



DEVELOP CALL

Financial Support for Third Parties

Final Report Part A (Public)

**Archaeological Routes for Inclusive Synergy
& Entrepreneurship in Sierra y
Mancha Conquense
(ARISE)**

PoliRuralPlus has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101136910.

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**Funded by
the European Union**



Project title	Archaeological Routes for Inclusive Synergy & Entrepreneurship in Sierra y Mancha Conquense
Project short name	ARISE
Pilot Region	Sierra y Mancha Conquense
Organisation	Obsidian Innovation Institute – Associação (OBSIDIAN), in cooperation with Xilbi Sistemas de Informacion SL (XILBI)
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Submission date	18/08/2026
Version	2.0

Table of Contents

1. Project Overview	6
2. Progress Against Objectives and Work Plan	6
2.1. Completion of the work plan	7
2.2. Progress against the project objectives	7
2.3. Milestones and performance	8
2.4. Adjustments to implementation	8
3. Technical Results and Outputs	9
3.1. Public visitor service	9
3.2. Operational and stakeholder environments	9
3.3. Architecture and external integration	10
3.4. Data, APIs and interoperability outputs	10
3.5. Validation and technical maturity	10
3.6. Final-stage technical enhancements	11
3.7. Public visual evidence	12
4. Integration and Contribution to PoliRuralPlus	18
4.1. Jackdaw integration	18
4.2. Multi-actor collaboration and geospatial planning	19
4.3. Rural-business and marketplace functions	19
4.4. Structured data generated by ARISE	19
4.5. Contribution to the PoliRuralPlus Hub	20
4.6. Relevance to the Rural Attractiveness Explorer	20
4.7. APIs and interoperability	20
4.8. Overall contribution to PoliRuralPlus	21
5. Stakeholder Engagement and User Involvement	21
5.1. Influence on the final platform	22
5.2. Role of MAAT	22
5.3. GDPR and Data Protection Compliance	22
6. Communication, Dissemination and Visibility	23
6.1. Public demonstrator	23
6.2. Institutional news articles	24
6.3. PoliRuralPlus communication contributions	24
6.4. Social-media communication	26
6.5. Stakeholder workshops, demonstrations and capacity building	26
6.6. Communication and training materials	27

6.7. GDPR-compliant and rights-cleared visual material	27
6.8. European Union funding visibility	27
6.9. Public discoverability and continued visibility	28
7. Impact Assessment	28
7.1. Technical impact	28
7.2. Social and territorial impact	29
7.3. Economic and rural-business impact	29
7.4. Governance and policy impact	30
7.5. Environmental impact	30
7.6. New European Bauhaus contribution	30
7.7. Final KPI results	31
7.8. Overall impact assessment	31
8. Challenges, Risks and Lessons Learned	32
8.1. Stakeholder participation and content maintenance	32
8.2. Technical integration and external dependencies	32
8.3. Release stability and quality assurance	33
8.4. Content quality and public credibility	33
8.5. Data protection and operational security	34
8.6. Infrastructure and budget control	34
8.7. Effectiveness of the mitigation approach	34
8.8. Lessons learned and recommendations	35
9. Sustainability, Replicability and Next Steps	36
9.1. Technical sustainability	36
9.2. Public distribution release	36
9.3. Organisational sustainability	37
9.4. Financial sustainability and exploitation	38
9.5. Replication and scaling potential	38
9.6. Distribution and replication resources	39
9.7. Follow-up activities and next steps	39
9.8. Long-term outlook	40
10. Conclusions	40

Executive Summary

ARISE - Archaeological Routes for Inclusive Synergy & Entrepreneurship in Sierra y Mancha Conquense - has delivered a digital service designed to strengthen rural-urban links in the Sierra y Mancha Conquense pilot region through cultural heritage, local services, route planning and coordinated stakeholder action. The project addressed the fragmentation identified in the approved proposal: high-value Roman heritage assets in Segóbriga, Valeria and Ercávica were not sufficiently connected through a single visitor journey, local businesses had limited digital visibility, and territorial actors lacked a shared operational environment for coordination, content management and evidence-based decision support.

During the full implementation period, the consortium progressed from co-design and requirements consolidation to public deployment, operational refinement, stakeholder engagement, communication activities and preparation of the replication basis. The final ARISE service is available through the public demonstrator at <https://arise.xilbi.com/>. It exposes the main visitor-facing modules foreseen in the project: Explore for map-based discovery, Businesses for local offers and voucher-oriented listings, Route Plan for multi-stop itinerary building, Chat Guide for location-aware recommendation support, News and Funding for territorial updates and opportunities, and My Area for saved routes and account-based continuity. The platform also includes public contact, legal/privacy and EU funding visibility pages, as well as multilingual support in Spanish, English and Portuguese.

The project has also delivered a restricted operational and stakeholder layer. This includes an administrative environment for content management, business editing, news, sponsored placements, integrations, homepage videos, analytics and API support, together with an authenticated MAAT workspace supporting stakeholder collaboration, governance cells, initiatives, task tracking, KPI and New European Bauhaus monitoring, route co-design and funding-initiative management. These non-public functions demonstrate that ARISE is not only a public information interface, but a structured digital environment for heritage-led territorial coordination.

The main technical result is a functioning, integrated and reusable rural-heritage digital platform. The final implementation combines a Laravel-based web architecture, Leaflet/OpenStreetMap geospatial interfaces, Jackdaw-backed conversational guidance using map-selected spatial context, server-side integration settings, public API surfaces, structured data models for businesses, points of interest, routes, news, funding and collaboration, and release-grade QA procedures. The technical maturity achieved is consistent with a pilot deployment moving towards an operational service baseline.

The achieved impact is primarily visible in four areas. First, ARISE reduces the fragmentation of visitor information by bringing heritage points, routes, businesses, territorial news and recommendations into a single mobile-first interface. Secondly, it improves local business visibility and supports future local economic activation through structured listings, vouchers, promoted content and route-linked discovery. Thirdly, it strengthens multi-actor coordination through the MAAT workspace and associated governance/monitoring mechanisms. Fourthly, it provides a reusable digital pattern for other rural territories seeking to connect cultural heritage, local business participation and territorial governance within the PoliRuralPlus ecosystem.

The project has also generated a sustainability and replication basis through documented architecture, administrator guidance, integration notes, API surfaces, multilingual content structures, image provenance, legal/privacy baselines, and operational procedures. These outputs allow the platform to be maintained by the consortium and, subject to the agreed governance model, reused or adapted by other rural areas with comparable heritage, tourism and territorial-development needs.

The final stage confirms that ARISE has achieved its core objective: to convert the approved concept of a Heritage Synergy Platform into a working, public-facing and stakeholder-supported digital service for Sierra y Mancha Conquense, aligned with PoliRuralPlus Pilot 7 and with the broader objectives of rural attractiveness, community-based economic development, digital inclusion and rural-urban cohesion.

1. Project Overview

ARISE was developed in response to a clear territorial challenge in Sierra y Mancha Conquense. The area contains major Roman heritage assets, particularly Segóbriga, Valeria and Ercávica, but their cultural and economic potential was constrained by fragmented visitor information, limited connections with surrounding rural services, dispersed stakeholder coordination and insufficient use of advanced digital tools for interpretation, planning and territorial management. These constraints reduced the capacity of the heritage network to generate wider and more sustained benefits for the surrounding rural communities.

The project addressed this challenge by creating an integrated digital service connecting cultural heritage, rural businesses, routes, territorial information and stakeholder coordination. ARISE was not conceived as a conventional tourism website. Its purpose was to provide a practical rural-urban gateway through which visitors can discover heritage sites, plan multi-stop journeys, identify nearby services and receive location-aware guidance within a coherent territorial experience.

At the same time, ARISE was designed to support the organisations responsible for maintaining and promoting the territory. The platform provides a structured environment for managing content, coordinating initiatives, monitoring activities and supporting more informed territorial decision-making. This dual approach links the visitor experience with the operational and governance functions required to keep the service relevant over time.

ARISE is aligned with the Develop Call and with the objectives of PoliRuralPlus Pilot 7. It contributes to rural-urban synergies through cultural heritage, supports stronger connections between archaeological sites and surrounding communities, encourages community-based economic development and helps reduce the digital and organisational fragmentation affecting the pilot territory.

The principal users are visitors and tourists seeking a more connected way to explore the Roman heritage network and the surrounding villages. The wider stakeholder ecosystem includes ADESIMAN and its territorial network, municipalities, regional culture and tourism actors, rural SMEs and micro-enterprises, community organisations, academic and research bodies, and users contributing feedback on the service.

The final ARISE solution combines two complementary layers. The first is a public web application providing map-based exploration, business and service information, route planning, conversational guidance, territorial news, funding information and saved itinerary functions. The second is a restricted operational and stakeholder environment comprising administration tools and an authenticated Multi-Actor Approach Tool workspace for coordination, content management, monitoring and governance.

Together, these layers implement the central ARISE concept: a shared digital ecosystem connecting heritage assets, rural services, public and community actors, entrepreneurs and visitors. The result is a practical platform that supports both the public discovery of Sierra y Mancha Conquense and the continued coordination required to maintain and develop its rural-heritage offer.

2. Progress Against Objectives and Work Plan

ARISE was approved to deliver an operational Heritage Synergy Platform combining a mobile-first visitor application, stakeholder collaboration, location-aware conversational guidance, geospatial discovery and route planning, rural-business visibility, monitoring functions and interoperability with the wider PoliRuralPlus ecosystem. The nine-month implementation plan was organised into five technical work packages: WP1 Co-design and Requirements, WP2 Alpha Prototype and Data Integration, WP3 Beta and Public Launch, WP4 Operation and Enhancement, and WP5 Evaluation and Replication Pack. WP6 Project Management supported coordination, risk management, quality assurance, financial control, communication and reporting throughout the implementation period.

2.1. Completion of the work plan

All six work packages were completed by the final reporting stage.

WP1 established the project requirements and implementation baseline. The activities included stakeholder mapping and consultation, definition of user journeys and functional requirements, review of available territorial information, preparation of the initial risk and data-protection framework, and development of the user-experience and visual direction. This phase ensured that the platform addressed both visitor needs and the operational requirements of businesses, public bodies, community organisations and other territorial actors.

WP2 translated these requirements into the technical architecture and alpha prototype. It established the principal data structures for businesses, points of interest, routes, news and users; implemented the first map-based exploration and itinerary functions; prepared the Jackdaw integration; created the business-listing structure and API foundations; and established the initial public, administrative and stakeholder-facing components.

WP3 delivered the public release of ARISE. The live platform introduced the principal visitor journeys through map-based exploration, business discovery, multi-stop route planning, location-aware conversational guidance, territorial news, funding opportunities, public contact functions and saved itineraries. The release also included multilingual support, mobile-oriented presentation, EU funding visibility and the administration functions required to maintain public content.

WP4 focused on operation, enhancement and consolidation. The platform was enriched with additional territorial content, stronger business and heritage presentation, expanded Spanish, English and Portuguese localisation, improved route and map functions, a more mature MAAT workspace, weather and renewable-energy information surfaces, funding and news management, public-contact handling, legal and privacy functions, image-provenance controls and more extensive quality assurance. This phase converted the initial public release into a more credible, stable and maintainable service.

WP5 consolidated the evaluation, sustainability and replication basis. The work included final KPI assessment, impact analysis, technical and operational documentation, administrator guidance, API and OpenAPI references, integration notes, localisation and content-management guidance, quality-assurance records, preparation of the public software distribution, and the final reporting package.

WP6 operated throughout the project and covered day-to-day coordination, risk and quality management, financial monitoring, stakeholder communication, dissemination, documentation and contractual reporting.

2.2. Progress against the project objectives

The first objective was to establish a unified digital gateway for Sierra y Mancha Conquense. This objective was achieved through the live ARISE platform at <https://arise.xilbi.com/>. The platform provides a coherent public entry point for archaeological and territorial discovery, rural businesses, route planning, saved itineraries, conversational guidance, news and funding information. This directly addresses the fragmentation of visitor information identified at the start of the project.

The second objective was to strengthen stakeholder coordination and support more structured territorial management. This objective was achieved in operational form through the authenticated MAAT workspace and the related administration environment. The workspace supports stakeholder records, governance structures, initiatives, tasks, shared information, route co-design, KPI and New European Bauhaus monitoring, and funding-opportunity management. These functions establish a practical basis for continued multi-actor coordination beyond the public visitor interface.

The third objective was to improve rural-business visibility and support local economic activation. ARISE delivered structured business listings, detailed public profiles, voucher-oriented offers, promoted content, route-linked discovery and controlled contact mechanisms. Local services are therefore presented within the same visitor journey as archaeological sites, routes and territorial information, rather than through a separate or disconnected directory.

The fourth objective was to contribute to PoliRuralPlus integration and reuse. ARISE integrated the PoliRural Jackdaw service for spatially contextualised conversational guidance and implemented a MAAT-aligned stakeholder environment. The platform also provides documented public and authenticated APIs, structured data models and

OpenAPI documentation. Relevant data domains are maintained within ARISE and are available for controlled reuse, export and future exchange with PoliRuralPlus services. This supports interoperability without exposing personal, administrative or production-specific information.

The fifth objective was to establish a sustainable and replicable technical basis. This objective was addressed through documented architecture, administration and integration procedures, database migrations, API references, localisation resources, image-provenance records, privacy and legal configuration, quality-assurance procedures and a public software distribution. The distribution allows an independent instance to be created and adapted without transferring the production database, user records, stakeholder information, credentials or operational responsibility.

2.3. Milestones and performance

The principal project milestones were completed. The requirements and stakeholder baseline were established under MS1; the alpha platform and initial integrations were delivered under MS2; the contractual mid-term report and prototype demonstration were completed; the public release was delivered under MS3; the operational enhancement and consolidation stage was reached under MS4; and the final platform, evaluation and replication basis were completed under MS5.

Final monitoring showed that the approved performance indicators were met or exceeded. The detailed results, measurement methods and evidence sources are presented in Section 7. These results cover stakeholder participation, rural-business representation, platform use, session duration, user satisfaction, planned itineraries, collaborative activity, structured dataset preparation and the environmental proxy associated with digital-first visitor information.

2.4. Adjustments to implementation

No major strategic deviation from the approved objectives, scope or intervention logic occurred. The principal adjustments concerned how certain functions were implemented rather than the intended results.

Collaborative mapping and route co-design were incorporated directly into the ARISE Leaflet/OpenStreetMap and MAAT environments instead of being presented as a separate public mapping application. This reduced integration complexity, provided a more coherent user experience and retained the intended geospatial and collaborative functions within the main platform.

