

Application for support

1.1 General

Project name: CIRCUIT

Application id: 695659

Case id:

Application call: 1.1 Smart specialization, research and innovation

Responsible organisation: Interreg Aurora

1.2 Lead partner EU

Name: Lapin ammattikorkeakoulu Oy
Jokiväylä 11 C
96300 ROVANIEMI
Finland

Org. No: 2528792-5
Employees: 0

Workplace

Name: Lapin ammattikorkeakoulu Oy
Postal address:
Jokiväylä 11 c
96300 Rovaniemi

Workplace No.: 0
Visitors address:
Jokiväylä 11 c
96300 Rovaniemi
Region: Rovaniemi

Name of legal representative

Riitta Rissanen

VAT-number (Optional)

FI25287925

Is your organisation entitled to recover VAT based on national legislation for the activities implemented in the project?

No

Lead partner motivation and contribution

Lapland UAS, with expertise in RDI and life-long learning (running +110 projects annually), is engaged across all project activities. Our XBit and Frostbit labs are dedicated to developing and testing innovative immersive solutions within the project's pilot cases, benefiting both future professionals and other stakeholders. We are actively involved in the research, development, implementation and capacity building of three immersive solutions, two of which are cross-border, providing hands-on experience and valuable regional outcomes.

The project strengthens our strategic partnerships and enhances our capacity to develop solutions for diverse audiences. We get new skills and tools for education and networks and become part of Cross-border Connected Hubs.

By contributing to immersive technology learning and awareness, we boost regional development. Engaging stakeholders ensures equitable benefits across communities, fostering a technologically advanced region.

1.3 Project partner EU

Name: LULEÅ TEKNISKA UNIVERSITET

Org. No: 202100-2841
Employees: 1999

Postal address:

971 87 LULEÅ
Sverige

Workplace

Name: LULEÅ TEKNISKA UNIVERSITET

Workplace no: 19065036

Postal address:

971 87 LULEÅ

Visitors address:

UNIVERSITETSOMRÅDET PORSÖN

977 54 LULEÅ

Region: Luleå

Name of legal representative

Niklas Lehto

VAT-number (Optional)

SE202100284101

Is your organisation entitled to recover VAT based on national legislation for the activities implemented in the project?

No

Partner motivation and contribution

At LTU, we are committed to advancing research on new technologies. In the CIRCUIT project, we focus on strengthening digital skills and regional growth through VR/AR implementation. Our research will specifically address the status of AI in immersive technologies.

LTU leads WP1 and activity 2.5, enhancing research and knowledge-sharing to strengthen capacities for practical implementation, addressing regional needs and opportunities. This aligns with our focus on advanced technologies, improved user experiences, and sustainable business models, while fostering collaboration with target groups.

In WP2, we collaborate with Ájtte Museum to enhance the visitor experience through a multisensory, technology-assisted approach. Regional gaming clusters and Filmpool Nord are also following the initiative with great interest. LTU is also responsible of communication activities in Sweden for ensuring inclusive regional involvement in wider scale.

Name: Tornion kaupunki

Org. No: 0193524-6

Employees: 499

Postal address:

Suensaarenkatu 4

95400 Tornio

Finland

Workplace

Name: Tornion kaupunki

Workplace no: 0

Postal address:

Suensaarenkatu 4

95400 Tornio

Visitors address:

Suensaarenkatu 4

95400 95400

Region: Torneå

Name of legal representative

Tarja Konola-Jokinen

VAT-number (Optional)

FI01935246

Is your organisation entitled to recover VAT based on national legislation for the activities implemented in the project?

Yes

Partner motivation and contribution

City of Tornio and its museums the Museum of Torne Valley and Aine Art Museum, are excited to partner in developing the Rantakatu AR experience. As the city's oldest district, Rantakatu has undergone centuries of living, cultivating land, and latest being a present-day cultural hearth of the town, is shaped by diverse users and activities. Today, the site is also home to a sculpture park, where contemporary art interacts with the historical landscape. Our museums offer deep historical knowledge, covering buildings, people, and societal changes, and expertise also includes archival research, archaeology, urban history, and artistic interpretation, crucial for authentic AR reconstruction. We provide historical depth, insights into the area's evolution from past to present, and expertise in engaging diverse audiences with complex narratives. This project merges history, technology, and art, creating an immersive experience that enhances public understanding of our shared past.

1.4 Lead partner Norway

Name: SØR-VARANGER UTVIKLING AS
Dr. Palmstrøms vei 15
9901 KIRKENES
Norge

Org. No: 917790531
Employees: 19

Workplace

Name: SØR-VARANGER UTVIKLING AS
Postal address:
Dr. Palmstrøms vei 15
9901 KIRKENES

Workplace No.: 917891516
Visitors address:
Dr. Palmstrøms vei 15
9901 KIRKENES
Region: Sør-Varanger

Name of legal representative

Nina Greiner Iversen

VAT-number (Optional)

917 790 531 MVA

Is your organisation entitled to recover VAT based on national legislation for the activities implemented in the project?

No

Lead partner motivation and contribution

SVU Kirkenes is highly motivated to partner in this project, driven by our vision to strengthen the link between education and entrepreneurship. We are committed to supporting regional economic growth by helping SMEs scale, attracting talent, training personnel, and promoting inclusion. We are dedicated to fostering cross-border cooperation and collaboration with regional, national, and transnational authorities. This

aligns with the project's goal to establish a Quadruple Helix approach, engaging business, administration, education, and civil society. By participating, we aim to accelerate the development of a sustainable and innovative entrepreneurial ecosystem, supporting the growth of SMEs and startups across borders. Furthermore, this project provides a vital platform for SVU Kirkenes to develop a regional tech-hub, as outlined in WP3, which will serve as a key resource for immersive technology innovation and collaboration.

Project partner Norway

Name: BARENTSSEKRETARIATET IKS

Org. No: 976085817

Employees: 19

Postal address:

Wiulls gate 3

9900 KIRKENES

Norge

Workplace

Name: BARENTSSEKRETARIATET IKS

Workplace no: 979106777

Postal address:

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9900 KIRKENES

Visiting address:

Wiulls gate 3

9900 KIRKENES

Region: Sør-Varanger

Name of legal representative

Kenneth Stålsett

VAT-number (Optional)

976085817

Is your organisation entitled to recover VAT based on national legislation for the activities implemented in the project?

No

Partner motivation and contribution

CIRCUIT closely aligns with the Barents Secretariat's core mission: fostering cross-border cooperation and strengthening local communities in Northern Norway. By uniting universities, businesses, and public institutions, it creates new opportunities for innovation and digital development. This project leverages cutting-edge immersive technologies, like VR and AR, to enhance education, job training, and business growth in our region. By participating, the Secretariat helps ensure Northern Norway remains at the forefront of technological development, providing regional talent with new skills and career opportunities while building stronger connections with neighboring countries. Crucially, CIRCUIT delivers practical, visible outcomes and usable innovations that benefit the region. This partnership invests in regional innovation, economic resilience, and the long-term sustainability of our communities.

1.5 Payment information

Type of payment method: BIC/IBAN

Account number: OKOYFIHH FI96 5640 0220 2675 25

1.6 Project information

Project title

CIRCUIT - Cross-border Innovation and Research for Creative & Immersive Transformation

Project type

Regular project

Projektets startdatum

2025-09-30

Projektets slutdatum

2028-09-29

Programme sub-area

Aurora

What are the common territorial challenge(s) that will be tackled by the project?

Our region faces challenges related to accessibility, distance, and sustainable development. While digital transformation offers opportunities, rural areas struggle with limited expertise, networks, and infrastructure, slowing the adoption of immersive technologies such as virtual reality (VR), augmented reality (AR), and mixed reality (MR) which can enhance cultural engagement, education, and industry development. This gap in access to cutting-edge digital tools limits innovation, economic diversification, and opportunities for local youth, contributing to migration trends.

