and Museum Maçao expressed more pronounced states of mindfulness. They spoke about slowing down and rushing less through the exhibition. They spoke about paying more attention to the exhibits and the exhibition in total and being less in an "autopilot" mode. Furthermore, the visitors exposed to the music reported being less preoccupied with their own thoughts about past or future while they were in the museum.

Why are these learnings important?

First, the person's ability to take in and integrate European culture and heritage can be supported in this way by means of music. Second, the immersion in a synaesthetic museum experience such as this one can help people to be more present in the moment. Third, if they let go of the thoughts about past or future at least briefly, they can possibly reap the prolonged benefit by

<sup>9</sup>Braun Janzen, T., de Oliveira, B., Ventrorm Ferreira, G., Sato, J. R., Feitosa-Santana, C. and Vanzella, P. (2023), 'The Effect of Background Music on the Aesthetic Experience of a Visual Artwork in a Naturalistic Environment', *Psychology of Music* 51 (1): 16–32; Fekete, A., Specker, E., Mikuni, J., Trupp, M. D. and Leder, H. (2023), 'When the Painting Meets Its Musical Inspiration: The Impact of Multimodal Art Experience on Aesthetic Enjoyment and Subjective Well-Being in the Museum', *Psychology of Aesthetics, Creativity, and the Arts*.

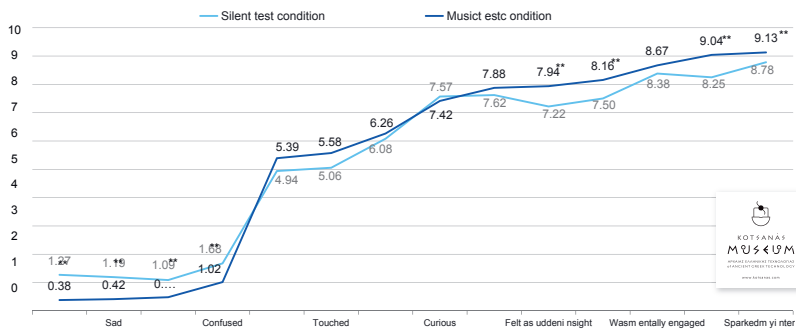
<sup>10</sup>Luo, D., Doucé, L. and Nys, K. (2024), 'Multisensory Museum Experience: An Integrative View and Future Research Directions', *Museum Management and Curatorship*: 1–28.

leaving the museum in a more mindful state while heading back to their lives.

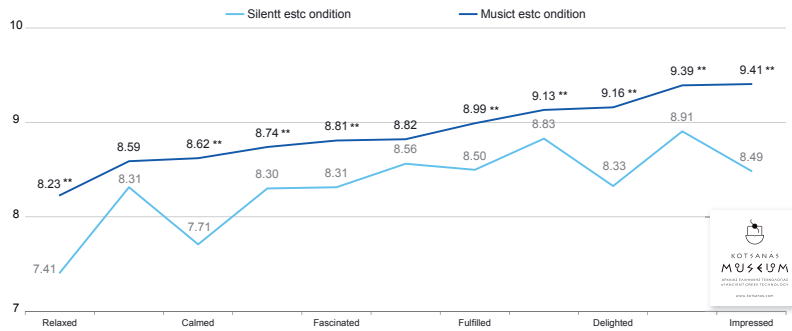
The effects of synomusic on emotional experience also varied significantly across contexts. To illustrate these variations, we compare findings from Kotsanas Museum and Museum Maçõ, as the results from Museo dei Bambini are not directly comparable, given that the survey there was conducted with accompanying adults rather than children.

In the Kotsanas Museum, music was associated with a reduction in negative emotional states (e.g., sadness, confusion, detachment) and an increase in positive experiences, including emotional restoration (calmness, relaxation), cognitive engagement (interest, surprise, insight), motivation, and aesthetic appreciation (feeling enchanted, fascinated, fulfilled, and impressed). These patterns suggest that music can support both immersive engagement with exhibitions and broader restorative experiences.