The business component was implemented through structured listings, voucher-oriented offers, promotions, route connections and controlled contact functions. This approach prioritised practical business visibility and safe public interaction while preserving the approved objective of connecting rural enterprises with visitor journeys.

Structured project data were maintained through the ARISE data model and documented interfaces, providing a basis for controlled reuse, export and future PoliRuralPlus exchange. This approach ensured that public and reusable information remained clearly separated from personal, stakeholder and operational records.

Additional implementation effort was allocated to multilingual completeness, content credibility, public-contact handling, legal and privacy compliance, secure integration management, rights-cleared imagery, image provenance and repeatable quality assurance. These refinements ensured that the final platform was not only technically functional, but also suitable for public use and continued maintenance.

The adjustments remained within the approved scope and did not alter the central project objectives. They improved platform stability, usability, data protection, operational control and the overall credibility of the final service. ARISE therefore completed its approved work plan with the principal milestones delivered and the final performance targets met or exceeded.

3. Technical Results and Outputs

The principal technical output of the project is the ARISE platform, deployed as a live web application at <https://arise.xilbi.com/>. The delivered system combines a public visitor service, a restricted administration environment and an authenticated Multi-Actor Approach Tool workspace. Together, these components implement the approved concept of an integrated digital ecosystem connecting heritage assets, rural businesses, visitors and territorial stakeholders.

3.1. Public visitor service

The public front-office provides the principal user journeys required for heritage discovery and visit planning in Sierra y Mancha Conquense.

The landing page acts as the main territorial gateway and presents featured heritage content, routes, businesses, news, funding opportunities and promotional information. The Explore module provides map-based discovery using Leaflet and OpenStreetMap, enabling users to browse points of interest, businesses and other territorial resources through an interactive geographical interface.

The Businesses module presents rural services through structured cards and detail pages containing categories, opening information, imagery, public contact options and voucher or promotional elements. This places local enterprises within the same visitor journey as archaeological sites and heritage routes.

The Route Plan module allows users to create multi-stop itineraries, add and reorder destinations, inspect the route on a map, and use save, share and export functions. Authenticated users can retain their plans in My Area, where saved itineraries are presented with route information and map previews.

The ARISE Chat Agent provides location-aware conversational guidance powered by PoliRural Jackdaw. Users select a geographical area on the map before submitting a question, allowing the guidance to remain connected to the selected territory. Quick prompts and suggested follow-up actions support users who are unfamiliar with conversational interfaces.

The News and Funding modules provide curated territorial updates and information on relevant support opportunities. Selected funding initiatives maintained through the stakeholder environment can also be presented publicly, creating a connection between collaborative territorial management and the information available to local businesses and organisations.

Additional public functions include multilingual navigation and content in Spanish, English and Portuguese, public contact, About and legal/privacy pages, cookie and privacy-preference controls, weather information and an indicative renewable-energy forecast tool.

3.2. Operational and stakeholder environments

The restricted administration environment provides the functions required to operate and maintain the public service. These include management of businesses, points of interest, routes, news, regional links, sponsored placements, funding initiatives, homepage videos, external integrations, users, public contact routing and operational statistics.

The authenticated MAAT workspace supports multi-actor collaboration through stakeholder records, governance structures, initiatives, tasks, route co-design, KPI and New European Bauhaus monitoring, document references, meeting minutes, shared notes and funding-opportunity management.

The separation between public, administrative and stakeholder functions allows ARISE to remain openly accessible to visitors while protecting personal information, unpublished content, operational records and configuration settings.

3.3. Architecture and external integration

ARISE is implemented as a Laravel-based web application with distinct public and administrative modules. The technical architecture uses Blade templates, lightweight JavaScript, Eloquent models and migrations, relational data storage, service classes and Leaflet/OpenStreetMap geospatial interfaces.

External services are connected through server-side integration components. Integration endpoints and configuration values are managed centrally, while credentials, API keys and access tokens remain outside the browser.

The Jackdaw connection uses the OAuth2 client-credentials flow provided through the PoliRuralPlus environment. Before a conversational request is submitted, the rectangle selected by the user is converted into a Well-Known Text polygon using SRID 4326. The message and spatial context are then processed through the ARISE backend and forwarded to Jackdaw.

The primary chat interaction uses a streaming endpoint so that the visible response can be displayed progressively. A controlled non-streaming request remains available as a fallback where the streaming connection cannot be completed. Detailed errors remain in restricted logs and administration diagnostics, while public users receive a generic availability message.

3.4. Data, APIs and interoperability outputs

The platform includes structured data models for businesses, points of interest, heritage routes, route plans, news, funding initiatives, users, stakeholder records, collaborative planning items, tasks, monitoring indicators and operational configuration.

Public API endpoints expose selected non-sensitive resources, while authenticated endpoints support restricted MAAT and administration-related workflows. The API structure is documented through an OpenAPI/Swagger interface, supporting technical verification and future integration.

The implementation also includes:

- multilingual interface and content structures;
- controlled language fallback where a translation is unavailable;
- image-provenance metadata and rights-cleared local image handling;
- AEMET weather integration;
- an indicative renewable-energy forecasting service;
- public contact and legal/privacy routes;
- consent-aware optional analytics;
- canonical page references;
- robots.txt and sitemap.xml;
- configurable public search-engine indexing; and
- public and authenticated API documentation.

These outputs strengthen maintainability, transparency and reuse while preserving the separation between public data and restricted operational information.

3.5. Validation and technical maturity

ARISE was validated through automated feature and integration tests, database-backed quality assurance, internal-link checks, localisation tests, operational integration tests and manual review of the principal user journeys.

The documented release baseline comprises 94 automated tests and 1,007 assertions. Validation covers public navigation, businesses, routes, points of interest, news, funding, Jackdaw interaction, MAAT workflows, permissions, administration functions, public and authenticated APIs, privacy and contact functions, image handling, sitemap generation and indexing controls.

The final system is best characterised as an integrated operational pilot and maintainable service baseline. It has progressed beyond wireframes, isolated components and static mock-ups into a publicly deployed platform with functioning visitor, administration and stakeholder-collaboration layers.

The final release is supported by documented architecture, administration guidance, integration notes, API references, localisation resources, image-provenance records, release information and repeatable QA procedures. These outputs also provide the technical basis for continued operation and independent replication.

3.6. Final-stage technical enhancements

During the final implementation stage, ARISE introduced a set of additional technical and operational enhancements that strengthened the public service, improved content quality and increased the platform's readiness for continued operation and replication.

The public information environment was expanded through closer integration between the MAAT workspace and the visitor-facing platform. Funding initiatives managed through MAAT can be selectively published in the public Funding area, promoted through homepage highlights or presented as territorial news. This creates a controlled connection between stakeholder coordination, public information and support opportunities relevant to rural businesses and organisations.

The homepage was also extended with managed video content, improved promotional cards and stronger editorial controls. Curated videos can be presented through privacy-enhanced YouTube embedding, while news, routes, points of interest, businesses, promotions and funding initiatives can be prioritised through configurable homepage and featured-content settings.

Map-based functions were further improved. Saved itineraries in My Area now include actual map previews with markers and route lines. The Explore and Route Plan interfaces retain the map as the primary interaction surface, while supporting weather and territorial information are presented without obscuring the principal discovery and planning functions.

The public weather service was consolidated around live AEMET information for representative municipalities in the pilot territory. Where the external service is unavailable, ARISE provides a clear availability message rather than displaying simulated weather data. The separate renewable-energy tool allows users to select an area on the map, adjust photovoltaic and wind assumptions and receive indicative hourly and daily estimates based on server-side meteorological information. These outputs are explicitly presented as indicative planning information rather than certified forecasts.

The heritage and business content base was also strengthened. Additional cultural points of interest were curated using official heritage references, while business records were improved using public territorial sources and structured provenance information. Portuguese content was extended across the main visitor journeys, including the landing page, Explore, Businesses, Route Plan, Chat, My Area, funding initiatives and selected heritage records.

ARISE introduced a more systematic approach to visual quality and rights management. Rights-cleared images are stored locally with provenance information covering source, author, licence and attribution. Image selection follows content-specific rules so that businesses, routes, points of interest, funding opportunities, news and promotions use suitable image families. Homepage presentation also reduces unnecessary repetition of the same image across featured content.

Public contact, privacy and legal functions were completed as first-class platform services. The public contact form provides a controlled communication route without exposing direct email addresses. Privacy, cookie, legal-notice, data-rights and consent-preference pages are available in the supported languages, while optional analytics remain subject to user consent.

Public discoverability was strengthened through canonical page references, robots.txt, sitemap.xml and environment-controlled search-engine indexing. Public content can therefore be indexed in the production environment, while administration, authentication and restricted stakeholder surfaces remain excluded from public search results.

The API layer was also extended to cover additional resources, including funding initiatives, promotional content, energy-forecast functions and image-provenance information. Authenticated API functions provide corresponding access to supported MAAT workflows. These interfaces are documented through OpenAPI/Swagger and strengthen the platform's interoperability and replication potential.

Together, these final-stage enhancements improved the credibility, usability, compliance and operational maturity of ARISE. They also ensure that the platform can continue to function as an actively managed territorial service rather than as a static project demonstrator.

3.7. Public visual evidence

Figures 1 to 10 present public, non-personal evidence of the final ARISE platform:

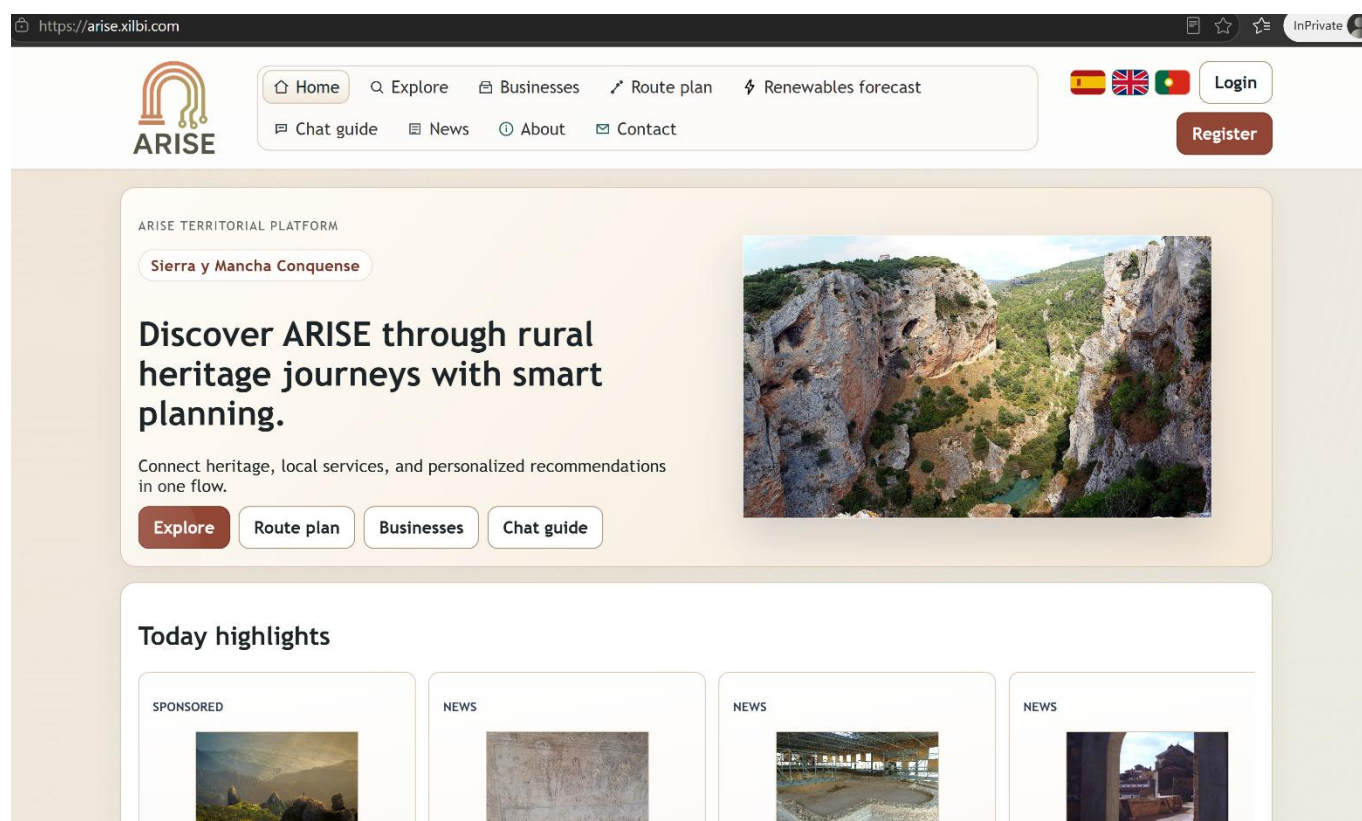


Figure 1: ARISE public landing page and managed highlights

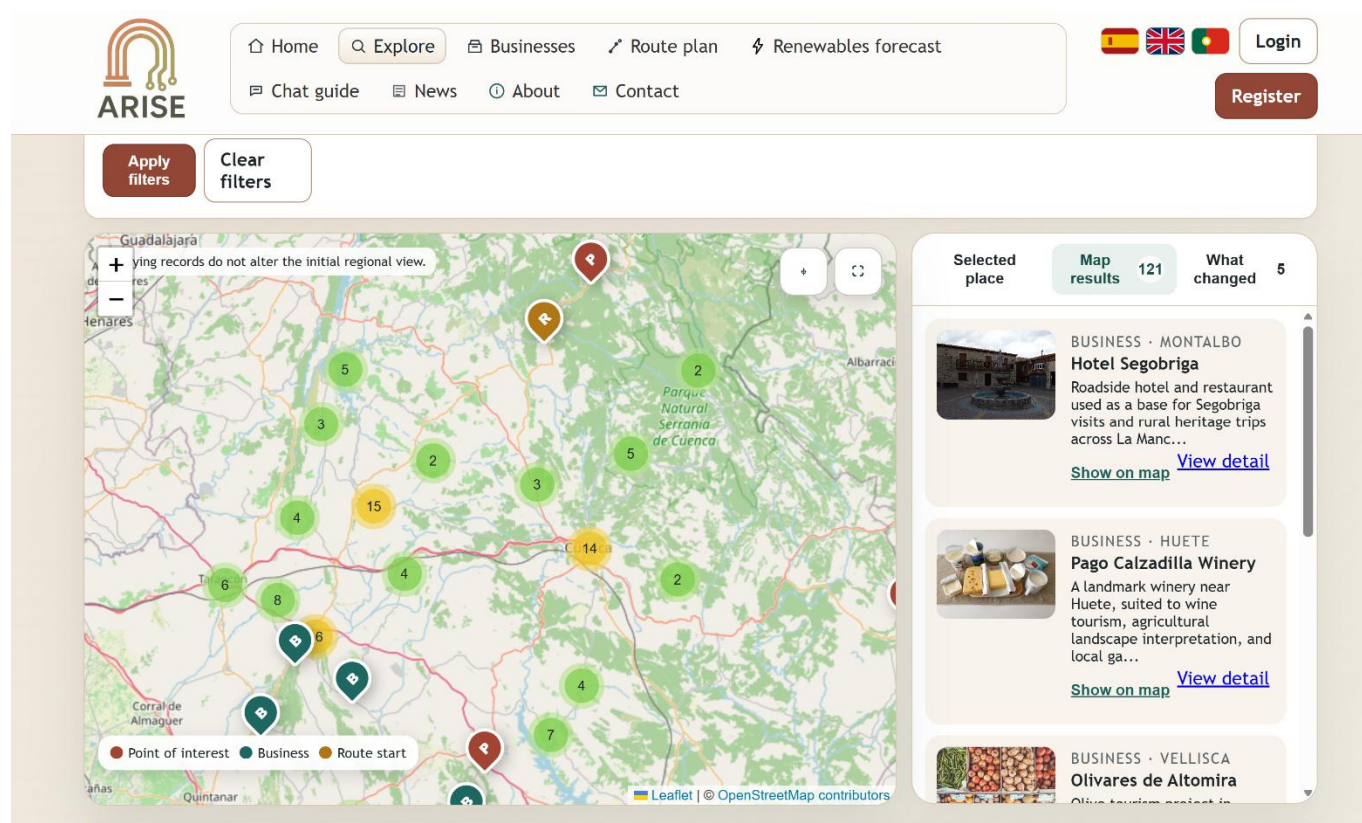


Figure 2: Explore and map-based territorial discovery

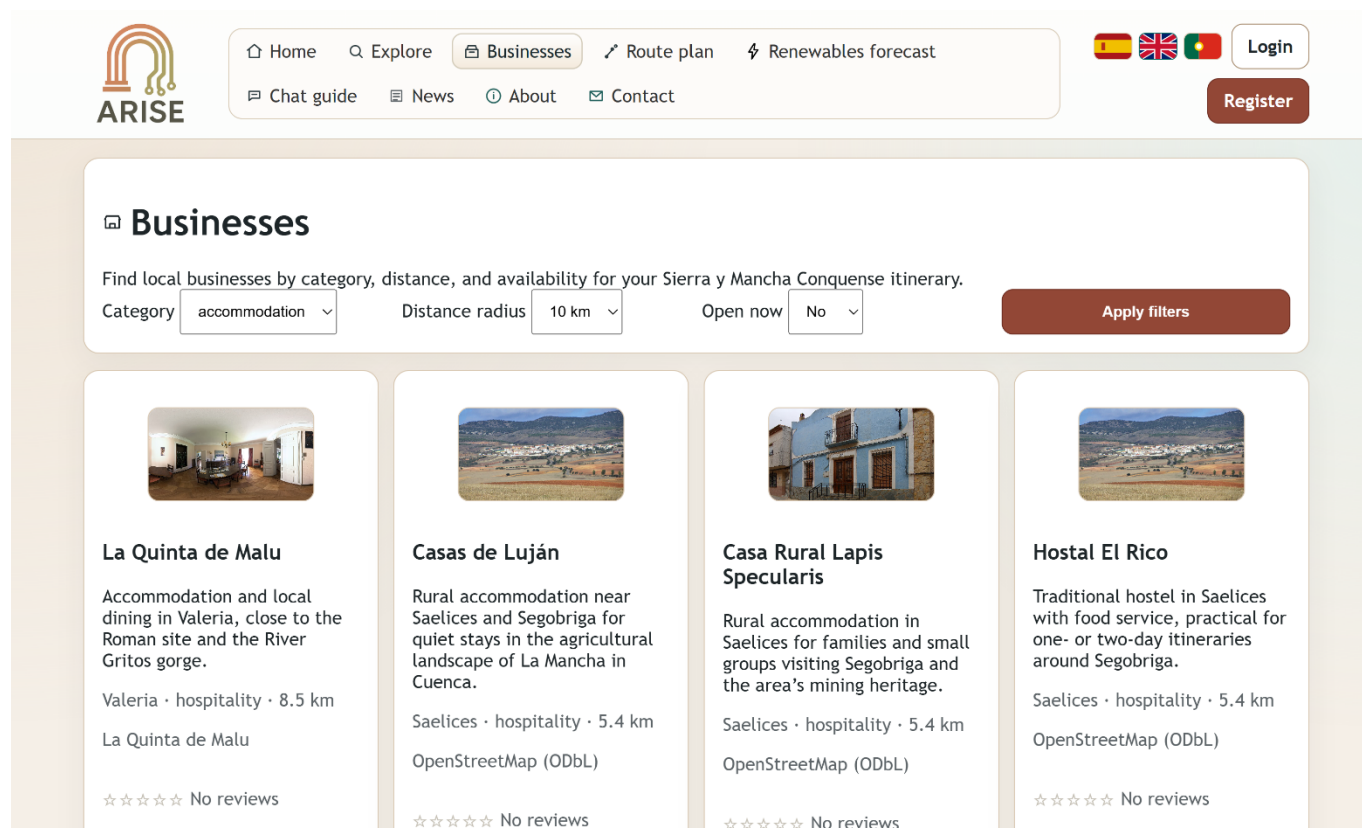


Figure 3: Rural-business listing and public business information

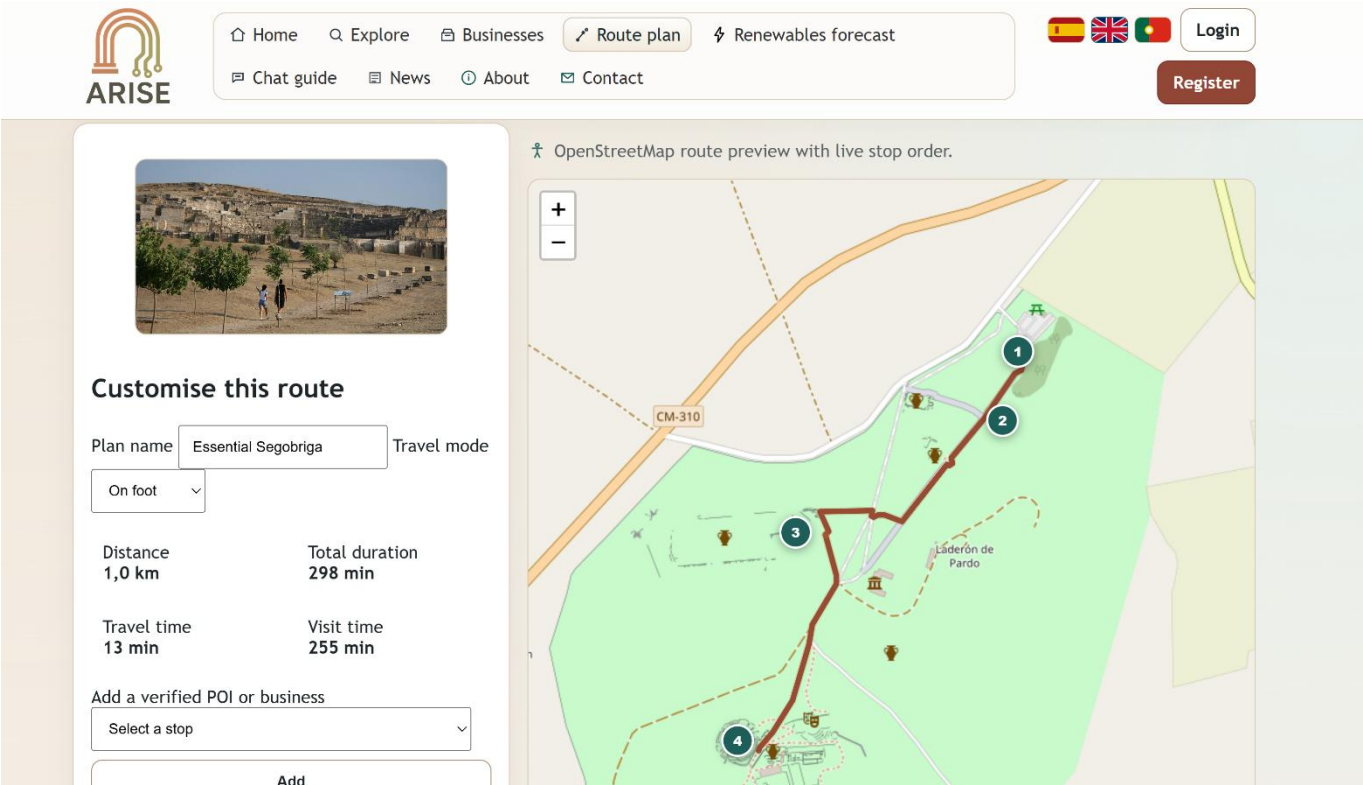


Figure 4: Multi-stop itinerary creation through Route Plan

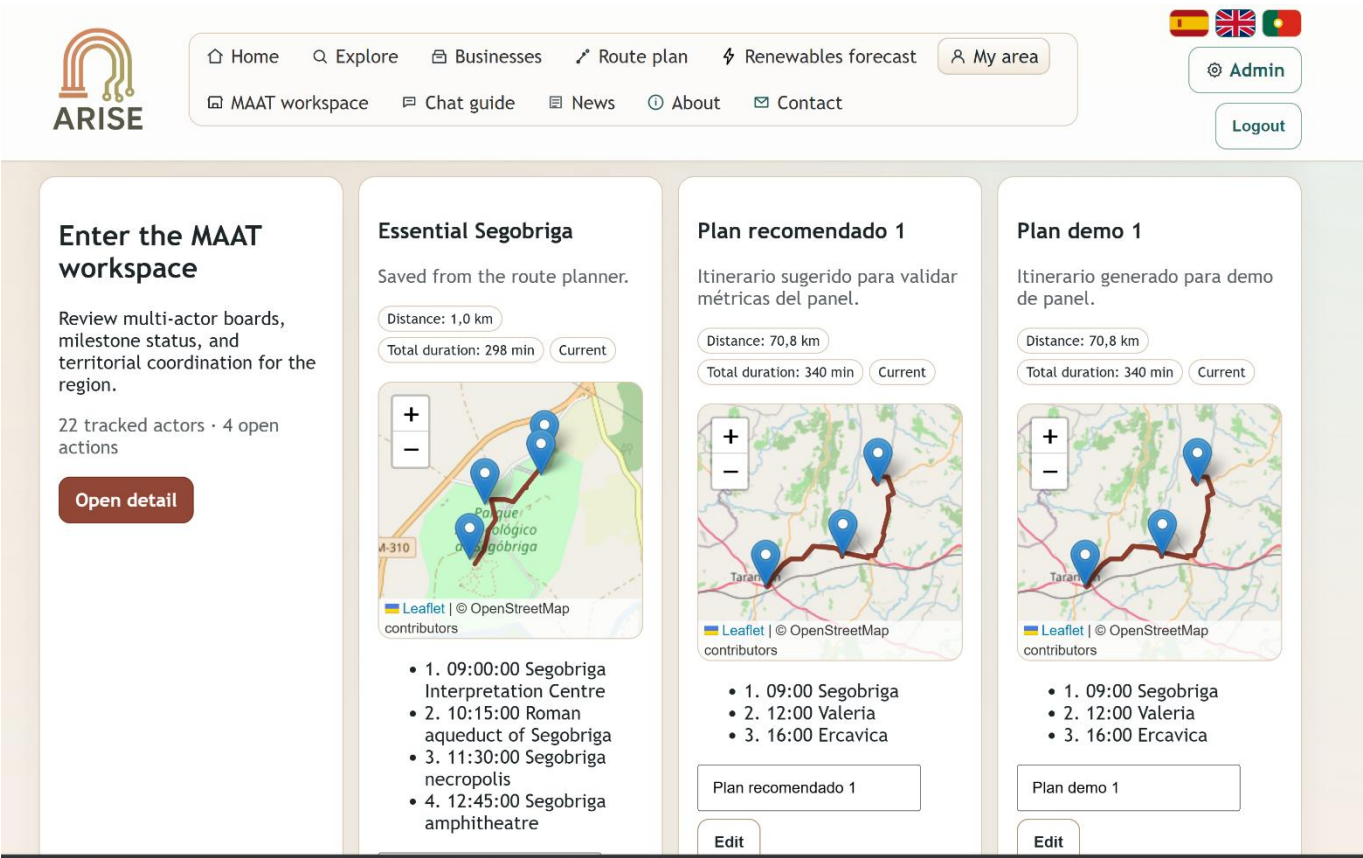


Figure 5: Saved itinerary with map preview in My Area

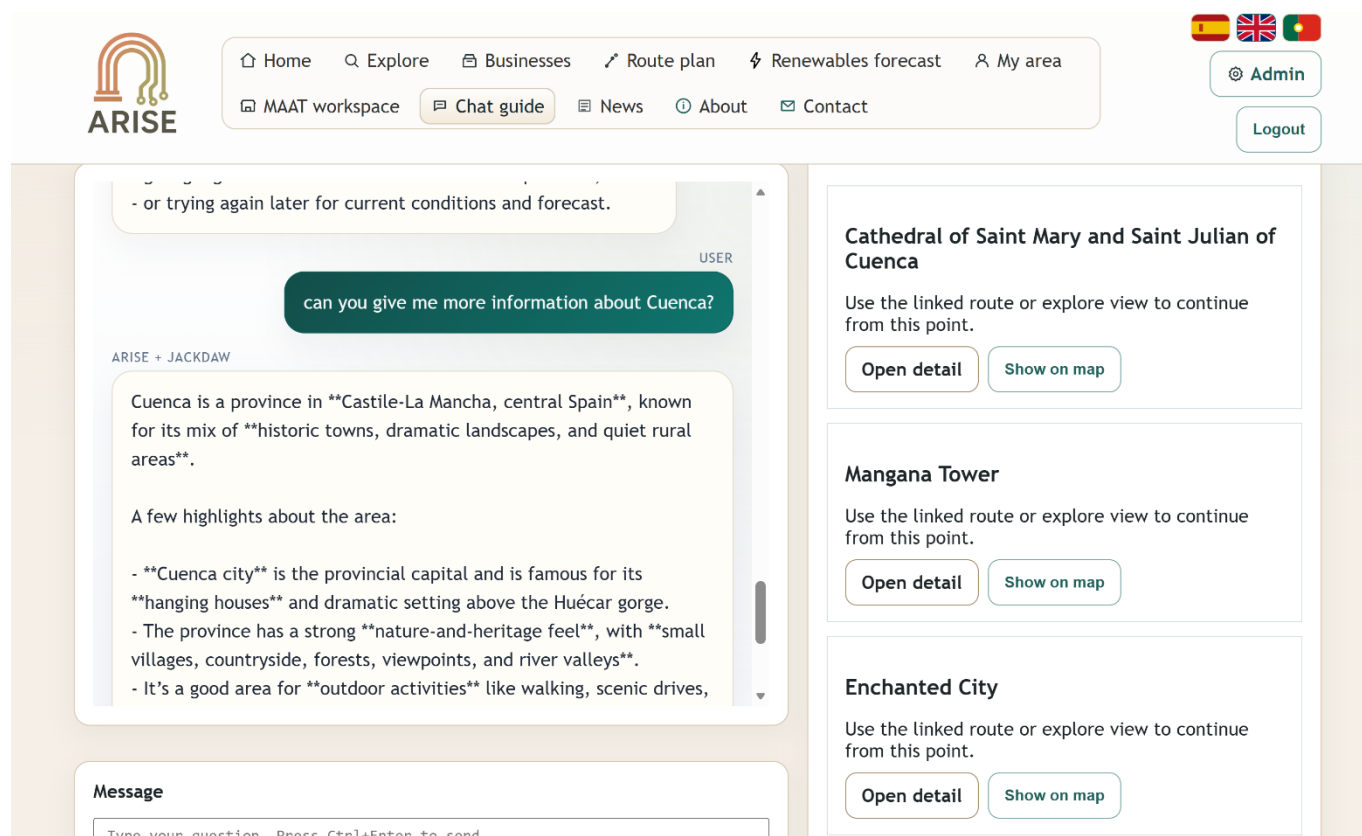


Figure 6: ARISE Chat Agent powered by PoliRural Jackdaw

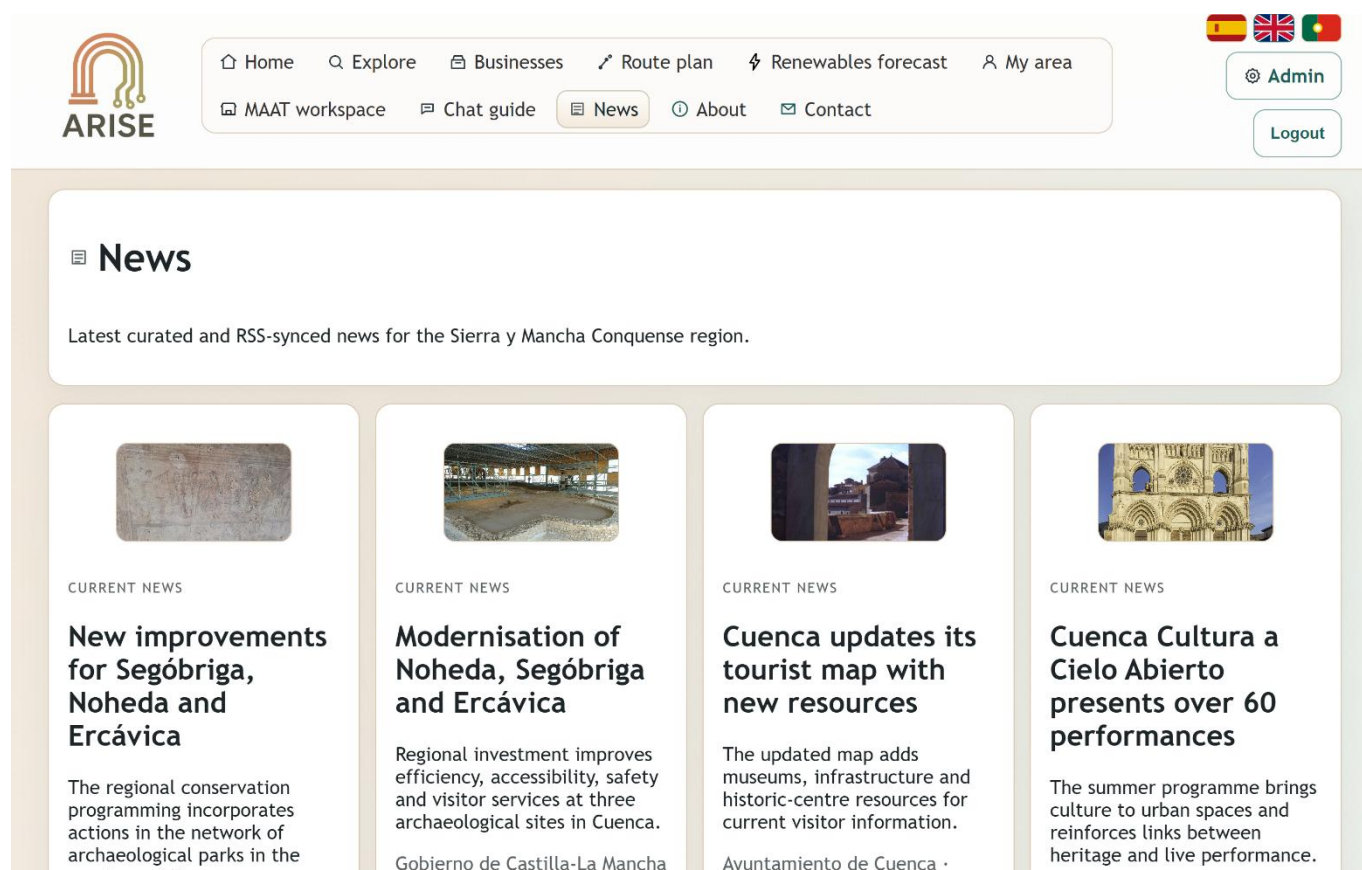


Figure 7: Public News module

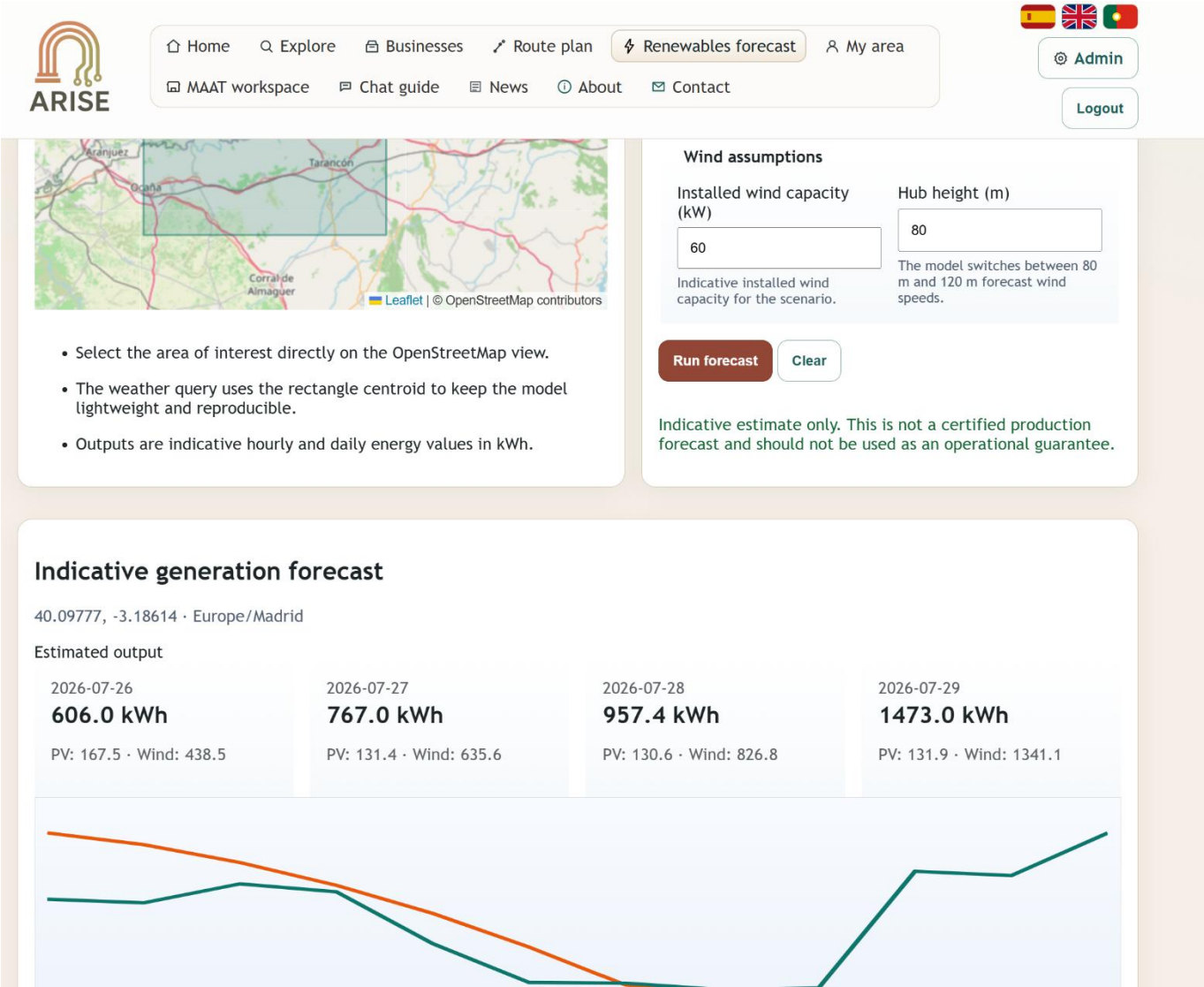


Figure 8: Indicative renewable-energy tools

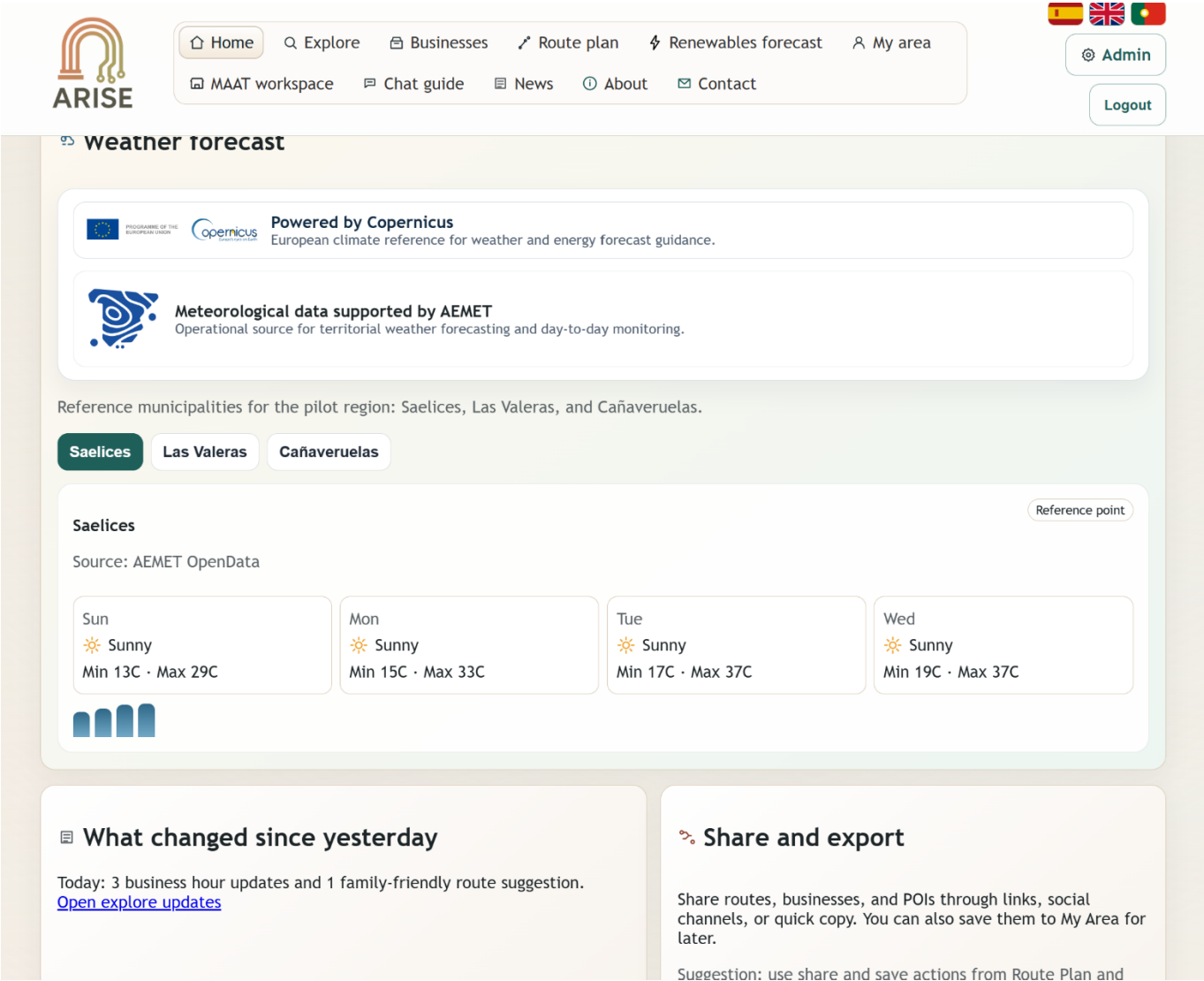


Figure 9: AEMET Weather forecast

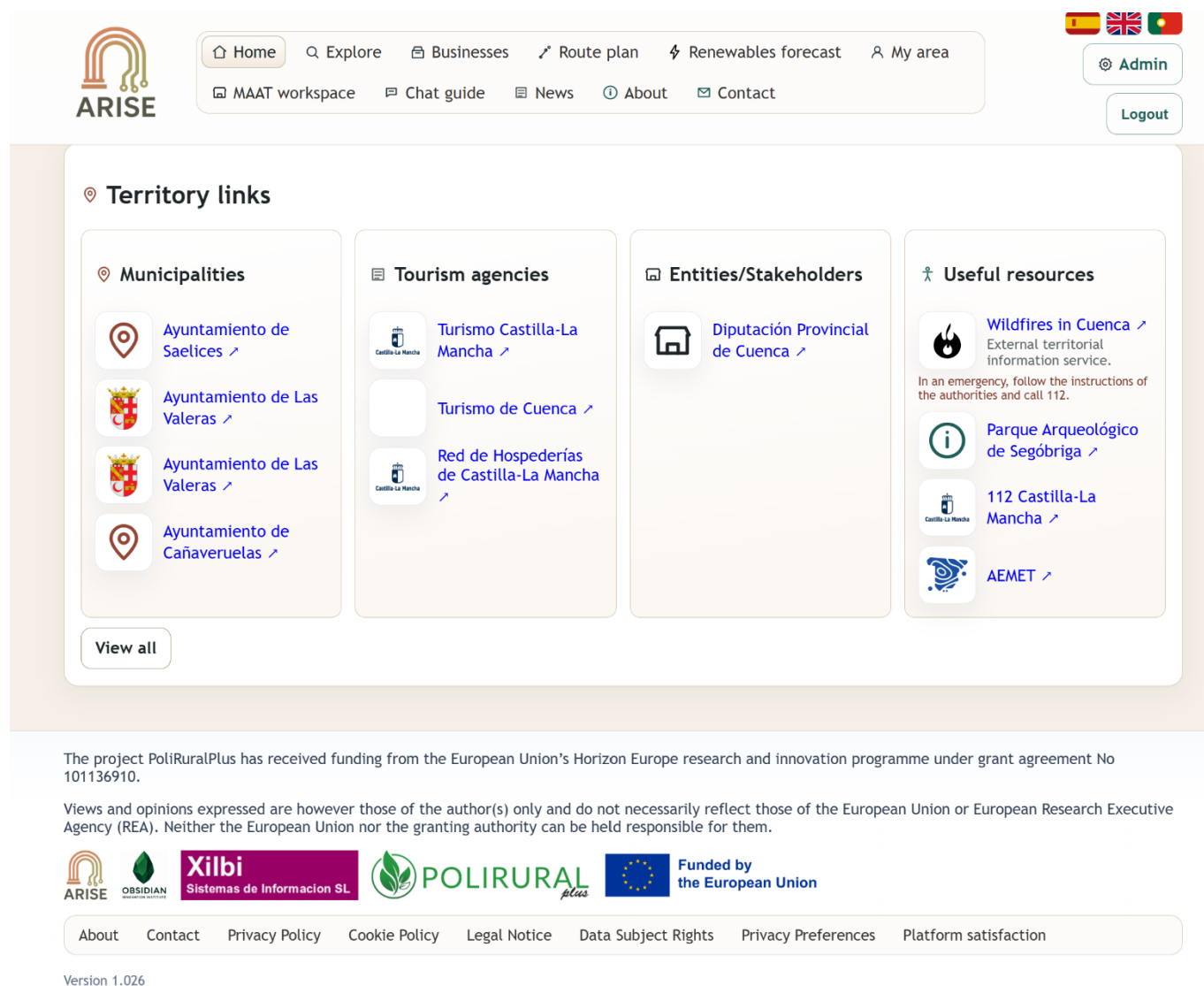


Figure 10: ARISE, PoliRuralPlus and European Union funding visibility

4. Integration and Contribution to PoliRuralPlus

ARISE was designed as a contribution to the wider PoliRuralPlus ecosystem rather than as an isolated tourism application. The approved concept connected its principal functions with relevant PoliRuralPlus tools and methods: spatially contextualised guidance through Jackdaw, multi-actor collaboration through MAAT, collaborative geospatial planning inspired by MapWhiteboard, rural-business promotion drawing on E-Market patterns, structured data exchange through the PoliRuralPlus Hub, and monitoring information relevant to the Rural Attractiveness Explorer.

The final implementation translates this concept into a heritage-led rural service while distinguishing between direct technical integration, functional adaptation and future interoperability.

4.1. Jackdaw integration

The ARISE Chat Agent directly integrates the PoliRural Jackdaw service to provide location-aware conversational guidance.

Before submitting a question, the user selects a rectangular area on the map. ARISE converts this selection into a Well-Known Text polygon using SRID 4326 and sends the geographical context together with the user's message through the ARISE backend.

Authentication is performed server-side through the PoliRuralPlus OAuth2 client-credentials flow. Credentials and access tokens are not exposed to the browser. The principal interaction uses the Jackdaw streaming interface, allowing the answer to be displayed progressively, with a controlled non-streaming request retained as a fallback where required.

This integration demonstrates the application of PoliRuralPlus GeoAI capabilities to cultural heritage, visitor guidance and rural-service discovery.

4.2. Multi-actor collaboration and geospatial planning

The authenticated MAAT workspace provides the principal multi-actor collaboration environment within ARISE.

It supports:

- stakeholder and governance records;
- initiatives and joint planning;
- task allocation and status monitoring;
- route co-design;
- document references, meeting minutes and shared notes;
- KPI and New European Bauhaus monitoring; and
- management of funding opportunities.

These functions translate the Multi-Actor Approach into an operational digital workspace connecting coordination, monitoring and territorial content.

Collaborative mapping and route co-design are implemented through the ARISE Leaflet/OpenStreetMap and MAAT environments. They reproduce the intended MapWhiteboard-style functions of shared spatial planning and route development within the main ARISE platform. This is a functional adaptation of the approved collaborative-mapping concept rather than a dependency on a separate public MapWhiteboard application.

4.3. Rural-business and marketplace functions

The ARISE business showcase applies functional patterns associated with the PoliRuralPlus E-Market for Local Food approach.

The platform uses structured business records, categories, public offers, voucher-oriented elements, promotional placements and route-linked discovery to connect visitors with rural enterprises and services. The concept was adapted from local-food promotion to the wider heritage-tourism value chain, covering accommodation, gastronomy, crafts, guiding and other rural services.

The resulting business layer is integrated with points of interest, routes, homepage highlights, promotional content and public contact mechanisms. Rural businesses therefore appear as part of the visitor journey rather than as an isolated directory.

This represents contextual reuse of the E-Market approach and not a direct technical dependency on the original E-Market application.

4.4. Structured data generated by ARISE

ARISE produced five structured, machine-readable dataset packages relevant to the PoliRuralPlus ecosystem:

1. Businesses.
2. Points of interest.
3. Routes.
4. News and events.

5. Videos.

Together, these catalogues contain 199 reviewed territorial records and are available for controlled reuse, export and replication.

The platform also maintains additional internal operational data structures for analytics, stakeholder collaboration, KPI monitoring and administration. These internal structures support platform operation but are distinct from the five dataset packages reported under KPI8.

4.5. Contribution to the PoliRuralPlus Hub

The ARISE architecture provides an integration-ready basis for controlled exchange with the PoliRuralPlus Hub.

The platform uses structured identifiers, multilingual fields, relational data models, documented API endpoints and machine-readable responses. These provide the technical basis for future synchronisation, export or ingestion through an agreed PoliRuralPlus procedure.