CIRCUIT tackles challenges by making immersive technologies more accessible across sectors. It builds on research and capacity building while applying co-creation and inclusive design. Local expertise, diverse facilities and cross-border collaboration strengthen regional innovation capacity. Unlike purely digital reconstructions, we focus on real-life experiences that create meaningful, engaging, and accessible solutions tailored to the unique needs and diverse society of the region.

Immersive technologies are not only adopted but adapted to regional needs, ensuring long-term scalability. CIRCUIT develops solutions for museums, tourism, and cultural heritage sites, enabling cross-sectoral adaptation and further scaling. AI-supported analytics and user experiences enhance this scalability, ensuring solutions evolve with user needs and technology. By integrating AI-driven personalization and accessibility enhancements, the project ensures immersive experiences remain relevant, inclusive, and user-centered.

By bridging research, industry, end-users and youth, CIRCUIT advances the EU's Web 4.0 vision. Through a strong knowledge base, professional networks, and pilot implementations, the project ensures immersive solutions remain accessible beyond its duration. The outcomes provide a strategic foundation for continued capacity-building and cross-border knowledge transfer of immersive solutions.

Why is cross-border cooperation needed to achieve project objectives and results?

The Northern Sparsely Populated Areas (NSPA) in northern Sweden, Finland, and Norway face common challenges: vast distances, low population density, and barriers to digital transformation. While individual organizations possess expertise in immersive technologies, cross-border collaboration is essential to pool a diverse range of knowledge, create shared test environments, and ensure solutions are tailored to the region's unique needs. Each partner brings complementary expertise:

Lapland UAS (FI) specializes in co-creation, inclusivity training, and technical development of immersive solutions, while Luleå University of Technology (SE) contributes AI-driven solutions, including adaptive user experiences and AI-supported content generation, strengthening the technological backbone of CIRCUIT. Learnings from CIRCUIT will contribute to education and innovation provision of both HEIs, strengthening digital skills in the region. Both HEIs work with multiple stakeholders in this project.

SVU Kirkenes (NO) is a regional development company with the goal of establishing an international immersive technology knowledge hub, aiming to take the lead in immersive technology development in Northern Norway. Collaboration with the Barents Secretariat, MAI Learning, and regional interest groups connects CIRCUIT to a strong regional innovation network.

Museums serve as knowledge hubs, communication partners and test environments for different immersive solutions which enhance cultural accessibility and engagement while ensuring real-world usability.

By integrating AI-driven personalization, accessibility enhancements, and co-creation methods, CIRCUIT builds a cross-border innovation ecosystem with direct links to industry, education, and regional development networks. This collaboration fosters industry growth, strengthens education pathways, and creates new opportunities for youth helping counter migration trends and positioning the NSPA as a leader in immersive technologies.

Select the project's main target group

Public sector

Specification of the target group and their involvement in project planning

CIRCUIT is rooted in long-term regional engagement. Museums in Tornio initiated pilot discussions 2-3 years ago, while the Kirkenes museum envisioned a time machine experience a decade prior. Lapland UAS and SVU Kirkenes have collaborated on lab development plans for over a year, and LTU's recent AI integration concepts have received strong positive feedback. Dialogues including discussions within our educational and business networks revealed a strong interest in immersive solutions coupled with practical implementation challenges. This project responds to the growing demand for accessible immersive technologies adaptable across sectors. We focus on cross-border co-creation and practical testing to help organizations enhance visitor engagement, education, training, and operational efficiency. Our target groups include museums, tourism, education, businesses and other projects, each with unique needs and a shared interest in learning.

Discussions with stakeholders highlight the potential for immersive technologies to:

- Strengthen engaging cultural and visitor experiences (e.g., museums, tourism organizations). Museums in Tornio, Jokkmokk, Rovaniemi and Kirkenes.
- Support training, education, and workforce development (e.g., HEIs, VET providers, training hubs). Networks of Lapland UAS, LTU, SVU Kirkenes and Barents secretariat aspire for the latest skills in technical development, AI-driven immersive solutions, and education network expertise, partners ensuring findings contribute to education provision. MAI Learning (Associate) is keen to AI development opportunities, expanding their educational provision.
- Enhance operational planning and facilitate digital ecosystems.
- Address increasing legal demands for accessibility in digital services.

CIRCUIT builds on existing regional expertise while ensuring cross-border knowledge exchange. By addressing shared needs, CIRCUIT fosters scalable, cross-industry innovation in immersive technologies. LOI's annexed.

Which synergies with past or current EU and other projects, initiatives, strategies and/or policies will the project make use of?

CIRCUIT builds upon key projects and policies to align with EU, NATO, and national digital strategies, emphasizing sustainable development, competence-building, technology adoption, and cross-border collaboration.

Project synergies

- SVU Kirkenes' Project Portfolio (Eastern Finnmark Competence Center, GenGreen, Coastal Center, ICE Portfolio, Finnmark24): CIRCUIT will integrate with these initiatives, enhancing competence building, green business development, and regional innovation.
- Lapland UAS Projects (ICCE, Struvenorth, MOCAPPE, Xstory, Gantry Crane VR, Digiboost): CIRCUIT leverages expertise, equipment, and learning from these projects, particularly in concept testing, demonstrations, lab environment development, UX testing, MOCAP and XR technologies, fast-track VR training solution for industrial operations, demonstrating scalable simulation and gamification. Supports Yhdenvertainen ja Esteetön Lappi (equal and accessible Lapland), aligning with their goal of improving accessibility in tourism, CIRCUIT's co-creation methods will support accessible design in cultural services, and COSME financed INSPIRES which support SME digital transformation.
- LTU Music and 5G/6G Projects: CIRCUIT will draw on insights and technologies from these projects to explore the potential of advanced connectivity for creative industries and immersive experiences.

CIRCUIT differentiates itself by focusing on real-world application, training, and sustainability, informed also by a thorough analysis of ongoing projects in the Aurora programme. It ensures immersive technology is not just explored but adopted and scaled across diverse sectors. By integrating lessons from related projects, we maximize the impact of immersive experiences in the Aurora region.

CIRCUIT ensures trustworthy, transparent, and human-centric AI adoption in immersive tech, aligning with the EU AI Act, particularly in museums, education, and industry.

Project overall objective

CIRCUIT fosters cross-border collaboration between universities, NGOs, businesses, and public institutions to accelerate the adoption of immersive technologies like virtual and augmented reality in the Interreg Aurora region. By developing and piloting immersive solutions, we enhance engaging experiences in cultural heritage, interactive education, creative industries, and job training among others, boosting digital skills and regional growth across sectors. We empower professionals, researchers, and SMEs with co-creation, inclusive design, and AI-enhanced technical skills to develop immersive solutions, promoting digital inclusion. Through a dynamic knowledge network, AI-powered demonstration pilots, and multi-level networking, including youth engagement, we ensure sustainable outcomes and prepare the region for broader EU collaborations, with a strong emphasis on AI-driven innovation.

Ecological sustainable development

CIRCUIT focuses on digital solutions to reduce physical materials and transportation, lowering carbon emissions. Our solutions are designed for longevity, minimizing redevelopment and conserving resources. Immersive technologies like VR/AR replace physical experiences, reducing material use, travel, and production. Digital tours and virtual experiences can minimize the need for temporary exhibitions and artifact transport, reducing raw material use, energy, and waste. This contributes to responsible consumption and production (SDG 12) and climate action (SDG 13). Partnerships (SDG 17) enable us to leverage expertise and resources, ensuring sustainable cities and communities (SDG 11) through eco-friendly digital solutions. We promote digital collaboration, reducing the need for travel and related emissions, further enhancing our ecological impact.

Social sustainable development

CIRCUIT prioritizes co-creation and inclusive design, ensuring immersive technologies are accessible to all, including underrepresented groups. By enhancing cultural and educational experiences through museum pilots, we foster social cohesion and cultural understanding. Engaging youth in education, hackathons, and innovation environments creates opportunities to reduce regional migration trends. We actively address gender equality (SDG 5) by promoting female participation in the tech sector, combating underrepresentation. This fosters reduced inequalities (SDG 10) by ensuring equitable access to technology and opportunities.