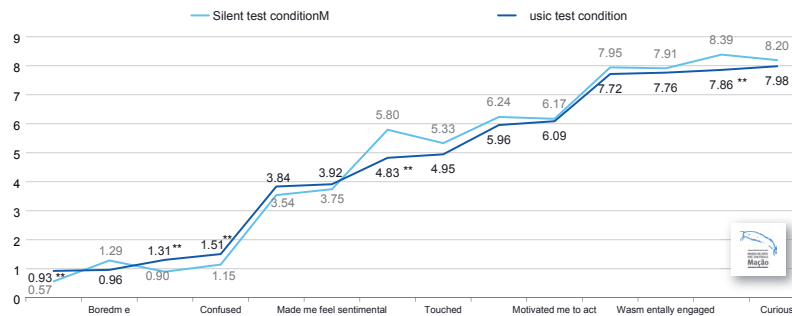
In the Museum Maçõ, emotional shifts were more subtle and oriented toward quieter, more reflective states. Visitors reported feeling more relaxed but with a lower overall emotional intensity, and with less emphasis on activation-related experiences such as excitement or delight. This pattern is aligned with the curatorial and compositional intention to evoke respect for heritage and a more contemplative mode of engagement.



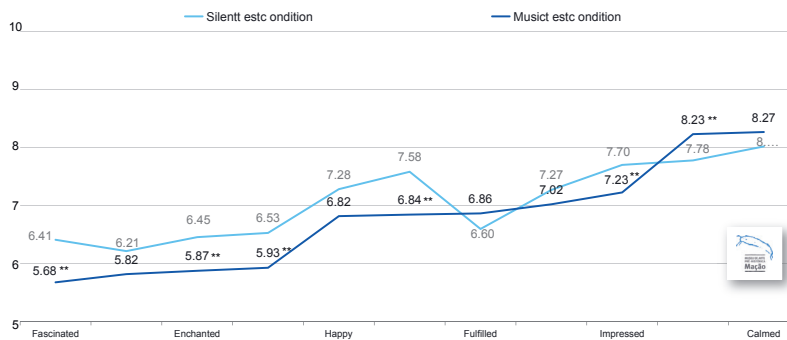
Emotional experience. How much did you feel each of the following emotions during this museum visit? Please select one number on the 10-point scale, from 0 meaning 'Not at all' to 10 meaning 'Very much'.  
\*p < .05. \*\*p < .01.



Emotional experience. How much did you feel each of the following emotions during this museum visit? Please select one number on the 10-point scale, from 0 meaning 'Not at all' to 10 meaning 'Very much'.  
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\*p < .05. \*\*p < .01.



# Follow Further Research Plans and Scientific Papers

[https://euromuse.eu/euromuse\\_research/](https://euromuse.eu/euromuse_research/)



## Consortium & Contributors

EUROMUSE is a Creative Europe Cooperation Project bringing together museums, music organisations, researchers, and cultural innovators to develop and test Synomusic (applied music for museums) through co-creation, production, and audience research.

### **Project consortium**

#### **Coordinator**

EARTH PR, Serbia — Project Coordinator

#### **Affiliated entity / methodology & research lead**

Center for Applied Music (CAM), Serbia — Affiliated entity; Methodology Owner & Research Lead



### **Co-organisers (core partners)**

IEMA – Greek Music Information Centre, Greece — Co-organiser  
Kotsanas Museum of Ancient Greek Technology, Greece — Co-organiser (pilot museum)  
Museo Dei Bambini SCS Onlus / Explora, Italy — Co-organiser (pilot museum)  
Museu de Arte Pré-Histórica, Portugal — Co-organiser (pilot museum)

### **Associate partners**

Mapa das Ideias, Portugal — Associate partner  
Pegaso University), Italy — Associate partner  
Museum of Science and Technology, Belgrade (Serbia) — Associate partner

### **Key contributors (how the work was delivered)**

EUROMUSE outputs were produced through an integrated chain of roles—designed to be replicable for museums joining the EUROMUSE Network:  
Museum teams (curators, educators, PR/marketing, technical staff)  
Hosted residencies, shaped interpretive briefs, supported implementation and daily operational integration.

#### Community Muse Boards (CMBs)

Volunteer community groups working as a structured participatory layer—providing audience insight and feedback checkpoints during co-creation.

#### Composers & music production contributors

Selected through the EUROMUSE open call and trained to compose museum-specific synocompositions, later produced for installation, online concerts, and album dissemination.

#### Research team

Implemented mixed-method audience research across sites, connecting artistic practice with evidence for visitor experience, inclusion, and audience development.