The project contribution to Hub-oriented interoperability therefore consists of:

- five structured dataset packages;
- consistent and reusable data models;
- documented public and authenticated interfaces;
- export-capable records;
- separation between public, operational and personal information; and
- a technical structure suitable for subsequent exchange.

The project delivered an integration-ready information structure that can be shared through documented interfaces or controlled exports where required.

4.6. Relevance to the Rural Attractiveness Explorer

ARISE generates monitoring information relevant to rural-attractiveness assessment, including:

- visitor uptake;
- itinerary-planning activity;
- rural-business participation;
- stakeholder engagement;
- collaborative planning activity;
- user satisfaction;
- multilingual digital accessibility;
- availability of heritage and rural-service content; and
- reduced dependence on printed visitor materials.

These indicators are maintained through the ARISE KPI and New European Bauhaus monitoring structures. They can be exported or shared in a machine-readable form for future analysis through the Rural Attractiveness Explorer or comparable territorial-assessment tools.

The project does not claim a direct upload to RAE, a separate RAE indicator-mapping file or the embedding of the complete RAE interface within ARISE. Its contribution consists of generating relevant indicators and maintaining them in a structured form suitable for subsequent RAE-oriented analysis.

4.7. APIs and interoperability

ARISE provides public API endpoints for selected platform resources and authenticated endpoints for supported MAAT functions.

The available interfaces cover resources such as:

- businesses;

- points of interest;
- heritage routes;
- news;
- funding opportunities;
- selected territorial tools; and
- stakeholder-workspace functions.

The interfaces are documented through OpenAPI/Swagger and provide a consistent method for retrieving structured information without relying on the public web interface.

The multilingual data structure further strengthens interoperability. ARISE supports Spanish, English and Portuguese, with controlled fallback where a specific record-level translation is unavailable. A replicated deployment can introduce additional languages, territorial datasets and stakeholder structures through configuration and content localisation rather than redesigning the core system.

4.8. Overall contribution to PoliRuralPlus

ARISE contributes to the wider PoliRuralPlus ecosystem in four complementary ways.

First, it demonstrates the application of PoliRuralPlus tools and methods in a cultural-heritage and rural-tourism setting, extending their demonstrated relevance beyond agricultural and food-related use cases.

Secondly, it delivers five structured dataset packages covering businesses, points of interest, routes, territorial news and events, and audiovisual resources, supported by documented interfaces and additional internal operational data structures.

Thirdly, it connects public-facing rural services with multi-actor governance. Visitor information, business visibility and route-planning activity are linked with stakeholder initiatives, tasks, monitoring and collaborative content management.

Fourthly, it provides a transferable interoperability model. Another rural territory can adapt ARISE by replacing its heritage, geospatial, business and stakeholder content, localising the interface and configuring the required external services.

ARISE therefore contributes both an operational pilot result and a reusable rural-development pattern. Its documented architecture, APIs, data structures and integration model provide a practical basis for continued exchange with PoliRuralPlus and for replication in other rural territories.

5. Stakeholder Engagement and User Involvement

Stakeholder engagement was treated as a core implementation activity throughout ARISE rather than as a separate dissemination exercise. The project involved public, private and civil-society actors relevant to the Sierra y Mancha Conquense heritage and rural-development ecosystem, including ADESIMAN-related territorial actors, municipalities, culture and tourism organisations, rural SMEs and micro-enterprises, community organisations, academic and research actors, and visitor or end-user representatives. This reflects the multi-actor approach established in the approved proposal.

Engagement combined co-design, consultation, iterative testing, content review, platform demonstrations, stakeholder coordination and supplementary meetings. Coordination with the pilot network was supported through the PoliRuralPlus-linked interface to ADESIMAN and complemented by consultations with organisations bringing experience in rural business activity, territorial development, agriculture, renewable energy, project management and SME support.

The final project records cover:

- **18 stakeholder organisations** involved in consultation, testing, coordination or content-related activities;
- **48 stakeholders registered in MAAT**;
- **63 rural businesses listed on the platform**;
- **31 recorded consultation, testing or validation interactions**; and

- **17 collaborative planning or workspace sessions.**

These figures represent different forms of participation and should not be interpreted as a single total of unique individuals. The public report uses aggregate information, while detailed attendance records and participant-level evidence are retained in the non-public project documentation. The non-public evidence includes supplementary stakeholder consultations and selected online coordination sessions involving Fundación Social Innolabs and ADESIMAN. Exact dates, participant records and meeting screenshots are retained in Part B.