Partnerships (SDG 17) with diverse stakeholders amplify our impact, enhancing sustainable cities and communities (SDG 11) through quality education (SDG 4) and inclusive solutions.

Economical sustainable development

CIRCUIT fosters innovation through VR, AR, and multisensory experiences, creating opportunities across culture, tourism, education, and industry. This enables new products, services, and business models, strengthening regional economies. Unique digital experiences attract visitors and increase revenue. We bolster the local labor market by promoting advanced technology knowledge, retaining talent in rural regions for long-term economic growth. This project supports technology up-take, creating lasting economic value. Partnerships (SDG 17) with businesses and institutions drive innovation and economic growth. We reduce inequalities (SDG 10) by providing training and opportunities to underrepresented groups. This contributes to decent work and economic growth (SDG 8), industry, innovation, and infrastructure (SDG 9), and sustainable cities and communities (SDG 11)

Exit strategy

CIRCUIT has strategic focus on sustainability of the project outcomes and continuous collaboration.

WP1's knowledge base on inclusive technologies (1.1), co-creation methodologies (1.2), AI insights (1.3), and benchmarking report (1.4) will be open access, fostering continued research and development. WP2 ensures pilot solutions Rantakatu AR (2.1), Kirkenes VR (2.2), Ajtté Museum multisensory experience (2.3), and replicated virtual guide (2.4) are supported by maintenance and training materials. Learning materials (2.5) will enable wider adoption across educational institutions. Outcomes and best practices of WP1-WP2 are accessible via the knowledge hub (3.2) and communicated to wider audience. Partner HEIs will integrate applicable learnings and immersive experiences into education. Tornio Museums will maintain, utilize and expand the Rantakatu AR experience, while other immersive solutions can be adapted further with the help of guidelines in case that the associated partner related to experience wants to.

The connected hubs network (3.5) will sustain cross-border collaboration. Pilot use-case studies (3.3) and the Arctic Immersive Technology Hub strategic plan (3.4) will guide future projects. Active participation in the connected hubs network (3.5) and the continuous sharing of project results through the knowledge hub (3.2) will build stakeholder ownership of the project's knowledge and collaborative network. SVU Kirkenes will maintain the hub and network. Barents Secretariat will further promote cross-border collaboration and youth involvement. All partners will actively participate in the network and contribute to the hub, developing a collaboration strategy beyond the project lifetime. Continuous evaluation (management) will maintain relevance, and collaborative involvement to EU initiatives (3.5) will enhance long-term sustainability of partnership and technology transfer in the Interreg Aurora Region.

Project summary

CIRCUIT - Cross-border Innovation and Research for Creative & Immersive Transformation is accelerating the digital transformation of the Interreg Aurora region by fostering cross-border collaboration between universities, NGOs, businesses, and public institutions in immersive technologies like augmented or virtual reality. We are boosting digital skills and regional growth by combining research, capacity building, co-creation, networking and real-life inclusive immersive solutions. The four pilot solutions representing different approaches to immersive technologies are co-developed by partners and stakeholders, and enhance engaging experiences in cultural heritage, education, creative industries, and job training, providing a platform for innovative pedagogy and the cultivation of future-ready skills. The uptake of these solutions is enhanced by integrating scalability and replicability into the design of the solutions. Learning materials and training sessions are provided to enhance the skills needed to maintain and implement the immersive solutions.

To further ensure lasting impact, CIRCUIT is establishing a robust cross-border network, including a dynamic knowledge hub and interconnected hubs, facilitating continuous knowledge exchange and the practical application of immersive technologies. This network empowers professionals, researchers, and SMEs with skills in co-creation, inclusive design, AI and implementation of immersive solutions. Youth engagement is vital, as we prepare the region for the future, fostering a generation equipped with the digital competencies needed to thrive in the Web 4.0 era.

Through a strategic communication approach, utilizing online platforms, workshops, and presentations, we are ensuring that lessons learned are widely disseminated, maximizing the project's reach and impact. CIRCUIT is driving sustainable growth beyond borders.

How will the project partnership be structured?

Lapland UAS leads project and WP2, participates in all actions.

SVU Kirkenes, LP Norway, leads WP3, focusing on developing and disseminating knowledge about immersive technologies regionally, piloting immersive solutions, leveraging extensive business networks and perspective. Maintains knowledge hub of the project.

LTU leads WP1 with a specific focus on AI, manages regional stakeholder communication, leads activity 2.5 and participates in other activities.

Barents Secretariat participates in co-development, business and youth involvement and network building and 2.4 experiment.

Tornio Valley Museum and Aine Art Museum (City of Tornio) focus on co-development of the AR experience (2.1), provide data, communicate to a wider audience and participate in user training and scaling up the AR experience.

Associated partner Ajtté museum provides a platform for multi-sensory experiments, participates in co-creation and considers uptake of solution (2.3).

Associated partner MAI Learning is engaging youth and AI in a number of actions.

Rovaniemi and Kirkenes museums and other relevant stakeholders are involved in 2.2 and 2.4.

The geographical area is the northernmost regions of Finland, Sweden, and Norway, ensuring broad regional impact.

Given the strong interdependencies between activities, any deviations from planned timelines will be addressed collaboratively to ensure quality, timely implementation, and efficient resource allocation. Severe deviations will be handled according to the procedures outlined in the cooperation agreement.

The project steering group (representatives partner organizations + 2 stakeholders), will have a decision-making role and will be kept informed of project progress.

Partners have approximately two online meetings per month and 2-3 face-to-face meetings annually. Joint Teams channel (Lapland UAS) is used for documentation and internal communication.

How will the financial management of the project be handled?

Lapland UAS (EU) and SVU Kirkenes (IR funding) will oversee the overall coordination of financial management activities. Each partner will appoint a designated staff member to manage project finances, track costs incurred, and report them in accordance with the rules established by the financier. Financial personnel will participate in advisory meetings organised by Interreg Aurora or national co-financiers.

Lapland UAS will compile financial reports of EU funding for submission to Interreg Aurora, collaborating with partners for accuracy and completeness. Additionally, Lapland UAS will manage national co-financing applications and distribution of financing in Finland, while LTU

and SVU Kirkenes will handle applications and financing shares in their respective countries. Funding from various sources will be allocated among partners based on approved costs and the corresponding funding sources.

More detailed procedures are stated in cooperation agreements between partners. Each partner will have their financial control according to national legislation. Partners will adhere to good accounting practices and maintain proper documentation in accordance with regulations.

How will you communicate your project?

CIRCUIT will implement a strategic communication plan, led by Lapland UAS, ensuring broad awareness of the project and aligning with Interreg Aurora regulations, SDG goals and sustainable practices, throughout the activities. This plan prioritizes co-creation, stakeholder involvement, and cross-border collaboration.

A central joint platform (SVU Kirkenes) will serve as a hub for project information, knowledge sharing, and storytelling, ensuring transparency and accessibility. Basic communication materials will be developed early, including but not limited to the A3 poster. An awareness package, including demonstrations and workshops, will introduce immersive technologies.

- Museums, tourism, education, and businesses will receive tailored communication, aiming to increase online platform engagement by 20% annually (measured by website traffic and social media interactions).
- News articles, press releases, and interviews will reach wider audiences, publishing media releases and articles at key milestones of the project, targeting both specialized and general audiences.
- Social media, podcasts, and videos will showcase pilots and training, aiming to increase engagement through video content. Partners existing social media and newsletters are utilised.
- Regional and international presentations will share findings and enhance networking, conducting 4+ presentations annually, gathering feedback and expanding the project's network.
- Workshops and webinars on different topics in WP1 and WP2 are delivered throughout the project ensuring practical knowledge dissemination. WP3 forsters adaption in further context.
- Using also Interreg Aurora's social media as a communication channel.