#### Digital & dissemination contributors

Supported the project's public-facing outputs (online concerts, web/3D presentation formats, publication assets), expanding museum reach beyond the physical visit.

Together, the consortium and contributors established a practical European framework for applied museum music: linking composition, participation, technical integration, and audience insight into one scalable model.



**Core EUROMUSE team:**  
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Stellios Gunnaulakis.



# EUROMUSE highlights

**F**ocus: applied museum music (Synomusic), visitor experience, participatory influence (CMB), curator–composer collaboration, and cross-site differences (museum type, acoustics, city/country context).

## What EUROMUSE revealed

Synomusic is most effective when treated as a curatorial layer: composed for the specific museum narrative, space, and audience.

Outcomes depend on the full system: composition structure + acoustics/noise + technical playback + participatory feedback + curator mediation.

Evidence supports positive practice: under the right conditions, applied music improves atmosphere, coherence, and visitor comfort—and can deepen attention.

## Research design

EUROMUSE applied a mixed-methods approach combining quantitative comparison (silent vs. music condition where feasible) with qualitative methods documenting co-creation and implementation.

- Quantitative: visitor questionnaires and comparable indicators where feasible (without vs. with music).
- Qualitative: interviews with museum staff, composers, and CMB members; diary notes; group discussions and reflective feedback.
- Cross-site comparability: three distinct museum contexts (children’s, ancient technology, archaeology/heritage) across three countries.

## Note for museums

A ceiling effect can occur where overall visitor satisfaction is already very high; in such cases, Synomusic impact is better captured through atmosphere, attention, comfort, and qualitative insight rather than only overall satisfaction scores.

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## **Applied museum music: what worked**

Across sites, the most consistently positive outcomes appeared when Synomusic followed a strict applied-music logic: minimal, non-intrusive, structurally stable, and aligned with exhibition narrative and visitor flow.

- Atmosphere and coherence: Synomusic strengthens the sense of unity and continuity in the visit when it remains supportive rather than foreground.
- Attention and presence: signals across contexts suggest greater visitor “presence” and sustained attention, especially in settings where the soundscape can be controlled.
- Emotional regulation: in some contexts, music reduced negative affect and supported calm, reflective engagement.

### **2) Composition structure: the decisive factor**

EUROMUSE emphasizes the high importance of composition structure for permanent museum music. Narrative writing without clear musical breathing space can reduce comfort and overall perception, especially during long daily playback.

- A loop-ready 15–60 minute structure (or aligned to visit duration) is essential to avoid perceived repetition.
- Include ‘musical pauses’ and low-activity passages as part of the form—this supports all-day listening and cognitive comfort.
- A strict minimalist base layer enables permanent playback without fatigue; micro-variation keeps the sound alive without demanding attention.
- Optional short separation segments (very subtle) can add auditive dynamics across zones while preserving minimalism.

### **3) Acoustics, noise, and technical audio readiness**

Impact is strongly mediated by acoustic conditions and technical readiness. Synomusic succeeds when production choices and deployment match reverberation, baseline noise, and visitor density.



- Reflective rooms require lower density and careful high-frequency control; sharp attacks may blur in reverberant environments.
- Low-volume clarity is critical because museum playback must coexist with speech, guided tours, and group visits.
- Zoning and speaker coverage prevent sound bleed and reduce cognitive overload.
- Museums benefit from having both spatialised and mono masters to match available equipment.

#### **4) Participation (CMB): influence on inspiration and direction**

CMB participation proved valuable when structured. It influenced composers' ideas by providing local cultural texture and by shifting feedback from taste to function (comfort, balance, narrative fit).

- Local identity: CMB members bring place-based references, emotions, and visitor habits that are not visible in a standard brief.
- Direction selection: structured checkpoints (e.g., demo selection) help validate early artistic direction while keeping composer authorship intact.
- In situ listening: CMB feedback is most reliable inside the museum because space is part of the 'instrument'.
- Legitimacy and continuity: participatory co-creation builds community ownership and supports long-term engagement beyond the project.

#### **Best practice**

Define checkpoints (direction selection › prototype feedback › post-install reflection). Keep roles clear: CMB informs, composer decides, museum integrates.