5.1. Influence on the final platform

Stakeholder and user feedback influenced both the public visitor experience and the restricted coordination environment.

The main feedback themes concerned:

- the need for a simple and understandable public journey;
- stronger visibility for rural businesses and services;
- clearer map and route-planning functions;
- multilingual access;
- realistic and locally relevant content;
- reliable public contact options;
- appropriate privacy and access controls;
- clearer territorial news and funding information; and
- a structured environment for continued stakeholder coordination.

These inputs contributed to several concrete improvements. Public navigation and route-planning flows were simplified, business and heritage content was expanded, Spanish, English and Portuguese coverage was strengthened, and more realistic rights-cleared imagery was introduced. Public contact and legal/privacy functions were also improved, while direct exposure of unnecessary personal or business email information was avoided.

The stakeholder environment was expanded beyond a static information area into an authenticated MAAT workspace supporting stakeholder records, governance structures, initiatives, tasks, route co-design, KPI and New European Bauhaus monitoring, document references, meeting minutes, shared notes and funding initiatives.

5.2. Role of MAAT

The MAAT workspace became the principal digital mechanism for multi-actor coordination within ARISE. It provides a shared operational environment in which authorised participants can follow initiatives, responsibilities, deadlines, monitoring information and collaborative planning activities.

Coordinator-level functions support the management of stakeholders, indicators, documents and funding initiatives. Participant-level functions support contribution to tasks, planning items, notes and meeting records, subject to the applicable access and ownership rules.

This structure links stakeholder engagement with practical platform operation and provides a basis for continued coordination after the funded implementation period, subject to continued responsibility for content review, initiative management and territorial follow-up.

5.3. GDPR and Data Protection Compliance

ARISE processed personal data in accordance with the General Data Protection Regulation (GDPR) and the data-protection principles established for the project.

Personal data processed during implementation was limited to information necessary for project operation, stakeholder engagement, platform access, communication and reporting. Depending on the activity, this included participant names and organisational affiliations for meetings and workshops, stakeholder records, registered

platform-user information, contact-form submissions and limited operational information associated with authenticated use of the platform.

Participants were informed of the purpose for which their personal data was collected and used. All relevant consents required for project activities, including the use of identifiable participant images and meeting documentation where applicable, were obtained and are retained internally as part of the project records.

Access to personal and stakeholder information is restricted to authorised personnel. Public reporting uses aggregate information and non-personal evidence wherever possible, while participant lists, meeting screenshots and other identifiable stakeholder evidence are retained within the non-public project documentation.

The ARISE platform also applies privacy-by-design measures including protected administration and stakeholder environments, role-based access controls, privacy acknowledgements in relevant submission flows, controlled contact handling, consent-aware optional analytics and separation between public and restricted information.

Personal data and consent records are archived in controlled internal project repositories and are not included in the public software distribution. They are retained only for the applicable project, contractual, audit, legal and data-protection purposes, after which they are subject to deletion or anonymisation in accordance with the relevant retention requirements.

No production user database, stakeholder records, contact submissions or other personal information are included in the public ARISE repository or replication package.

6. Communication, Dissemination and Visibility

Communication and dissemination were integrated into ARISE throughout the implementation period. The objective was to make the project, its results and its territorial relevance visible to local stakeholders, rural businesses, public authorities, potential visitors and the wider PoliRuralPlus community.

The dissemination approach combined the live public demonstrator, institutional news articles, contributions prepared for PoliRuralPlus communication channels, milestone-based social-media communication, stakeholder presentations, platform demonstrations, capacity-building activities and reusable visual materials. These channels presented ARISE both as a European-funded rural-development initiative and as an operational digital service accessible to external users.

6.1. Public demonstrator

The principal communication output is the live ARISE platform:

<https://arise.xilbi.com/>

The platform serves simultaneously as the main project result, a continuously available demonstrator and a long-term communication channel for Sierra y Mancha Conquense. Users can access the principal visitor-facing functions without installing software or requesting project credentials.