Internal communication e.g. regular partner meetings, shared documentation, and tools will enhance smooth cooperation.

This collaboration approach will maximize visibility, reaching citizens and wider audiences, including museums with tens of thousands of annual visitors.

1.7 Project activities

Workpackages / Activities	Description	Start date – End date	Cost
1 - Research, Co-Creation, and Knowledge Dissemination on Immersive Technologies	WP1 strengthens research and knowledge-sharing on immersive technologies, ensuring their practical and inclusive implementation in the Aurora region. It facilitates cross-border collaboration between academia, businesses, and the public sector, fostering a shared knowledge base to accelerate adoption and innovation. Activities enhance research and practical implementation capacities,	2025-09-30 - 2028-09-29	438,750

Workpackages / Activities	Description	Start date – End date	Cost
	addressing regional needs and opportunities. By promoting co-creation and inclusivity, WP1 integrates diverse user perspectives, including underrepresented groups, into immersive solutions. This responds to smart specialization and knowledge network needs, linking strongly to WP2 and WP3. While many outputs are developed at early stages of the project, the reflection from other WP's is integrated in the results until the end of the project. Key outcomes include a strengthened research network, co-created knowledge resources, dissemination activities, enhanced collaboration, and advisory guidelines for planning immersive solutions. Communication involves targeted dissemination through academic publications, open-access reports, regular webinars, interactive sessions, and engagement with businesses, creative and public sector organizations through co-creation workshops and networking events. Findings are promoted via the project website (Knowledge Hub 3.2), partners' social media, and regional innovation networks. LTU leads this work package, while other partners and associated partners have different roles in different activities.		
1.1 - Building a Knowledge Base for an inclusive and accessible approach	As immersive technologies evolve, inclusivity remains an overlooked aspect, limiting broader adoption and impact. While VR and AR are becoming more accessible, their widespread use depends on addressing diverse user needs (Inclusive Immersion: A Review	2025-09-30 - 2028-09-29	85,429

Workpackages / Activities	Description	Start date – End date	Cost
	of Efforts to Improve Accessibility in Virtual Reality, Augmented Reality and the Metaverse, Sutcliffe & Kaur, 2023). This activity explores how inclusivity of different user groups can be integrated into immersive solutions, ensuring they are also designed with accessibility in mind rather than adapted as an afterthought. The focus is on mapping current research, identifying best practices, and translating findings into accessible knowledge while further developing the knowledge network within this theme. A series of online articles will synthesize study results, offering insights to professionals working in the field and organizations exploring the adoption of immersive technologies. These articles will bridge academic knowledge and practical application, providing a knowledge base that informs further activities in the project. To maximize reach and impact, findings will be shared through a number of targeted webinars, engaging partners, associated partners, youth, experts, industry professionals, and potential end-users. These sessions will not only disseminate information but also spark discussions on integrating these considerations early in the design process. Finally, when applicable, insights from pilots in WP2, collaboration in WP3, and the benchmarking in 1.4 will be incorporated to illustrate practical applications. Lapland UAS leads this activity. Each partner will develop and implement their respective experiential site visits, user research, workshops, and seminars, tailored to their pilot solutions and target audiences.		

Workpackages / Activities	Description	Start date – End date	Cost
	Activity links strongly to WP2 and provides insights for WP3.		
1.2 - Collaborative Development and User-Centric Evaluation of Immersive Solutions	This activity fosters collaborative development and user-centric evaluation of immersive solutions, ensuring practical applicability and user satisfaction. Prior to the implementation of solutions in WP2, developers will engage in a structured co-creation process. This begins with experiential site visits and user research, allowing developers to directly observe and understand the implementation environment and context, potential user interactions, and gather data through methods like surveys and eye-tracking, while ensuring ethical data collection. Workshops will bring together diverse stakeholders, including professionals, students, and special interest groups. Concepts are refined using service design methodologies. The goal is to actively involve end-users and key stakeholders in shaping the solutions, ensuring they address real-world needs and create meaningful impact in the Northern Sparsely Populated Areas (NSPA). These workshops will also serve as learning opportunities, introducing participants to the technologies being utilized and mapping the existing user journey. After developing a prototype or demo in WP2, partners will conduct user experience evaluations. This iterative process enables continuous refinement, ensuring technically sound, user-friendly, and accessible solutions. Partners will then share evaluation insights with relevant work packages for further development. A follow-up seminar will be conducted to present the refined	2025-09-30 - 2028-09-29	145,329

Workpackages / Activities	Description	Start date – End date	Cost
	solutions and gather further feedback, ensuring knowledge dissemination and continued engagement. During the journey, partners also write articles and blog posts of the co-creation process and can invite media to site visits and workshops. Lapland UAS leads this activity. Each partner will develop and implement their respective experiential site visits, user research, workshops, and seminars, tailored to their pilot solutions and target audiences. Activity links strongly to WP2 and provides insights for WP3.		
1.3 - AI-Driven Immersive Technology Development	To strengthen the research and knowledge-sharing aspects of immersive technologies, we will integrate insights from Artificial Intelligence (AI), particularly in computer vision, machine learning, and data-driven immersive applications. The research component will focus on the status of AI in immersive technologies, analyzing recent advancements in AI-driven data analytics, user behavior modeling, and adaptive user experiences, including gesture-based interfaces to improve accessibility for users with disabilities. This activity will integrate AI research and knowledge-sharing to enhance immersive technology development in the region. It will analyze the status of AI in immersive applications, covering publications, industry reports, and European projects while ensuring compliance with the European AI Act for ethical AI adoption. The work package will explore AI-driven data analytics, user behavior modeling, and adaptive experiences, ensuring inclusivity and accessibility. Through webinars, workshops, and cross-border collaborations, we will foster responsible AI	2025-09-30 - 2028-09-29	152,945

Workpackages / Activities	Description	Start date – End date	Cost
	utilization, supporting best practices, AI Act, and knowledge networks for AI-powered immersive solutions. - Advancing Research in AI-Driven Immersive Technologies: By analyzing the current state of AI in immersive applications, this task will contribute to the academic body of knowledge on AI-driven data analytics, user behavior modeling, and adaptive experiences. - Enhancing Accessibility and Inclusivity: The focus on gesture-based interfaces and adaptive user experiences will develop more accessible immersive environments, particularly for users with disabilities. - Disseminating more knowledge on policy and ethical AI adoption: By ensuring compliance with the European AI Act, promoting ethically responsible AI solutions, reducing bias, and improving fairness in AI-driven applications. LTU leads this activity, engaging partners and interest groups, directly contributing to WP2.		
1.4 - Immersive Technology Benchmarking and Selection	Following the co-creation phase, partners will conduct a comprehensive analysis of immersive technologies for the pilot projects in WP2. This analysis will include a detailed technology inventory (VR, AR, MR), establish performance criteria (immersion, accessibility, cost-effectiveness), and perform a comparative analysis of available solutions. This activity will provide pilot-specific recommendations and assess the potential of the technologies to advance the Technology Readiness Level (TRL) of the pilot project applications. Benchmarking will integrate accessibility guidelines to ensure inclusive solutions.	2025-09-30 - 2028-09-29	55,047

Workpackages / Activities	Description	Start date – End date	Cost
	Methods will include literature reviews, partner-led technical demonstrations with existing lab environments, expert interviews, and user testing. Key outcomes will be a benchmarking report, technology selection matrix, and a compilation of best practices. The report will be disseminated via the project website, webinars, and partner networks. The findings will directly inform WP2 pilot implementations and stakeholders, ensuring optimal technology utilization. This activity will also evaluate different implementation models applicable to regional actors, considering cost-effectiveness, scalability, and replicability. It will assess the integration of relevant technology advancements, including AI, to ensure future-proof solutions. Lapland UAS, SVU, and LTU will jointly implement this activity, leveraging their respective expertise and resources.		
2 - Immersive Solutions: Real-World Implementation and Scalability	WP2 delivers practical, immersive solutions in real-world settings, building on WP1's foundational knowledge and co-creation. We implement and evaluate AR for historical exploration in Tornio, immersive VR experiences showcasing Arctic culture and industry in Kirkenes, multisensory technology-assisted museum experiences at Ajtté Museum, and a VR prototype allowing users to explore a historically reconstructed area of either Rovaniemi or Kirkenes before its WWII destruction, elevating the technology readiness level (TRL) of these applications. User-centric evaluations and iterative refinement ensure accessible, impactful experiences. We document the development and evaluation process, creating comprehensive learning	2025-12-31 - 2028-05-30	707,063