#### **5) Curator impact: why mediation matters**

Curators and museum teams were a key mediator between exhibits and composers. Their input shaped composer decisions through interpretive alignment and spatial mapping.

- Interpretive alignment: curators clarify what the museum wants visitors to feel/understand and which zones are ‘speech heavy’ or sensitive.
- Spatial/acoustic mapping: staff knowledge of visitor flow, crowd peaks, and thresholds informs density, transitions, and placement.
- Institutional learning: museums develop competence in sound as a strategic layer (levels, zones, maintenance), supporting sustainability.

## 6) Differences across museums, acoustics, cities and countries

EUROMUSE demonstrated that ‘one size fits all’ does not apply. Differences in audience profile, museum mission, acoustic behaviour, and city context shape both composition and perceived impact.

Site	Museum type / audience	Acoustic & noise reality	What Synomusic must do	Impact signals (summary)
Rome — Explora	Children’s museum; families; high activity	High noise, layered exhibit sounds; crowd peaks	Calm without fatigue; avoid overstimulation; support flow	Highly sensitive to zoning/levels; results depend on technical setup
Athens — Kot-sanas	Technology museum; STEM narrative	Mixed zones; demos/tours; mechanical context	Unify rooms; support attention and discovery	Strong signals for mindfulness/atmosphere when well integrated
Mação — Pre-history	Archaeology/heritage; reflective visit	Quieter baseline; reflective spaces	Support contemplation; ‘deep time’ resonance	Strong alignment with reflective engagement and ‘blending’ with space

### Key positive messages for global museum practice

- Synomusic is a scalable museum tool when composition, acoustics, and deployment are integrated.



- Visitor experience benefits are strongest in atmosphere, coherence, comfort, and attention—especially when music remains non-intrusive.
- CMB participation improves relevance and quality when structured; curator mediation is a critical success factor.
- Technical readiness (zoning, speaker coverage, stable playback) is not optional; it is part of the method.
- The model is adaptable across countries and museum types, but requires context-specific composition and in situ testing.

### **Practical recommendations (for immediate adoption)**

#### **For museums**

Start with one zone/pilot; map acoustics and visitor flow; define a clear brief and loudness strategy.

Use a CMB-style feedback checkpoint (small community group) at two moments: early direction + post-install review.

Plan maintenance: documentation of levels, zones, and playback schedule. For coconstruments) as subtle accents—avoid pastiche.

#### **For composers**

Compose for loop and long daily listening; include breathing space; keep minimalism and micro-variation.

Test early drafts in the actual museum; adjust density and high-frequency content for reverberation.

Use authentic references (sounds/instruments) as subtle accents—avoid pastiche.



# Commissioning & licensing checklist

A practical checklist for museums commissioning Synomusic while protecting composer authorship and ensuring lawful, scalable use across physical and digital platforms.

## 1) Commissioning (before composing)

- Define scope: zones, desired visitor state, operating hours, and interpretation constraints (tours/speech).
- Confirm technical baseline: playback system, speaker coverage, zoning feasibility, acoustic risks.
- Set deliverables: duration + loop logic, master formats (mono/stereo/spatial), documentation pack.
- Agree checkpoints: curator brief + CMB checkpoint(s) + in-situ prototype review.

## 2) Rights model (recommended default)

- Composer retains authorship and moral rights; music is credited by name and title in all uses.
- Museum receives a defined licence for on-site playback and agreed digital uses.
- Methodology/IP note: Synomusic framework is documented as the project methodology; composition remains authored work.

## 3) Licence scope options (choose and tick)

- On-site exhibition use (daily playback) –  yes  no
- Museum website / 3D/360 pages –  yes  no
- Social media clips (promo) –  yes  no
- Education programmes / guided tour support –  yes  no
- VR/AR integrations –  yes  no
- Archival / internal documentation –  yes  no
- Commercial exploitation (album/streaming) –  yes  no (define separately)



#### 4) Documentation pack (non-negotiable)

- Zoning map + speaker placement notes (where applicable).
- Target levels and calibration protocol; tour-compatibility notes.
- Playback schedule and maintenance responsibilities.
- File list: masters + versions + naming convention; update rules.

#### Credits templates (copy/paste)

Short: Synomusic composed by [Composer Name] for [Museum Name] (EUROMUSE, Creative Europe).