The public service provides access to:

- map-based exploration of archaeological, cultural and territorial assets;
- rural-business listings and offers;
- multi-stop route planning and saved itineraries;
- the ARISE Chat Agent powered by PoliRural Jackdaw;
- territorial news and funding opportunities;
- regional and institutional references;
- public contact functions; and
- information on the project, its funding, and its legal and privacy framework.

The homepage also supports editable highlights, routes, points of interest, businesses, news, funding initiatives, promotional content and videos. This enables ARISE to remain an active public communication surface after completion of the funded project.

During the final monitoring period, the platform reached 1,286 monthly unique visitors, exceeding the target of 1,000. The demonstrator therefore functioned not only as a technical result, but also as the principal public channel through which the project and the pilot territory were presented.

6.2. Institutional news articles

The project exceeded the requirement to publish at least two institutional or external news articles. Three distinct articles were produced, covering the project launch, the mid-term milestone and the final project results. Each article was published through both consortium organisations, resulting in six public institutional publications.

The confirmed publications are:

1. **ARISE officially launches to support cultural heritage and rural innovation in Sierra y Mancha Conquense**, published by OBSIDIAN on 4 November 2025: <https://obsidiani2.org/2025/11/04/arise-officially-launches-to-support-cultural-heritage-and-rural-innovation-in-sierra-y-mancha-conquense/>
2. **ARISE reaches its mid-term milestone with a functioning public prototype now online**, published by OBSIDIAN on 27 February 2026: <https://obsidiani2.org/2026/02/27/arise-reaches-its-mid-term-milestone-with-a-functioning-public-prototype-now-online/>
3. **ARISE concludes with a live digital platform for heritage-led rural development**, published by OBSIDIAN on 30 June 2026: <https://obsidiani2.org/2026/06/30/arise-concludes-with-a-live-digital-platform-for-heritage-led-rural-development/>
4. **ARISE officially launches to support cultural heritage and rural innovation in Sierra y Mancha Conquense**, published by XILBI on 4 November 2025: <https://www.xilbi.com/2025/11/04/arise-officially-launches-to-support-cultural-heritage-and-rural-innovation-in-sierra-y-mancha-conquense/>
5. **ARISE reaches its mid-term milestone with a functioning public prototype now online**, published by XILBI on 28 February 2026: <https://www.xilbi.com/2026/02/28/arise-reaches-its-mid-term-milestone-with-a-functioning-public-prototype-now-online/>
6. **ARISE concludes with a live digital platform for heritage-led rural development**, published by XILBI on 30 June 2026: <https://www.xilbi.com/2026/06/30/arise-concludes-with-a-live-digital-platform-for-heritage-led-rural-development/>

The first article introduced the territorial challenge, project objectives and planned digital service. The second presented the functioning public prototype and the progress achieved at the mid-term stage. The final article reported completion of the nine-month implementation period and described the live platform, public and stakeholder functions, technical foundations, PoliRuralPlus contribution, sustainability and replication potential.

Publication through both consortium websites increased the reach and continuity of project communication while maintaining consistent descriptions of the project, its results and European Union funding context.

6.3. PoliRuralPlus communication contributions

Five ARISE communication contributions were published through the PoliRuralPlus website during the implementation period, documenting successive stages from the public prototype to final project completion.

1. Mid-term implementation and public platform launch

ARISE reaches mid-term milestone with public platform now online in Sierra y Mancha Conquense

Published on 23 March 2026, this contribution presented the transition from requirements and service design to a functioning public demonstrator. It introduced the principal visitor-facing functions, the territorial challenge

addressed by ARISE and the role of the platform in strengthening rural-urban links through cultural heritage, local businesses and digital guidance.

URL:

<https://www.poliruralplus.eu/knowledge-transfer/blog/arise-reaches-mid-term-milestone-with-public-platform-now-online-in-sierra-y-mancha-conquense/>

2. Final implementation phase and platform consolidation

ARISE moves towards completion: connecting cultural heritage, local businesses and territorial collaboration in Sierra y Mancha Conquense

Published on 10 June 2026, this contribution described the consolidation of the public platform, the connection between the visitor-facing service and the MAAT-supported stakeholder environment, and the remaining work related to validation, sustainability and replication.

URL:

<https://www.poliruralplus.eu/knowledge-transfer/blog/arise-moves-towards-completion-connecting-cultural-heritage-local-businesses-and-territorial-collaboration-in-sierra-y-mancha-conquense/>

3. Final implementation phase

ARISE enters its final implementation phase in Sierra y Mancha Conquense

Published on 18 June 2026, this news contribution provided an additional update on the project approximately one month before completion. It highlighted the progress of the digital platform in supporting cultural-heritage discovery, rural-business visibility and territorial coordination while preparing the final validation and project-conclusion activities.

URL:

<https://www.poliruralplus.eu/news/arise-enters-its-final-implementation-phase-in-sierra-y-mancha-conquense/>

4. Final results, impact and replication

ARISE final results: a reusable Heritage Synergy Platform for rural territories

Published on 27 July 2026, this final-results contribution presents the completed platform, achieved project results, stakeholder and rural-business participation, technical maturity, New European Bauhaus contribution, operational lessons, sustainability and replication potential. It also explains how the reusable ARISE architecture, data structures, APIs, administration functions and localisation resources can support adaptation in other rural territories.

URL:

<https://www.poliruralplus.eu/knowledge-transfer/blog/arise-final-results-a-reusable-heritage-synergy-platform-for-rural-territories/>

5. Project conclusion and final digital platform

ARISE concludes with a live digital platform for heritage-led rural development

Published on 27 July 2026, this concluding news article presents the completed ARISE implementation and its principal project legacy: a live public service connecting Roman heritage, rural businesses, visitor planning and stakeholder coordination, together with a reusable model for application in other rural territories.

URL:

<https://www.poliruralplus.eu/news/arise-concludes-with-a-live-digital-platform-for-heritage-led-rural-development/>

Together, the five published contributions document the progression of ARISE from the availability of its initial operational platform, through final-stage consolidation and implementation, to completion as a functioning and reusable rural-heritage digital service.

The contributions address the project rationale, territorial context, public demonstrator, stakeholder and technical development, measurable results, sustainability and replication potential. The use of both PoliRuralPlus blog and news channels also provided complementary communication of the principal implementation milestones and final results.

6.4. Social-media communication

ARISE used milestone-based social-media communication covering the project launch, mid-point and final-results stages. Each publication reflected the implementation status reached at that stage and directed audiences towards the public demonstrator or the corresponding institutional communication.

The launch-stage communication introduced the territorial context of Sierra y Mancha Conquense, the ARISE objectives, the consortium, the connection with PoliRuralPlus and the planned visitor and stakeholder services.

Confirmed launch-stage publication:

https://www.facebook.com/permalink.php?story_fbid=pfbid02j4wHdQTWjrytjQEfe3bEuzRXEYtXQuJnbGDPGTLhBst6JoQu8FQQdvCRasMxzVQdl&id=61584354449868

The mid-point communication announced the availability of the functioning public prototype and presented the principal modules already implemented, including map-based exploration, rural-business visibility, route planning and the ARISE Chat Agent.

Confirmed mid-point publication:

https://www.facebook.com/permalink.php?story_fbid=pfbid0eMoYhkmlKaiRTj8CEiYMyC1FQKkl1sgeQ3iMzwZM18mmR3JT3LvU5VFwqauU7GpVWl&id=61584354449868

The final-results communication reported completion of the project and highlighted the live platform, achieved results, stakeholder participation, rural-business coverage, technical maturity, sustainability and replication potential.

Confirmed final-stage publication:

<https://www.facebook.com/ObsidianI2/posts/pfbid02opszewUWV7fm9J74n1vhGJK3NngpDAKHGsf7hhKgx25RhVAPAKWbnQ8fRTQPuWymVI>

The social-media communication therefore covered all three key project stages. The publications used concise milestone summaries, territorial imagery, platform screenshots and links to the public demonstrator or related institutional articles. The messaging evolved across the implementation period, moving from the initial territorial challenge and planned solution to the operational prototype and, finally, to the completed platform, its impacts and future replication potential.

6.5. Stakeholder workshops, demonstrations and capacity building

Stakeholder consultation, co-design, platform demonstration and capacity-building activities accompanied the development and deployment of ARISE. These activities supported requirements definition, territorial-content review, platform familiarisation, usability feedback and transfer of operational knowledge.

The principal co-design and territorial-coordination sessions were organised online in order to facilitate participation by the different organisations and individuals involved, reduce scheduling constraints and enable contributors from different locations to participate effectively. These sessions involved the ARISE consortium, Fundación Social Innolabs and, where relevant, ADESIMAN.

The sessions addressed the territorial challenge, user and stakeholder requirements, heritage and business content, route-planning needs, platform development, stakeholder coordination, validation priorities and preparation for continued operation.

The use of online sessions did not replace territorial engagement. Project travel and on-site visits were used for activities requiring physical presence in Sierra y Mancha Conquense, including:

- interaction with rural businesses and local actors;
- observation and verification of territorial and heritage information;
- collection of photographic and visual material;
- identification and review of points of interest;
- preparation and validation of routes and itinerary content;
- assessment of visitor-access and service conditions;
- platform demonstrations and technical coordination where appropriate; and
- other implementation and validation activities linked to the pilot territory.

The operational and final implementation stages also included supplementary stakeholder consultations addressing platform validation, content and usability improvements, sustainability, continued operation and replication potential. Participant-level evidence, exact dates, meeting records and screenshots are retained in Part B.

The approved proposal did not define a cumulative attendance KPI for workshops. Participation is therefore supported through meeting records, consultation documentation, stakeholder records, platform evidence and associated project materials rather than through a single aggregate attendance figure.

6.6. Communication and training materials

ARISE produced a reusable set of communication, demonstration and guidance materials based on the deployed platform and its territorial content. These included:

- public-platform screenshots;
- interface captures of Explore, Businesses and Route Plan;
- ARISE Chat Agent screenshots;
- route and point-of-interest cards;
- business listings and promotional cards;
- territorial news and funding visuals;
- project presentations;
- workshop and demonstration materials;
- online guidance and quick-start documentation;
- architecture and API diagrams; and
- ARISE, PoliRuralPlus and European Union branding elements.

Selected non-sensitive MAAT and administration views were also used where necessary to demonstrate the operational scope of the platform.

These materials supported institutional publications, social-media communication, stakeholder sessions, reporting and future platform orientation. The platform's editable news, homepage highlights, funding initiatives, videos and regional links also allow authorised operators to continue publishing updated communication content after project completion.

6.7. GDPR-compliant and rights-cleared visual material

Public dissemination relied primarily on interface screenshots, territorial imagery, route and business cards, architecture diagrams and other non-personal visual material. This reduced unnecessary exposure of participant information and made the communication assets suitable for public reports, websites, presentations and social-media channels.

ARISE also implemented a structured image-provenance approach. Imported images are stored locally and accompanied by source, author, licence and attribution information. This supports rights-compliant reuse and reduces dependency on unverified or unstable remote image sources.

Meeting screenshots, participant lists and other materials containing identifiable individuals are retained in Part B and are not reproduced unnecessarily in the public report. Photographs containing identifiable people are used publicly only where the applicable consent or other legal basis has been confirmed. Further information on the collection, processing, protection and retention of personal data is provided in Section 5.3.

6.8. European Union funding visibility

European Union funding visibility was incorporated consistently into the public platform and communication materials.

The public interface displays:

- the ARISE logo;

- the PoliRuralPlus logo;
- the European Union emblem and funding identity;
- the required funding acknowledgement; and
- the mandatory disclaimer concerning responsibility for the views expressed.

The funding acknowledgement states:

The project PoliRuralPlus has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101136910.

The platform footer provides persistent funding visibility across the public pages. The same visibility principles were applied to institutional articles, presentations, workshop materials, screenshots and social-media communication where applicable.

6.9. Public discoverability and continued visibility

The dissemination capacity of ARISE was reinforced through technical discoverability measures. Public pages include canonical references, robots.txt, sitemap.xml and configurable indexing controls. These functions support appropriate indexing of public content while keeping administrative, authentication and restricted stakeholder surfaces outside public search results.

The News module supports curated and RSS-synchronised territorial information. Funding initiatives, homepage videos, regional links, highlighted routes, points of interest and businesses can also be updated through the restricted operational environment.

Communication therefore does not end with submission of the final report. The deployed platform remains a continuing public channel for presenting Sierra y Mancha Conquense, promoting its cultural heritage and rural businesses, communicating relevant opportunities and supporting continued stakeholder engagement.

Overall, ARISE established a substantial public communication basis through the live demonstrator, six institutional publications covering the launch, mid-term and final stages, three milestone-based social-media communications, five published PoliRuralPlus communication contributions, stakeholder and capacity-building activities, reusable visual materials and consistent European Union funding visibility. The five PoliRuralPlus contributions were publicly accessible through the PoliRuralPlus website and collectively documented the progression of ARISE from the operational prototype through final implementation to project completion and replication readiness.

7. Impact Assessment

ARISE generated measurable results across technical, social, economic, environmental and governance dimensions. The strongest evidence concerns the delivery and use of the platform, stakeholder participation, rural-business representation and the establishment of a reusable digital-service model. Wider effects such as increased visitor expenditure, longer stays or permanent changes in territorial governance require monitoring beyond the project period and are therefore presented as expected follow-on impacts rather than as completed socio-economic outcomes.

7.1. Technical impact

The principal technical impact is the delivery of a functioning, integrated and maintainable digital platform rather than a conceptual design or isolated prototype.

ARISE combines:

- map-based heritage and territorial discovery;
- rural-business listings;
- multi-stop itinerary planning;
- location-aware conversational guidance;
- authenticated stakeholder collaboration;
- news and funding information;

- content and platform administration;
- public and authenticated APIs;
- multilingual support;
- privacy and legal controls; and
- repeatable quality-assurance procedures.

The platform is publicly deployed and supported by restricted administrative and stakeholder environments. It has therefore progressed beyond wireframes and static mock-ups into an operational pilot with public, management and collaboration functions.

The final release is also supported by documented architecture, administration guidance, API references, integration notes, database migrations, localisation resources, image-provenance records and validation procedures. These results strengthen maintainability and provide the basis for independent replication in other territories.

7.2. Social and territorial impact

ARISE improves access to cultural heritage and rural-service information by presenting archaeological sites, routes, businesses, news and territorial resources through a unified public interface.

Before the project, visitors frequently had to consult separate websites, brochures and informal sources to understand what could be visited, how sites could be combined and which local services were available. ARISE reduces this fragmentation by connecting heritage discovery, route planning, business information and contextual guidance within one digital journey.