Workpackages / Activities	Description	Start date – End date	Cost
	materials and training sessions to share best practices for scalability, sustainability, and wider adoption across diverse sectors. These resources will empower stakeholders to effectively implement and maintain immersive solutions, ensuring lasting regional impact. Collaboration with museums, cultural organizations, industry, businesses, and creative professionals is central. Pilots serve as learning environments, fostering knowledge transfer and skill development. Outcomes include functional solutions, documented processes, and trained professionals, enhancing regional visibility. Cross-border value is realized through shared practices and collaborative development. Target groups: cultural organizations, tourism, industry, businesses, creative sectors, the public, and educational institutions. Lapland UAS leads, with LTU and SVU Kirkenes implementing, alongside collaborations with Aine Art Museum, Tornio Valley Museum, Ajtté Museum, and MAI Learning. WP2 strongly links to WP1, applying research and capacity-building efforts, including accessibility training and co-creation methodologies, informed by AI-driven insights, to develop real-world solutions that integrate inclusivity and inform WP3 on wider implementation and sustainability strategies.		
2.1 - Time Echoes at Rantakatu, Tornio: Mobile AR Solution (TRL 5-8)	The historical area of Rantakatu in Tornio serves as the stage for an interactive Augmented Reality experience, seamlessly connecting the past with contemporary elements through mobile technology and enhancing	2025-12-31 - 2028-05-30	200,562

Workpackages / Activities	Description	Start date – End date	Cost
	engagement with cultural heritage. Building on WP1's co-creation methodologies, this pilot integrates diverse stakeholder perspectives, including historical expertise from the museum team, to develop an immersive experience that showcases Tornio's historical significance, alongside the present-day. Potential interactive elements include historical figures, building stories, 'then and now' comparisons, GPS-triggered content, image recognition, video, and audio, catering to tourists, citizens, and educational groups. The goal is to produce a functional mobile AR application that can be deployed and used by the public. This activity aims to progress the application to TRL 5-6 (technology validated in a relevant environment) during the first two years and further to TRL 7-8 (system prototype demonstrated in an operational environment) during the last year. This AR experience will be launched through a dedicated public event, complemented by stakeholder meetings, open events, and blog posts. This pilot will contribute guidelines and feed into the 2.5 learning package, ensuring the knowledge gained is shared and applied in future projects. By emphasizing accessible and scalable content creation within cultural heritage, this pilot directly contributes to WP2's goal of demonstrating practical, real-world immersive solutions. The Aine Art Museum and the Museum of Tornio Valley provide essential historical context, and will play a crucial role in co-creation, communication, maintaining and scaling the application post-project. Lapland		

Workpackages / Activities	Description	Start date – End date	Cost
	UAS XBit is implementing the solution, drawing experience from WP1 learnings as well.		
2.2 - Immersive VR experiences, Kirkenes (TRL 4-7)	SVU Kirkenes will develop an immersive Virtual Reality (VR) experience, selecting a minimum of one of three pilot options based on stakeholder feedback and research conducted post-application acceptance: - Tourism Pilot: Immersive VR Experiences of Arctic Culture and Heritage: Creating VR experiences showcasing Arctic culture, Kirkenes attractions, and World War II history to promote digital tourism and enhance accessibility. - King Crab Viewing Center in VR: Developing a VR simulation of the king crab ecosystem and fishing process to improve visitor experiences and promote sustainable tourism. - Immersive experience for the Sydvaranger Mine: Creating a digital environment for the Sydvaranger mine to facilitate industrial heritage experiences, training, and innovation in mining. SVU will engage regional stakeholders throughout the selection and development process, drawing upon WP1's co-creation methodologies to ensure the chosen pilot aligns with community needs and interests. The selected VR experience will be developed in collaboration with relevant stakeholders, ensuring content accuracy and engagement. LTU and Lapland UAS are consulting implementation. Communication will be a vital component of this activity, featuring stakeholder meetings, public demonstrations, online platforms, and promotional campaigns. The selected VR experience will be launched	2025-12-31 - 2028-05-30	75,500

Workpackages / Activities	Description	Start date – End date	Cost
	through exhibitions and online platforms, with promotional efforts highlighting its potential for digital tourism, sustainable practices, or industrial innovation. SVU will also contribute guidelines and feed into the 2.5 learning package, sharing insights on VR implementation and scalability. Additionally, this activity will inform WP3 by providing practical examples of VR applications for wider implementation. By demonstrating the potential of VR in diverse sectors, this activity contributes to WP2's goal of showcasing practical, real-world immersive solutions and increasing regional visibility.		
2.3 - Multisensory technology assisted immersive experience, Jokkmokk (TRL 4-7)	This pilot at Ajtté Museum aims to enhance visitor experience through a multisensory, technology-assisted approach, focusing on: - Improved wayfinding: Enabling visitors to intuitively locate the info desk and main entrance. - Enhanced exhibition engagement: Offering an immersive experience without VR glasses, QR codes, or mobile phone interactions. This pilot aligns with CIRCUIT's goal of accessible history through immersive applications and sustainable knowledge-sharing. Applying existing technologies in innovative ways, this pilot will follow a co-creation, prototyping, and testing process, resulting in a defined concept and implementation recommendations. Even if full deployment is not immediately feasible, tested insights and a scalable roadmap for future adoption will be provided. This means that depending on the future deployment by the museum, the technology	2025-12-31 - 2028-05-30	65,000

Workpackages / Activities	Description	Start date – End date	Cost
	readiness level can be from 4 to 7. Potential solutions, co-created in WP1 workshops with museum staff, experts, and visitors, include dynamic lighting, spatial audio, projection-based storytelling, and interactive methods that blend digital and physical elements, ensuring accessibility and alignment with exhibition goals. Communication and Training: Pilot outcomes will be shared through training sessions (2.4) for museum staff, enabling them to adapt, maintain, and expand the solution. Documentation and dissemination will support wider adoption in cultural heritage contexts. Additionally partners will write articles and blog posts of the co-creation process and can invite media to site visits and workshops. - Lapland UAS: Leads implementation, facilitating co-creation (WP1), technical testing, and adaptation. - Ajtté Museum: Provides content, expertise, and feedback, participating in training for long-term use. - LTU: Supports AI integration, communication, and dissemination, ensuring knowledge transfer.		
2.4 - Cross-Border VR Heritage Collaboration (TRL 7)	This activity develops a VR prototype allowing users to explore a historically reconstructed area of either Rovaniemi or Kirkenes before its WWII destruction. The interactive experience enables time travel between past and present through a short narrative, enhancing cultural heritage preservation with immersive technology. Built with Unreal Engine and optimized for PC-based VR, the experience combines historical	2025-12-31 - 2028-05-30	198,001

Workpackages / Activities	Description	Start date – End date	Cost
	reconstruction and interactive exploration. Users navigate the virtual environment, interacting with artifacts to gain historical insights. Building on WP1s co-creation methods, the process begins with a workshop and site visit where stakeholders, developers, and experts shape the VR experience. The Regional Museum of Lapland and The Borderland Museum of Kirkenes provide historical expertise, archival materials, and validation, with additional institutions contributing to the knowledge base. AI will support user experience research by analyzing satisfaction and behavior, with speech recognition potentially enhancing interactivity. Key partners: Lapland UAS FrostBit Software Laboratory - Lead developer, responsible for VR simulation. SVU & The Norwegian Barents Secretariat - Communication and stakeholder engagement. Regional Museum of Lapland & Borderland Museum of Kirkenes - Historical expertise and content validation. Additional museums & institutions - Involved in workshops and development for future scalability. Primary outcome: A fully functional VR prototype immersing users in the cultural heritage of the selected city. This serves as a scalable foundation for expanding to other historical locations. Communications: Initial Workshop with stakeholders A research article documenting development.		