Full: [Composition Title] – composed by [Composer Name] for [Museum Name], as part of EUROMUSE: Applied Music for Museums (Creative Europe). Methodology: Center for Applied Music (CAM). Coordination: EARTH PR.

Digital page block: Add composition title, composer, museum, project credits, and EU visibility line/logo (per project rules).

#### Common pitfalls to avoid

Unclear digital rights (web/social/3D/360) › define upfront.

No maintenance plan › sound quality drifts and staff lose confidence.

Single master only › request mono/stereo variants for different systems.

## EUROMUSE Toolbox

### Quick Start (30 / 60 / 90 Days)

A practical roadmap for museums that want to pilot Synomusic as an auditory engagement module. Start small, learn fast, document well—and scale only when the sound ecology is stable.

#### What you need (minimum set)

People: 1 museum lead (curator/education/marketing), 1 technical contact, 1 composer, 1 small CMB-style group (5–10 people).

Space: 1–2 priority zones (start where narrative is strongest and sound conditions are controllable).

Tech: stable playback (speaker(s) + player), basic zoning plan, agreed level strategy.

Time: 4–12 weeks depending on scope; plan 2–3 feedback checkpoints.

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### **30 days – Pilot one zone**

- Choose one zone: clear narrative purpose + manageable acoustics.
- Write a brief: desired visitor state (focus/calm/discovery/reflection), constraints (tours/speech), and operating hours.
- Hold CMB Checkpoint #1 (direction): collect quick insight on atmosphere and visitor comfort expectations.
- Composer delivers 2–3 short direction sketches; museum selects one direction with CMB input.
- Prepare a basic playback plan: speaker placement + target level + daily schedule.
- Deliverable: pilot loop draft + integration notes (zone, level, schedule).

### **60 days – Multi-zone prototype + evaluation**

- Extend to 2–3 zones (or add a transition corridor).
- Run CMB Checkpoint #2 (prototype): in-situ listening; capture feedback on clarity, fatigue, and coherence.
- Calibrate levels and transitions; confirm compatibility with guided tours and education programmes.
- Add a simple visitor insight tool: short survey / QR feedback / staff observation notes.
- Deliverable: revised loop(s) + zoning map + updated integration notes + initial evaluation summary.

### **90 days – Museum-grade installation**

- Finalize composition(s) and prepare masters (mono / stereo / spatial where feasible).
- Run CMB Checkpoint #3 (post-install): confirm comfort during peak hours; adjust only zone-by-zone.
- Lock settings: level targets, schedule, maintenance responsibilities.
- Produce a communication pack: 1-page story, credits, and digital reuse plan (web/3D/360/social).
- Deliverable: museum-ready masters + full documentation + maintenance plan + public-facing credits block.

### **Budget logic (fill with your local costs)**

Composer fee: [FILL] | Technical integration / speakers (if needed): [FILL]  
Production (mix/master): [FILL] | Research / insight tools: [FILL]



# Join the EUROMUSE Network

Bring Synomusic to your museum—responsibly and with measurable outcomes  
EUROMUSE is building an international network of museums that treat sound as a professional curatorial layer—not as generic ambience.

## Who can join

- Museums and heritage institutions (any size)
- Teams working on interpretation, visitor experience, education, and accessibility
- Museums ready to pilot museum-specific applied music (Synomusic) in at least one zone

## What you get

- EUROMUSE Toolkit (brief templates, zoning & level guidance, documentation pack)
- Synomusic method + workflow templates (brief › composition › integration › evaluation)
- Peer learning (cases, benchmarks, shared lessons on acoustics and operations)
- Visibility (network listing + shared dissemination formats)
- Pathway to EUROMUSE Advanced Research Phase

## What you commit to

- A pilot in one controllable zone (or defined route)
- Documentation as a museum asset (zoning, levels, schedule, maintenance)
- Credits & visibility (composer + EUROMUSE credit line, on-site and digitally)
- A light evaluation step (QR micro-survey and/or staff observation)

## Bridge to EUROMUSE Advanced

The findings above form an exploratory baseline for the next phase, where EUROMUSE can expand comparability across more museums, refine measurement instruments, and standardise implementation scenarios—while preserving artistic diversity and museum specificity.

## Contact for EUROMUSE management consultancy and support.

[info@euromuse.eu](mailto:info@euromuse.eu)

<https://euromuse.eu>

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