The service also supports more inclusive access through:

- public web availability;
- mobile-oriented presentation;
- Spanish, English and Portuguese interfaces;
- controlled language fallback where individual translations are unavailable;
- map-led navigation;
- guided chat prompts;
- public contact functions; and
- accessible legal and privacy information.

Stakeholder and user involvement also contributed directly to the platform's relevance. The final project records cover 18 stakeholder organisations, 48 registered MAAT stakeholders and 31 consultation, testing or validation interactions. These results demonstrate that ARISE was developed as a multi-actor territorial service rather than solely as a visitor-facing technology.

7.3. Economic and rural-business impact

ARISE improves the digital visibility of rural businesses and micro-enterprises by integrating them into the same user journey as heritage sites and routes.

The final platform includes 63 rural businesses, exceeding the target of 30. Businesses are presented through structured listings, public profiles, categories, imagery, opening information, voucher-oriented elements, promoted content and route-linked discovery.

This structure allows visitors to identify accommodation, gastronomy, crafts, guiding and other services while planning a territorial visit. It therefore creates conditions for:

- wider distribution of visitor attention beyond the principal archaeological sites;
- increased visibility for enterprises in surrounding villages;
- stronger links between heritage visits and local consumption;
- promotion of multi-site and multi-service itineraries; and
- future development of territorial packages and offers.

The project did not collect sufficient verified transaction or sales data to claim a direct increase in business turnover. The demonstrated economic impact is therefore increased visibility, discoverability and integration of rural businesses into the visitor journey. Changes in visitor expenditure and business revenue require longer-term monitoring.

7.4. Governance and policy impact

The authenticated MAAT workspace provides the principal governance-related result of ARISE.

It supports:

- stakeholder records;
- governance structures;
- initiatives and joint planning;
- task allocation and status monitoring;
- route co-design;
- documents, meeting minutes and shared notes;
- KPI and New European Bauhaus monitoring; and
- funding-opportunity management.

The project recorded 17 collaborative planning or workspace sessions, exceeding the target of 10. This provides evidence that the platform was used as more than a public information service and that the collaborative environment supported structured stakeholder activity.

The governance impact lies in providing a common digital framework through which territorial actors can organise information, assign responsibilities, follow initiatives and review indicators. This addresses the original problem of fragmented coordination across separate communication channels and information sources.

ARISE also generates structured information relevant to future territorial analysis, including visitor activity, business participation, itinerary planning, stakeholder engagement and project indicators. These records can support future ADESIMAN-related coordination and rural-attractiveness assessment, subject to continued stakeholder use and an agreed data-exchange procedure.

7.5. Environmental impact

The environmental contribution of ARISE is indirect but measurable.

The platform supports digital-first access to visitor information, reducing dependence on printed brochures and other disposable communication material. It also enables visitors to plan multi-site routes before travelling, which can reduce fragmented decision-making and support more coherent movement across the territory.

The final project monitoring estimated **138 kg CO₂e avoided** in comparison with the equivalent provision of printed visitor information. This exceeds the project target of 100 kg CO₂e.

The estimate is based on a project-level brochure-equivalence calculation linking qualifying digital information accesses with an assumed emissions factor for printed material. It is used as a monitoring proxy and should not be interpreted as a full life-cycle assessment of the ARISE platform, visitor travel or the wider tourism system. The detailed calculation method and supporting evidence are retained in Part B.

7.6. New European Bauhaus contribution

ARISE contributes to the three New European Bauhaus dimensions of sustainability, inclusion and aesthetics.

Sustainability is supported through digital-first communication, reduced reliance on printed material, structured itinerary planning, reusable software components, open geospatial data patterns and a maintainable architecture that can be adapted rather than rebuilt.

Inclusion is supported through multilingual access, public web availability, mobile-oriented interaction, privacy-aware contact mechanisms, stakeholder consultation and an authenticated workspace capable of supporting different organisational roles.

Aesthetics is reflected in the coherent ARISE visual identity, territorial and heritage imagery, map-led storytelling, improved typography and layout, consistent branding, and a public interface designed to present archaeological assets and rural services as part of one recognisable territorial experience.

The New European Bauhaus contribution is therefore embedded in both the platform design and the project's operating model rather than being treated as a separate visual exercise.

7.7. Final KPI results

The approved proposal established nine final indicators covering stakeholder participation, business representation, public uptake, engagement, collaboration, data readiness and environmental performance.

KPI	Target	Final result	Status
KPI1 - Stakeholders registered in MAAT	≥20	48	Exceeded
KPI2 - Rural businesses listed	≥30	63	Exceeded
KPI3 - Monthly unique visitors	≥1,000	1,286	Exceeded
KPI4 - Average active-session duration	≥4 minutes	5 minutes 18 seconds	Exceeded
KPI5 - Platform user satisfaction	≥4/5	4.4/5	Exceeded
KPI6 - Itineraries planned through the application	≥100	148	Exceeded
KPI7 - Collaborative planning or workspace sessions	≥10	17	Exceeded
KPI8 - Structured dataset packages prepared for PoliRuralPlus-oriented reuse	≥5	5 structured dataset packages	Met
KPI9 - Estimated CO₂e avoided compared with printed brochures	≥100 kg	138 kg CO₂e	Exceeded

Table 1: KPI results

For KPI8, the final result consists of five structured dataset packages covering businesses, points of interest, routes, news and events, and audiovisual resources. The packages are available in machine-readable form for controlled reuse, export and replication. The result does not claim that the files were uploaded to an external PoliRuralPlus Hub repository.

The supporting evidence includes platform records, aggregate analytics, survey results, route-plan records, MAAT activity records, structured-data inventories and the environmental calculation. Detailed evidence containing operational or personal information remains in Part B.

7.8. Overall impact assessment

ARISE achieved its principal impact objective by transforming fragmented heritage, rural-service and stakeholder information into a functioning shared digital environment.

The project delivered:

- a publicly accessible heritage and rural-service gateway;
- measurable visitor uptake and engagement;
- stronger digital representation of rural businesses;
- an operational multi-actor collaboration environment;
- structured territorial and monitoring information;
- a measurable digital-first environmental proxy; and
- a reusable technical and organisational model.

All nine final KPIs were met or exceeded. This confirms successful delivery against the project's measurable implementation and uptake targets.

The broader territorial impact will depend on continued platform operation, periodic content maintenance, stakeholder participation and sustained promotion. ARISE nevertheless concludes with a credible technical, social and governance basis for longer-term rural attractiveness, business visibility and heritage-led rural-urban cooperation.

8. Challenges, Risks and Lessons Learned

The principal challenges encountered during ARISE were consistent with the risk profile defined in the approved proposal. The four main risks concerned stakeholder uptake, integration of the technical components, data protection and operational security, and control of infrastructure and implementation costs.

These risks were monitored throughout the project. None required a change to the central objectives or overall intervention logic. However, they required continuous coordination, phased technical delivery and additional operational controls to ensure that the final platform was credible, secure and maintainable.

8.1. Stakeholder participation and content maintenance

The first challenge concerned stakeholder activation and the preparation of accurate territorial content.

ARISE depends on the participation of public bodies, rural businesses, community actors and other territorial organisations to identify relevant services, validate routes and maintain up-to-date information. The challenge was therefore not limited to attracting stakeholders to consultation activities. It also involved converting their knowledge into structured content that could be managed through the platform.

The principal mitigation measures included:

- early stakeholder mapping and consultation;
- supplementary consultation activities;
- iterative platform demonstrations;
- progressive business and stakeholder onboarding;
- structured administration functions for territorial content;
- use of the MAAT workspace for initiatives, tasks and shared information; and
- definition of clearer content-management and coordination responsibilities.

These measures supported the population and validation of the platform during implementation. They also confirmed that stakeholder engagement must be treated as an operational activity rather than only as a communication or dissemination task.

The remaining risk concerns continuity after the funded period. The technical platform can support content updating and stakeholder coordination, but its long-term relevance depends on authorised actors periodically reviewing businesses, routes, points of interest, news and funding information.

8.2. Technical integration and external dependencies

The second challenge was the integration of multiple interdependent components within one coherent service.

ARISE combines:

- public visitor-facing functions;
- map-based exploration and route planning;
- the ARISE Chat Agent and Jackdaw integration;
- business, point-of-interest and route data;
- an authenticated MAAT workspace;
- administration and operational monitoring;
- public and authenticated APIs;

- news, funding and promotional-content functions;
- weather and renewable-energy information; and
- legal, privacy and consent controls.

The main risk was that failure or instability in one external service could affect the wider user experience. This was particularly relevant to Jackdaw authentication and conversational requests, weather-service availability and the interaction between public, administrative and authenticated functions.

The mitigation approach was based on phased integration and incremental hardening. The core public journeys were established first, after which the external services and supporting functions were progressively added and tested.

External-service requests were processed through the ARISE backend. Credentials, API keys and access tokens remained server-side, while integration settings were managed through the restricted administration environment.

The Jackdaw integration uses a streaming request as its principal interaction model and retains a controlled non-streaming fallback. Public users receive generic availability messages when an external service cannot be reached, while detailed diagnostics remain within restricted logs and administration tools.

This approach reduced the impact of external-service failures and prevented integration credentials or internal technical details from being exposed through the browser.

8.3. Release stability and quality assurance

A related challenge was ensuring that successive additions did not destabilise previously implemented functions.

ARISE therefore used automated feature and integration tests, database-backed QA, link-integrity checks, localisation tests and manual review of the principal public and administrative journeys. The documented validation baseline comprised 94 automated tests and 1,007 assertions.

Testing covered navigation, businesses, routes, news, funding, Jackdaw behaviour, MAAT workflows, APIs, administration functions, legal and privacy pages, public contact, imagery, internal links and public indexing surfaces.

The main lesson is that integration-heavy digital services require repeatable regression testing. Technical validation should cover not only the visible public interface, but also administration, permissions, integration configuration, APIs and failure behaviour.

Automated testing did not remove the need for manual inspection. Responsive presentation, language completeness, image suitability and overall visual credibility still required direct review.

8.4. Content quality and public credibility

The third practical challenge was creating a credible public service.

A technically functioning rural-heritage platform is not sufficient if its content appears generic, inconsistent or incomplete. Users expect accurate language, realistic territorial information, appropriate imagery, reliable links, clear funding visibility and understandable map and route functions.

Additional implementation effort was therefore allocated to:

- improving the realism of business and heritage records;
- extending localisation across Spanish, English and Portuguese;
- correcting inconsistent or incomplete interface text;
- improving internal-link reliability;
- refining map and route-plan usability;
- introducing clearer public contact functions;
- improving news and funding presentation;
- strengthening homepage highlights and videos; and
- ensuring visual consistency across desktop and mobile interfaces.

A structured image-provenance mechanism was introduced for externally sourced images. Locally stored and rights-cleared material was preferred, while image fallback logic was separated by content type. This reduced the risk of

businesses, routes, points of interest, news or funding opportunities being displayed with semantically inappropriate images.

The main lesson is that content governance must progress alongside software development. Localisation, image selection, source verification and editorial consistency are part of platform quality and should not be postponed until the end of implementation.

8.5. Data protection and operational security

The fourth challenge was maintaining an appropriate separation between public content and restricted operational or personal information.

ARISE handles several types of information, including public territorial content, authenticated user functions, stakeholder records, contact submissions, analytics, administration settings and external-service credentials. These categories require different access and disclosure controls.

The implemented measures included:

- authentication and role-based protection for administration functions;
- authenticated access to the MAAT workspace;
- coordinator and participant permission rules;
- ownership restrictions for participant-created records;
- server-side handling of credentials and tokens;
- masked presentation of stored secrets;
- separation of public and restricted API resources;
- privacy acknowledgements in relevant forms;
- controlled cookie and analytics preferences;
- public privacy, cookie, legal-notice and data-rights pages;
- a dedicated public contact workflow; and
- removal of unnecessary public email exposure.

The public platform therefore remains accessible while stakeholder information, contact submissions, operational settings and integration data remain restricted.

The main lesson is that data protection should be incorporated into the architecture from the beginning. Retrofitting privacy and access controls after deployment would have created greater technical, legal and operational risk.

8.6. Infrastructure and budget control

The approved proposal also identified potential budget pressure arising from hosting, cloud infrastructure or external technical services.

This risk was controlled through a proportionate infrastructure model and regular monitoring of the resources required by the platform. Server, hosting and associated infrastructure expenditure was covered by the consortium from its own resources and was not charged under other goods, works and services.

The use of a maintainable Laravel application with clearly separated public, administrative and authenticated functions also avoided unnecessary infrastructure fragmentation.

No structural budget deviation resulted from hosting or technical integration. The principal lesson is that a pilot platform should distinguish between essential operational components and optional experimental features, and should avoid infrastructure complexity that does not provide a proportionate user or project benefit.

8.7. Effectiveness of the mitigation approach

The most effective mitigation measures during ARISE were:

- phased implementation;
- prioritisation of the core public service;

- early and continued stakeholder consultation;
- incremental content enrichment;
- server-side control of third-party integrations;
- restricted access to operational functions;
- fallback handling for external-service failures;
- automated and manual quality assurance;
- documented image and content provenance; and
- continuous review of localisation, usability and public credibility.

The project did not eliminate all external dependencies or long-term uncertainties. Availability of third-party services, continued stakeholder participation and future content maintenance remain partly outside the control of the software itself.

Nevertheless, the mitigation measures prevented these issues from materially affecting delivery of the principal platform, milestones and quantitative targets.

8.8. Lessons learned and recommendations

The principal technical lesson is that public digital services require strong operational foundations. Administration, permissions, configuration, APIs, monitoring, fallback behaviour and testing are integral parts of the solution, not secondary technical functions.

The principal organisational lesson is that stakeholder governance must be treated as a delivery component. Software alone cannot ensure that routes, businesses, initiatives and territorial information remain accurate and useful.

The principal user-experience lesson is that credibility depends on the complete service. Incorrect images, inconsistent translations, broken links or unclear interaction flows can undermine trust even where the underlying architecture is technically sound.

The principal monitoring lesson is that KPI evidence should be designed from the start. Each indicator should have a defined source, calculation method, reporting period and responsible verifier. Supporting records should be retained continuously rather than reconstructed only during final reporting.

Future projects applying the ARISE approach should:

- define content ownership and update responsibilities during co-design;
- establish KPI measurement methods before public deployment;
- maintain a structured inventory of datasets, indicators and evidence;
- distinguish direct technical integrations from functional adaptation of external tools;
- isolate third-party services through server-side integration layers;
- use realistic local content from the first public release;
- review localisation and accessibility in every development cycle;
- retain automated and manual release checks;
- define the post-project technical and content-management model before project closure; and
- treat stakeholder onboarding, content maintenance and technical operation as separate but coordinated responsibilities.