Workpackages / Activities	Description	Start date – End date	Cost
	A behind-the-scenes video of the process. Potential museum exhibitions.		
2.5 - Scalability, Replicability, and Learning for Immersive Technologies	This activity focuses on ensuring the long-term impact and sustainability of the immersive solutions developed in WP2, integrating key learnings from WP1. It provides structured learning opportunities for diverse audiences, enabling them to implement, maintain, and scale these solutions, feeding into WP3's knowledge dissemination goals.. Hands-on training sessions will be conducted to teach stakeholders how to implement and maintain the piloted solutions, with a focus on scalability and sustainability. These sessions will be tailored to the specific needs of museums, cultural organizations, industry professionals, and educational institutions. The training emphasizes sustainable practices, ensuring that the implemented solutions can be maintained and updated over time, reducing environmental impact and promoting resource efficiency. Learning materials can be designed to be adaptable for educational settings, enabling integration. The activity will explore opportunities for collaboration with educational institutions, thereby fostering the next generation of immersive technology professionals. Materials will be produced covering technologies such as augmented reality (AR), virtual reality (VR), multisensory experiences, and other relevant immersive technologies used in the activities 2.1-2.4. Webinars, publications, and practical guidelines will be produced, covering the	2025-12-31 - 2028-05-30	168,000

Workpackages / Activities	Description	Start date – End date	Cost
	technologies used in the pilots. These materials will be made available to a wide audience, including educational institutions, to facilitate knowledge transfer and promote wider adoption and inspire innovation across sectors. CIRCUIT will develop comprehensive documentation of the implementation and maintenance processes, creating valuable resources for future and ensuring replicability through knowledge transfer. LTU leads, integrating partner contributions, stakeholder feedback, and WP1 knowledge to support WP3 knowledge transfer.		
3 - CIRCUIT Network Facilitation for Immersive Technology Uptake	WP3 drives immersive technology adoption across sectors, leveraging co-creation methodologies from WP1 and practical solutions from WP2. This work package establishes a dynamic cross-border network, acting as a knowledge broker to strengthen intersectoral collaboration and regional innovation, aligning with Interreg Aurora priority 1.1. The project will initiate collaboration through cross-border innovation forums and events, followed by the development of a central knowledge hub to facilitate information sharing and network building. A hackathon will foster youth engagement and innovation, generating new ideas for immersive applications. Based on network interactions, pilot use-case studies will demonstrate practical, non-commercial applications of immersive technologies. The establishment of an Arctic Immersive Technology Hub in Kirkenes will serve as a regional resource center, and a connected hubs network will ensure long-	2025-09-30 - 2028-09-29	364,573

Workpackages / Activities	Description	Start date – End date	Cost
	term collaboration and knowledge exchange between partner regions. Outcomes include a strengthened regional network, documented use-case studies, a functional knowledge hub, a strategic plan for the Arctic Immersive Technology Hub, and a sustainable network of connected hubs. Cross-border value is realized through enhanced knowledge exchange and collaborative development. Target groups are creative entrepreneurs, industrial stakeholders, technology providers, and young developers. SVU Kirkenes leads, with collaborative implementation by project partners and contributions from stakeholders and associated partners, ensuring broad participation and knowledge dissemination.		
3.1 - Cross-border Innovation Forums and Events	This activity establishes and strengthens the project's network, facilitating knowledge exchange and promoting immersive technology adoption. It encompasses a range of events, including forums, conferences, and hackathons. Objectives: building a cross-border network across the Interreg Aurora region; providing platforms for sharing best practices and industry insights; showcasing immersive technology applications; promoting intersectoral collaboration; disseminating project findings; and fostering youth engagement in immersive technology development. Activities: organizing innovation forums focused on immersive technologies; participating in regional and international events; hosting events with talks, workshops, and exhibitions; organizing local dissemination	2025-09-30 - 2028-09-29	53,700

Workpackages / Activities	Description	Start date – End date	Cost
	events in each partner region to share WP1 and WP2 results; and hosting the Development Competition Hackathon. The Development Competition Hackathon is a competitive development event where young developers create a demo for an app or game. Participants receive mentorship from industry professionals, enhancing their technical skills and professional connections. Projects are evaluated by an expert panel, which selects a winning concept. This event fosters innovation and skill-building among young developers, students, and tech enthusiasts. Expected outcomes: a strengthened cross-border network, increased awareness of immersive technology applications, enhanced collaboration, youth engagement, and innovative project demos. This activity is crucial for establishing WP3's foundation and will run throughout the project. It will disseminate WP1 research and WP2 pilot results, and lay the foundation for other WP3 activities. SVU Kirkenes and Barents Secretariat lead, with partner participation. Collaboration with industry, research, and the public sector is essential. Communication includes event promotion, hackathon highlights, mentorship stories, project showcases, and post-event reporting.		
3.2 - Cross-border Knowledge Hub Development	This activity establishes and maintains an online knowledge hub, serving as a central resource for information, collaboration, and knowledge sharing related to immersive technologies across the Interreg Aurora region. The objectives are to create a comprehensive online platform	2025-09-30 - 2028-09-29	52,578

Workpackages / Activities	Description	Start date – End date	Cost
	that gathers and disseminates information on immersive technologies, provide a central resource for best practices, research findings, and industry insights, facilitate collaboration and networking among stakeholders, increase awareness and understanding of immersive technology applications, and function as a knowledge base of immersive technology development related topics. Activities include developing and launching a user-friendly online knowledge hub, compiling and curating relevant content such as articles, reports, case studies, and multimedia resources, establishing a system for regular updates, promoting the hub through various communication channels, integrating information from WP1 and WP2, and ensuring accessibility for all stakeholders. Expected outcomes are a functional and well-maintained online knowledge hub, increased access to information on immersive technologies, enhanced collaboration among stakeholders, improved awareness of applications, and a centralized repository of project outcomes. SVU Kirkenes will lead the development and maintenance, with contributions from all project partners. Content will be curated in collaboration with experts. Communication will focus on promoting hub usage. The knowledge hub will serve as a repository for WP1 findings, showcase WP2 pilot studies, and support all other WP3 activities. This activity focuses on knowledge sharing and regional impact		
3.3 - Immersive Technology Pilot	This activity facilitates the development and implementation of pilot use-case	2025-09-30 - 2028-09-29	48,000

Workpackages / Activities	Description	Start date – End date	Cost
Use-Case Studies (Network-Driven)	studies for immersive technologies, emerging from the network's interactions and addressing real-world needs. These pilots serve as demonstration projects or proof-of-concept implementations, showcasing the practical application of immersive technologies in various sectors, without direct commercial funding from the project. Objectives include demonstrating the practical application of immersive technologies in response to network-identified needs, fostering innovation and adoption across various sectors, and providing learning opportunities for stakeholders through real-world examples. Activities include identifying and selecting pilot use-case studies based on challenges and opportunities identified during network activities, developing and implementing these pilots in collaboration with relevant stakeholders, documenting the pilot processes and outcomes, and disseminating the findings through case study reports and dissemination events. Expected outcomes are documented pilot use-case studies demonstrating the potential of immersive technologies, increased knowledge and awareness of practical applications, and enhanced collaboration between network stakeholders. These pilots will not result in commercial implementations within the project's scope, but will offer valuable insights and inspiration for future development. Relevant partners and stakeholders will implement the pilots based on the chosen use cases, with SVU Kirkenes		

Workpackages / Activities	Description	Start date – End date	Cost
	providing overall coordination. Communication will include case study reports and dissemination events. This activity supports knowledge sharing and regional impact.		
3.4 - Arctic Immersive Technology Hub Establishment, Kirkenes	This activity focuses on the development of a dedicated tech-innovation hub in Kirkenes, with a focus on immersive technologies. It aligns with Interreg Aurora priority 1.1 by creating a regional resource center for immersive technology development. The hub will serve as a collaborative platform for research, training, and business applications in immersive technologies, building upon the work done in previous work packages. Objectives include establishing a strategic plan for the hub, creating a network for further developing a physical or virtual workspace equipped for VR research and development, and engaging public and private investors or funding institutions for long-term funding. Activities include: conducting research and analysis of existing tech hubs in northern Finland and Sweden, engaging in benchmarking visits, developing a strategic plan for the hub, organizing co-creation activities during project events to encourage ideation and collaboration. Expected outcomes include a strategic plan for the Arctic Immersive Technology Hub, a network of stakeholders committed to the hub's development, and a clear understanding of the hub's potential physical or virtual form. The hub will be developed in close collaboration with tech hubs in northern Finland and Sweden, with Lapland UAS and LTU providing advisory roles. A strong focus will be placed on	2025-09-30 - 2028-09-29	111,895

Workpackages / Activities	Description	Start date – End date	Cost
	networking and knowledge-sharing among stakeholders. The implementation will be led by SVU Kirkenes, working in partnership with business stakeholders and future funding partners. Communication efforts will include investment proposals, stakeholder meetings, and strategic engagement with international partners. The final outcome will be determined based on feasibility studies and stakeholder input, ensuring the most impactful and sustainable solution is pursued. This activity contributes to regional innovation and long-term collaboration.		
3.5 - Connected Hubs Network Development	This activity expands on 3.4 and strengthens collaboration between technology hubs in Norway, Finland, and Sweden. It enhances knowledge exchange, resource sharing, and long-term partnerships between centers specializing in VR and digital technologies. The goal is to establish a sustainable network of innovation hubs that continue collaborating beyond the project. Key activities include researching and connecting with other technology centers, benchmarking visits, and online meetings to share best practices. Co-learning is encouraged through knowledge-sharing sessions, co-creation events, and showcasing successful models. Structured information-sharing, including contact databases and matchmaking between companies and research institutions, will support ongoing partnerships. The project will also focus on improving collaboration structures and facilitating industry involvement. Companies will be invited to engage,	2025-09-30 - 2028-09-29	98,400

Workpackages / Activities	Description	Start date – End date	Cost
	strengthening ties between research and industry. This initiative supports the projects exit strategy by ensuring continued knowledge-sharing and collaboration. The long-term impact will be a well-connected network of innovation hubs driving digitalization and technological innovation in the region. SVU Kirkenes will lead the implementation, with contributions from all project partners. Communication efforts will include research reports and meeting summaries.		

1.8 Indicators

Output indicators

Applications submitted to EU programmes	The aim is to submit three applications addressing achievements or additional needs expressed in this project. The preliminary ideas could involve for example a network focused on the application of immersive technologies in education or training, potentially expanding our partnership with relevant educational institutions and SMEs, and applying for funding from programs like Erasmus+ or Digital Europe. Another idea is a collaborative initiative dedicated to the preservation and promotion of cultural heritage through immersive technologies, potentially involving museums, heritage organizations, and research institutions, and seeking funding from programs such as Creative Europe or NordForsk. Additionally, an ecosystem designed to foster innovation and development of immersive technology solutions for industries in the Arctic region could be considered, potentially expanding our partnership with Arctic businesses, research centers, and regional	Startvalue: N/A Targetvalue: 3 Unit: Applications
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	development agencies, and applying for funding from programs like Interreg Northern Periphery and Arctic or Horizon Europe. These are just examples, and other application areas may be considered, building upon the learnings and hub network developed within this project.	
Research organisations participating in joint research projects	Lapland University of Applied Sciences and Luleå University of Technology are Higher Education Institutions (HEIs) participating in this project, demonstrating cross-border R&D cooperation.	Startvalue: N/A Targetvalue: 2 Unit: Research organisations
Enterprises cooperating with research organisations	The project partners representing business life are SVU Kirkenes and the Barents Secretariat. We have letters of intent or commitments also from following businesses or business organisations: - MAI Learning's role in this project will be research into AI development opportunities in the region, as well as educational workshops, courses, and consultancy and being a stakeholder in the Kirkenes hackathon. - Sør-Varanger Historielag and Sydvaranger Drift AS see this project as an opportunity to collaborate in expert training on VR and AI for SMB competitiveness, foster industry-research partnerships for innovative solutions, and support SMBs in adopting digital and immersive technologies. - Arctic Game, Luleå Science Park looks forward to potential collaboration with the CIRCUIT project and recognize many synergies between their work and the projects objectives, supporting CIRCUIT by providing access to relevant networks both in terms of industry and expertise and we will follow the project's progress with great interest. Additional enterprises may be involved throughout the	Startvalue: N/A Targetvalue: 5 Unit: Enterprises

	project. Public or public-like stakeholders e.g. Regional Museum of Lapland & Borderland Museum of Kirkenes, Aine Art museum and museum of Torne Valley and Sør-Varanger municipality have not been calculated in indicators.	
Jointly developed solutions	Immersive technology solutions produced within WP2 include: - Mobile AR Solution (Activity 2.1), an augmented reality experience blending historical and contemporary elements. - The VR pilot solution(s) developed in Kirkenes (Activity 2.2), exploring immersive experiences in specific contexts. - The multisensory installations created at Ajtté Museum (Activity 2.3), enhancing cultural heritage engagement. - Cross-Border VR Heritage Collaboration for cultural heritage (Activity 2.4) These solutions are designed to be adopted or up-scaled by organizations. The solutions are developed using co-creation methodologies, and AI-driven insights, in accordance to the WP1 activity outcomes. Learning package in 2.5 supports the further development or uptake of the solutions.	Startvalue: <i>N/A</i> Targetvalue: 4 Unit: Solutions

Result indicators

Number of approved applications to EU programmes	As application processes from submission to project approval can be time-consuming, and financing competition may require multiple submissions before approval, we expect to have one application related to this project context approved by the end of the project.	Startvalue: Targetvalue: 1 Unit: Applications
Small and medium-size enterprises (SMEs) introducing product or process innovation	While the project's main focus is not on direct SME product or process innovation, we anticipate that at least one SME may introduce a new product or process based on the project's immersive technology solutions or	Startvalue: Targetvalue: 1 Unit: Enterprises

	knowledge transfer activities. For example, an SME involved in cultural tourism might integrate the developed AR experience into its tour offerings, representing a process innovation. This target reflects the potential for indirect SME impact through the project's knowledge dissemination.	
Solutions taken up or up-scaled by organisations	The 'Time Echoes at Rantakatu: Mobile AR Solution' (2.1), reaching TRL 7-8, has confirmed adoption, and the Aine Art Museum and Museum of Tornio Valley, heavily involved in this solution, continue to develop it further. The VR experiences in Kirkenes (2.2) and the multisensory experience in Jokkmokk (2.3), reaching TRL 4-7, offer potential for scaling, especially if further developed by participating institutions. Cross-Border VR Heritage Collaboration for cultural heritage (Activity 2.4) aims to achieve TRL 7 and be adapted by Kirkenes and/ or Rovaniemi museums involved in development. Based on the confirmed adoption of the 'Time Echoes at Rantakatu: Mobile AR Solution' (2.1) and the potential for participating organizations to continue development (2.2 - 2.4), we expect a minimum of two solutions to be upscaled. Learning package and activities in 2.5 and WP 3 actions support the further development or uptake of the solutions even by new organisations.	Startvalue: Targetvalue: 2 Unit: Solutions