Overall, ARISE confirmed that sustainable rural digitalisation requires simultaneous attention to technology, content quality, stakeholder governance, privacy, evidence and operational continuity. The challenges encountered were not isolated failures, but practical implementation factors that contributed to a more robust and transferable final platform.

9. Sustainability, Replicability and Next Steps

The sustainability of ARISE is based on three complementary dimensions: technical maintainability, organisational continuity, and financial and exploitation viability. The project was designed not only to deliver a public demonstrator, but also to establish a maintainable platform, a structured operating model and a reusable software distribution that can support continued operation and independent deployment after the funded implementation period.

9.1. Technical sustainability

The technical sustainability of ARISE is supported by its maintainable application architecture, structured administration functions and documented configuration and validation procedures.

The platform uses a Laravel-based architecture with separate public, administrative and authenticated stakeholder functions. Core information is maintained through relational data structures rather than being embedded directly in the public pages. Businesses, points of interest, routes, news, funding opportunities, stakeholder records and other content can therefore be reviewed and updated without rebuilding the application.

External-service configuration is managed through protected administration functions. Jackdaw, weather and other integration settings are maintained centrally, while credentials and access tokens remain server-side. This reduces dependency on hard-coded configurations and supports controlled maintenance of the deployed service.

Technical continuity is also supported by:

- system architecture and component documentation;
- administrator guidance;
- deployment and configuration instructions;
- database schema and migrations;
- public and authenticated API surfaces;
- OpenAPI/Swagger documentation;
- Jackdaw integration documentation;
- localisation resources for Spanish, English and Portuguese;
- image-provenance records;
- privacy, legal and consent configuration;
- automated feature and integration tests;
- database-backed quality-assurance procedures; and
- release and version records.

The live ARISE platform remains a separate production deployment operated by the consortium. It is not transferred to another organisation as part of the final report.

9.2. Public distribution release

The final replication output includes a general-purpose distribution version of the ARISE platform released through GitHub:

<https://github.com/obsi-org/ARISE>

The public distribution contains the application source code and the technical resources required to install, configure, test and adapt an independent ARISE instance.

The distribution release does not include:

- the production database;
- registered user accounts;
- stakeholder records;
- MAAT activities, tasks, minutes or shared notes;
- public-contact submissions;

Develop Final Report - Part A (Public)

- production analytics or logs;
- unpublished editorial records;
- environment-specific configuration;
- OAuth credentials;
- API keys;
- passwords or access tokens; or
- any other personal, confidential or production-specific information.

The database schema and migrations are included so that a new instance can be created independently. Any demonstration content included in the distribution is generic or synthetic and does not reproduce production users, stakeholder information or confidential pilot data.

The distribution version therefore supports replication without transferring the operational ARISE platform, its production data or its operational responsibility.

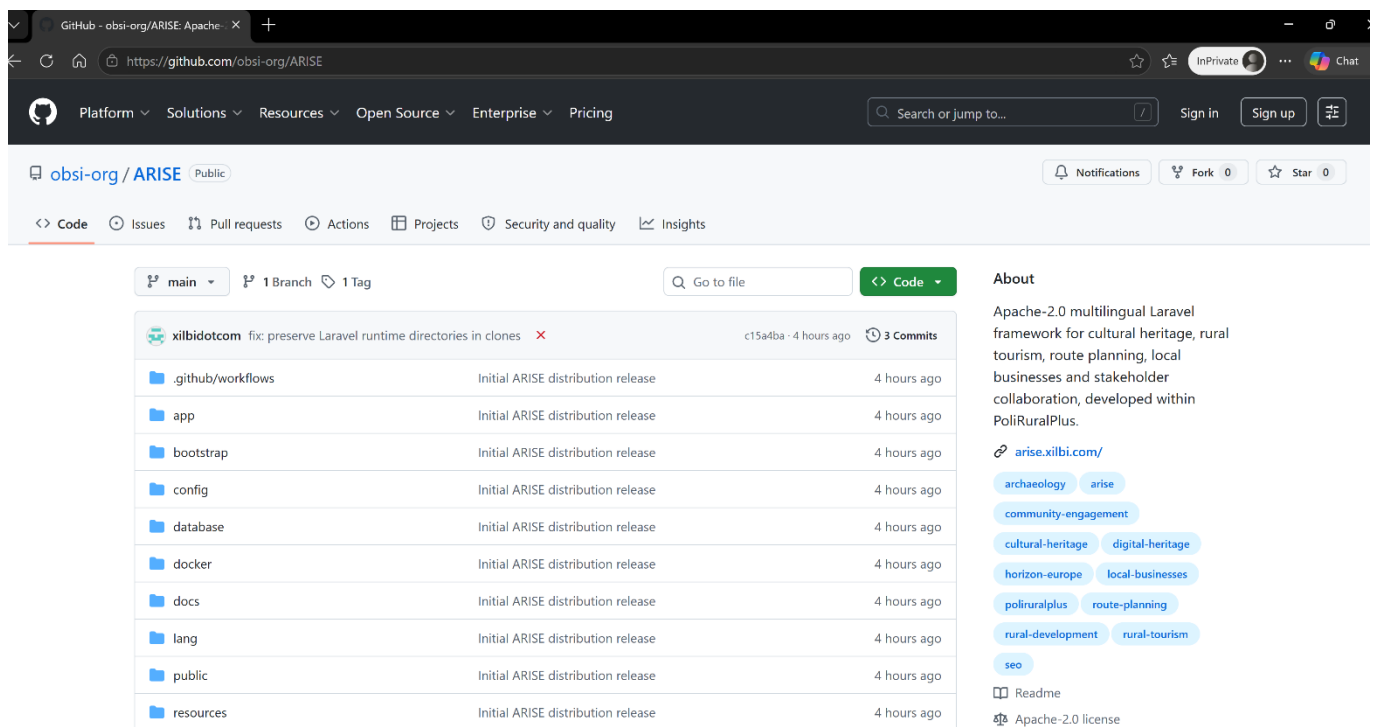


Figure 11: GitHub – ARISE public repository

9.3. Organisational sustainability

Organisational sustainability depends on continued responsibility for technical operation, public-content maintenance and stakeholder coordination.

The authenticated MAAT workspace provides a structure for continued coordination by supporting stakeholder records, initiatives, tasks, route co-design, shared information, funding opportunities, KPI monitoring and New European Bauhaus indicators.

The public platform also creates a practical incentive for continued maintenance. Business listings, routes, news, points of interest, funding opportunities and institutional references retain their value only when they remain accurate and current. The administration and MAAT environments provide authorised users with the functions required to review and update this information.

The organisational model distinguishes between three areas of responsibility:

- **Technical operation**, including hosting, application maintenance, security updates, release management and external integrations.

- **Content operation**, including businesses, routes, points of interest, news, funding opportunities and public communication.
- **Stakeholder coordination**, including MAAT participation, collaborative planning, task management and indicator review.

OBSIDIAN retains the capacity to support governance, compliance, data management, monitoring and replication activities. XILBI retains the capacity to support hosting, technical operation, application maintenance, integrations and platform evolution.

Continued involvement of ADESIMAN-related actors, municipalities and other territorial stakeholders remains relevant for local content validity and wider territorial adoption. However, the project does not claim that a binding post-project hosting, ownership or maintenance agreement with these actors has been concluded.

9.4. Financial sustainability and exploitation

ARISE was designed around a proportionate operational model. Routine operation does not require a large dedicated infrastructure estate or a permanent development team. The main recurring requirements are hosting, security and software maintenance, external-service monitoring, content updates and periodic stakeholder support. During project implementation, server, hosting and associated infrastructure costs were covered by OBSIDIAN from its own resources and were not charged as direct project costs. This demonstrates that the core technical service can be maintained without disproportionate infrastructure expenditure.

The post-project operating model can combine:

- hosting and technical maintenance;
- periodic application and security updates;
- content-management support;
- monitoring of external integrations;
- stakeholder training and onboarding;
- additional localisation;
- implementation of new territorial datasets;
- development of optional functions; and
- advisory support for governance, data management and replication.

OBSIDIAN intends to use the ARISE experience in future territorial-governance, compliance, data-management and replication activities. XILBI intends to develop the technical core as a configurable rural-heritage platform that can be deployed, hosted and maintained for other territories.

These represent follow-up and exploitation intentions rather than commercial results already achieved during the project. Any future deployment will require a separate agreement defining scope, responsibilities, hosting, support and financial conditions.

9.5. Replication and scaling potential

Replicability is one of the principal strategic qualities of ARISE. The platform addresses a challenge shared by many rural regions: valuable cultural and territorial assets are dispersed across a wide area, while visitor information, local services and stakeholder coordination remain fragmented.

The reusable ARISE model combines five principal functions:

1. Map-based discovery of heritage and territorial assets.
2. Multi-stop itinerary and route planning.
3. Rural-business and service visibility.
4. Location-aware conversational guidance.
5. Authenticated multi-actor coordination.

A new territory can adapt the platform by replacing or extending:

- territorial boundaries and geospatial layers;

- points of interest and heritage records;
- business and service information;
- routes and itinerary content;
- news and funding sources;
- institutional and regional references;
- branding and visual identity;
- language resources; and
- stakeholder roles and governance structures.

The main application architecture, administration environment, API structure, integration model and MAAT collaboration functions can remain substantially unchanged.

Replication can take place at different scales. A local deployment can serve one heritage cluster or rural district. A wider regional deployment can combine several territories while maintaining separate local content and stakeholder structures. The API layer also enables selected ARISE functions or data to be integrated into other regional services.

9.6. Distribution and replication resources

The final distribution and replication basis includes:

- application source code;
- database schema and migrations;
- system architecture and component description;
- installation and deployment instructions;
- administrator guidance;
- configuration and integration notes;
- Jackdaw authentication and chat-integration documentation;
- public and authenticated API references;
- OpenAPI/Swagger documentation;
- localisation and content-configuration guidance;
- privacy, legal and consent configuration guidance;
- image-provenance procedures;
- feature and implementation documentation;
- validation and quality-assurance procedures; and
- release and version information.

These resources support the deployment and configuration of a new independent instance. They do not constitute a handover of the production ARISE platform.

The applicable software and documentation licensing conditions are stated in the public distribution repository.

9.7. Follow-up activities and next steps

The immediate post-project priorities are:

- maintaining the availability and security of the public platform;
- monitoring technical performance and external-service availability;
- periodically reviewing business, route and heritage content;
- maintaining relevant stakeholder and initiative information in MAAT;
- assigning responsibility for technical operation, content management and stakeholder coordination;
- maintaining the public GitHub distribution and its documentation;
- retaining KPI, analytics and structured-data evidence within the project records;
- supporting structured data exchange where a specific PoliRuralPlus procedure is agreed;
- assessing opportunities for deployment in other rural-heritage territories; and

- defining contractual and financial conditions for any extended maintenance or replication service.

The structured data and indicators generated by ARISE remain available through the platform's documented interfaces and can support future PoliRuralPlus exchange or territorial analysis through an agreed technical procedure.

No production database, stakeholder information or personal data will be included in the public distribution or transferred as part of replication.

9.8. Long-term outlook

ARISE has established a credible basis for continued operation and replication. Its sustainability depends on the combination of a maintainable technical platform, current territorial content, appropriate stakeholder coordination and a proportionate operating model.

The live platform can continue to support Sierra y Mancha Conquense as a public heritage and rural-service gateway. The public distribution release also provides a reusable technical model for other territories seeking to connect dispersed heritage assets, rural businesses, visitors and territorial stakeholders.

The principal post-project objective is therefore to preserve the operational value of the live ARISE service while supporting independent replication through a general-purpose, data-free public software distribution.

10. Conclusions

ARISE can be assessed positively as a successful implementation of the concept approved under the Develop Call. The project addressed a clear rural-urban challenge in Sierra y Mancha Conquense, where major Roman heritage assets, rural businesses and territorial actors existed, but were not connected through a coherent digital visitor journey or a shared coordination environment. In response, ARISE delivered an integrated platform combining public heritage discovery and route planning with restricted operational and multi-actor collaboration functions.

The central project objective was achieved through the deployment of a live, usable and maintainable digital service at <https://arise.xilbi.com/>. The public platform provides map-based exploration, business visibility, itinerary planning, location-aware conversational guidance, territorial news, funding information, saved routes, public contact and multilingual access. These functions are complemented by a protected administration environment and an authenticated MAAT workspace supporting content management, stakeholder coordination, initiatives, tasks, KPI and New European Bauhaus monitoring, route co-design and funding-initiative management.

The project therefore progressed beyond a static demonstrator or isolated tourism website. ARISE established a structured digital environment in which visitors, businesses, content operators and territorial stakeholders interact through complementary public and restricted functions. The final platform integrates Leaflet and OpenStreetMap geospatial interfaces, Jackdaw-supported guidance, structured data models, public and authenticated APIs, administration tools, privacy and legal controls, localisation resources and repeatable quality-assurance procedures. The strategic value of ARISE lies in the combination of cultural-heritage valorisation, rural-business visibility, visitor support and multi-actor governance. The platform reduces the fragmentation of territorial information, strengthens the visibility of local services and provides a more structured basis for collaborative planning and monitoring. It also demonstrates how PoliRuralPlus assets and operating principles can be applied in a heritage-led rural context through Jackdaw integration, MAAT-based coordination, structured data and reusable interfaces.

The project also established a credible basis for sustainability and replication. The live platform remains available as the operational ARISE service, while a separate public distribution release provides reusable application code and technical documentation without production data, personal information, credentials or environment-specific configuration. This allows the technical model to be adapted by other territories without transferring the live deployment or its operational records.

The final project legacy comprises the deployed public platform, the administration and stakeholder-collaboration environments, the structured territorial content, the integration and API foundations, the public communication outputs, the validation evidence, the technical documentation and the public distribution release. Together, these results provide a sound basis for continued operation in Sierra y Mancha Conquense and for future adaptation in other rural territories facing comparable challenges of dispersed heritage, limited business visibility and fragmented stakeholder coordination.

Continued value will depend on periodic content review, technical maintenance, stakeholder involvement and the availability of external services. These are operational continuity requirements rather than deficiencies in the delivered result. ARISE concludes with its principal objective fulfilled: the approved Heritage Synergy Platform has been converted into a functioning, integrated and transferable rural digital service aligned with PoliRuralPlus Pilot 7 and with the wider objectives of rural attractiveness, community-based economic development, digital inclusion and rural-urban cohesion.