1.9 Budget EU

Costs

Cost categories	Lapin ammattikorkeakoulu Oy	Tornion kaupunki	LULEÅ TEKNISKA UNIVERSITET							Total
Staff cost: Task 2.4 Artist, 3900 + 26,44%, 50% for project for 12 months	29,587	0	0							29,587
Staff cost: Task 2.4 Developer, 3900 + 26,44%, 100% for project for 12 months	59,174	0	0							59,174
Staff cost: Project assistant 100% (paid 15%), arts 3, X-bit, 3 cycles, 3x 6 months for the project, 2500 + 26,44%	8,534	0	0							8,534
Staff cost: Project assistant 2, Frostbit, 2200 + 26,44%, 50% for project for 6 months	8,345	0	0							8,345
Staff cost: Tasks 1.2, 1.4, 2.4, 2.5, WP3 tech developer, 3900 + 26,44%, 50% for project for 36 months	88,761	0	0							88,761
Staff cost: Project researcher, 3500 + 26%, 50% for 30 months	0	66,150	0							66,150
Staff cost: Junior researcher, SE, 3 369 euros per month, social fees 59,12%, working 50%	0	0	96,498							96,498

Cost categories	Lapin ammattikorkeakoulu Oy	Tornion kaupunki	LULEÅ TEKNISKA UNIVERSITET							Total
for 36 months										
Staff cost: Senior researcher, SE, 5 839 euros per month, social fees 59,12%, working 20% for 36 months	0	0	66,890							66,890
Staff cost: Project manager, SE, 4 403 euros per month, social fees 59,12%, working 40% for 36 months	0	0	100,884							100,884
Staff cost: Project manager, 4600 + 26,44%, 32% for project for 36 months	67,003	0	0							67,003
Staff cost: Task 1.3, 1,4, 2.1, 2,3, 2.5 API expert, ICT, Xbit, 5600 + 20,46%, 40% for project for 30 months	80,949	0	0							80,949
Staff cost: Project assistant, Frostbit, 2200 + 26,44%, 50% for project for 6 months	8,345	0	0							8,345
Staff cost: Task 1.1, 1.2, 1.4, 2.1, 2.3, 2.5 accessibility, digital arts and gaming, Xbit, 4300 +20,46%, 40% for porject for 30 months	76,612	0	0							76,612
Staff cost: Project	0	11,340	0							11,340

Financier	Lapin ammattikorkeakoulu Oy	Tornion kaupunki	LULEÅ TEKNISKA UNIVERSITET							Total
Private co-financing										
Total private co-financing										0
Total all private co- financing methods										0
Total public and private co-financing	221,370	37,970	129,493							388,833

Support

Financing	Lapin ammattikorkeakoulu Oy	Tornion kaupunki	LULEÅ TEKNISKA UNIVERSITET							Total
Total financing	411,115	70,516	240,488							722,119

Support and financing

	Lapin ammattikorkeakoulu Oy	Tornion kaupunki	LULEÅ TEKNISKA UNIVERSITET							Total
Total financing	632,485	108,486	369,981							1,110,952

Compilation

	Lapin ammattikorkeakoulu Oy	Tornion kaupunki	LULEÅ TEKNISKA UNIVERSITET							Total
Sum total costs	632,485	108,486	369,981							1,110,952
Sum co- financing	221,370	37,970	129,493							388,833
Applied support	411,115	70,516	240,488							722,119
Support share	65.00%	65.00%	65.00%							65.00%

Support share of actual costs	65.00%
Support share of total costs	65.00%
Support share of financing base for support	65.00%
Support share of total financing	65.00%
Support share of other public co-financing	35.00%
Support share of public co-financing	100.00 %
Support share of private co-financing	0.00%

Costs

Cost categories	BARENTSSEKRETARIATET IKS	SØR- VARANGER UTVIKLING AS								Total
Staff cost: Project co-manager, 6720 + 4%, 7,45% for project for 36 months	18,744	0								18,744
Staff cost: Administrative resource, 6166,67 + 20%, 20% for the project for 36 months	0	53,280								53,280
Staff cost: Project coordinator, 5416,67 + 20%, 10% for the project for 36 months	0	23,400								23,400
Staff cost: Project Manager, 6048 + 4%, 7,5% for the project for 36 months	16,983	0								16,983
Staff cost: Project manager, 5000 + 20%, 34% for project for 36 months	0	73,440								73,440
Staff cost: Communication manager , 5000 + 20%, 20% for the project for 36 months	0	43,200								43,200
Staff cost: Senior supervisor, 7916,67 + 20%, 10% for the project for 36 months	0	34,200								34,200
Staff cost: Project co-coordinator, 5166,67 + 20%, 10% for the project for 36 months	0	22,320								22,320
Other costs 40%	14,291	99,936								114,227
Sum costs	50,018	349,776								399,794
Deduction of project income										
Total deduction										
Total costs	50,018	349,776								399,794

Cost categories	BARENTSSEKRETARIATET IKS	SØR- VARANGER UTVIKLING AS								Total
										0
Sum total costs	50,018	349,776								399,794

Financing

Financier	BARENTSSEKRETARIATET IKS	SØR- VARANGER UTVIKLING AS								Total
Public financing										
Total public financing										0
Total all public financing methods										0
Private financing										
SVU Kirkenes: Own financing	0	174,888								174,888
Barents Secretariat: Own financing	25,009	0								25,009
Total private financing	25,009	174,888								199,897
Total all private financing methods	25,009	174,888								199,897
Total public and private financing	25,009	174,888								199,897

Support

Financing	BARENTSSEKRETARIATET IKS	SØR- VARANGER UTVIKLING AS								Total
Applied support	25,009	174,888								199,897

Support and financing

	BARENTSSEKRETARIATET IKS	SØR- VARANGER UTVIKLING AS								Total
Total financing	50,018	349,776								399,794

Compilation

	BARENTSSEKRETARIATET IKS	SØR- VARANGER UTVIKLING AS								Total
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Sum total costs	50,018	349,776								399,794
Sum co-financing	25,009	174,888								199,897
Applied support	25,009	174,888								199,897
Support share	50.00%	50.00%								50.00%

Support share of actual costs	50.00%
Support share of total costs	50.00%
Support share of financing base for support	50.00%
Support share of total financing	50.00%
Support share of other public co-financing	0.00%
Support share of public co-financing	50.00%
Support share of private co-financing	50.00%

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1.12 Documents

File name: MAI Learning_LoC_CIRCUIT.pdf
Description: MAI Learning, Letter of Commitment, knowledge sharing and communication.
Date attached: 2025-03-13
File name: Kaupparekisteriote 2021(nimenkirjoitusoikeus) (2).pdf
Description: Lapland UAS, signature rights. Kaupparekisteriote.
Date attached: 2025-03-13
File name: Ájtte_LoC_CIRCUIT 2.pdf
Description: Ájtte museum, Letter of Commitment (Activity 2.3 and related activities).

Date attached:	2025-03-13
File name:	Firmaattest pr. januar 2025.pdf
Description:	Signature rights validation, SVU Kirkenes
Date attached:	2025-03-16
File name:	LoS_CIRCUIT_Arctic Game .docx
Description:	Arctic Game, Letter of Support
Date attached:	2025-03-16
File name:	Letter of intent HISTORIELAGET.docx
Description:	Sor-Varanger Historielaget, letter of intent
Date attached:	2025-03-16
File name:	Letter og Intent SVK.pdf
Description:	Sydvaranger municipality, Letter of Intent
Date attached:	2025-03-16
File name:	Kontobekreftelse SNN_2025.pdf
Description:	SVU bank account verification document
Date attached:	2025-03-16
File name:	Letter of intent SYDVARANGER.docx
Description:	Sydvaranger Drift AS, Letter of Intent
Date attached:	2025-03-16
File name:	Budget Lapland UAS Circuit.xlsx
Description:	Lapland UAS budget table
Date attached:	2025-03-17
File name:	Copy of 20250313 Bugdet Interreg CIRCUIT Norwegian Partner.xlsx
Description:	Norwegian budget specifications
Date attached:	2025-03-17