

# NPA GLOW2.0 - Green Energy Technologies for Tourism Growth



## Regional Workshops and Events

(Deliverable 2.6.1)

30.8.2024



**Interreg**



Co-funded by  
the European Union

Northern Periphery and Arctic

**GLOW2.0**

Cover photo: Noel Bauza/ Pixabay

# Introduction

The objective of NPA GLOW2.0 – Green Energy Technologies for Tourism Growth project is to support enterprises and public organisations in developing tourism flow during the dark autumn and winter months using darkness of nature and Dark Sky as additional elements for diversifying the tourism package, while effectively communicating light pollution and ways to prevent and reduce it.

The aim of GLOW2.0 activity A2.6 was to engage with regional SMEs from the NPA participating regions of Finland, Ireland, Iceland, and Norway in developing and implementing the adoption of Service Design methodologies in SMEs as a tool for Innovation and/or marketing. To achieve this, GLOW2.0 project consortium organised Capacity Building workshops and events for enterprises and organisations in Service Design innovation and marketing. The workshops and events aimed to increase the awareness and skills of local tourism entrepreneurs and stakeholders on ways to use darkness as a resource for creating innovative and sustainable tourism experiences. These took place in own regions, and via jointly organised events. Synergies with other similar projects were also encouraged and utilised to broaden networking and for advancing the horizontal principles in line with GLOW2.0 project. The GLOW2.0 Capacity Building Program modules developed by the partnership consortium, served as a guide for GLOW2.0 partners in designing regional and joint workshops and events.

## GLOW2.0 Capacity Building Program Modules

Module 1 Marketing awareness and skills and networking for regional impact (WP1)	Module 2 Technical capacity in using immersive and other digital technologies (WP2)	Module 3 Improving knowledge of dark skies science concepts and technologies and techniques for preserving dark skies (WP3)
Dark sky concept in product - service development	Immersive and other technologies applications in tourism	Dark sky in sustainability science
Service design	VR and AR technologies: differences and adaptation in tourism business; case studies	Basics of light pollution: sources of light pollution, information and impact of light pollution growth globally and regionally
Basis: Identifying your customers: customer personas, gathering info and feedback	360 photography and video	Light pollution effects on tourism: effects on human, animal and vegetation health, and on biodiversity
Creation: Customer-centred service creation & adaptation - journey mapping, service testing	Night photography	Economic impacts of light pollution
Selling: Creating a needs-based value proposition for dark skies tourism offerings	Testing of technologies as base for ideation	Dark sky as added value to tourism
Storytelling >>	Low threshold testing events for selected groups of SMEs and organizations	How to utilize dark sky themes in tourism offers basics: Dark sky tourism as a niche tourism sector; case studies
>> as added value in tourism offerings		Nocturnal fauna and flora e.g. as a sustainable content
Local legends, oral traditions, regional and global mythologies relating to dark skies, tourism actor's own stories		Phenomena of the night skies as a seasonal content
>> as a competitive edge in tourism		Dark sky certification: different certifications available and criteria as added value
What, how and when to use stories: marketing your business and offerings with stories, enriching visitors' experience during service through storytelling		Local legends, oral traditions, regional and global mythologies as enrichment
Experience design: power of recommendation marketing, mechanisms of creating stronger memories and deepening the meaning of one's experience		Responsible/ sustainable dark sky tourism
Networking for regional impact, added value from creative industry & food providers		Responsible and sustainable dark sky tourism: good practices for services happening in the dark
Regional networking: direct engagement with destination business support organisations (DMO, TAs, etc.); cooperation with associated partners		Tourism logistics
Transnational networking: learning journeys and other events as forum for networking; peer-to-peer learning and networking across the consortium of partners		

This report summarizes the main activities and outcomes of the GLOW2.0 Service Design innovation and marketing workshops and events organised as part of capacity building, upskilling and reskilling of enterprises and organisations funded by the Northern Periphery and Arctic (NPA) programme during first half of the project implementation.

## Workshops and Events

### FINLAND

During period 1 of the project, an event on immersive technology testing for target groups was organised in Eastern Finland by the Lead Partner of the project, Karelia UAS. This was held on 2.5.2023 as interest for testing and learning possibilities already came up already during the first consultation workshop 14.3.2023 when Karelia presented the project aims and objectives, and engaged the target group with surveys. Altogether were 22 participants in the event, this included associated partner ELY-Centre/ NKBR. During the consultation workshop, it came clear that the region had already made plans for immersive technologies use as the municipality had purchased some equipment for tourism development/ marketing purposes



*Testing immersive technology content by different age-groups that participated the Ilomantsi event, Finland.*

Therefore, a request for a testing session for technologies content came up. Karelia UAS organised this as a follow-up event for the target group on 2.5.2023. One of the enterprises namely STC Tuotanto Oy that offered videography and virtual 360-video solutions was also interested in VR applications potentials for tourism sector and hence collaborated with Karelia for the event. The associated partner was also involved. Participant enterprises tested VR content and reflected about possibilities for own businesses/ organization/ region (ref: participant list). A total of 6 enterprises were represented/ supported during this event.

During the second period of the project, on 3.8.2023, Lapland partner PLAKY held a seminar in Utsjoki. Themes included how to get revenue out of darkness while becoming a more responsible travel destination, including from immersive technologies. There were participants from Norway too, and the event included a case study business model; a visit to Utsjoki Arctic Resort that had adapted some darkness concepts as part of its service design & marketing <https://auroraholidays.net/dark-sky-travel-seminar-workshop> .

First part of the day: the seminar portion is also open to the public (make reservations), after lunch we begin the workshop portion for businesses and organisations and end the day in a networking dinner.

NOTE: the workshop is based on the information shared in the seminar portion, to attend the workshop you must attend the seminar as well.

8:00 am Dark Breakfast ( optional not included)

9:00 am to 13:00 pm Presentation and information about the benefits, profitability, science and travel application of dark skies. (includes a break)

13:00-14:00 Break for dark lunch ( lunch not included see meal and accommodation options below )

14:00- 18:00 Workshop and hands on dark sky travel and destination development for businesses and organisations.

19:00 Dark dinner to wrap up, discuss and network. ( meal not included, see options below)

## SISÄLLYS

- Johdanto
- Mitä pimeys on?
- Valosaaste
- Pimeän taivaan potentiaali
- Pimeän taivaan säilyttäminen
- Aiheesta muualla
- Yhteenveto

## PIMEÄN TAIVAAN HYÖDYNTÄMINEN MATKAILUSSA

- Pimeys tarjoaa ainutlaatuisen elämyksen ja matkailullisen potentiaalin niille, jotka etsivät rauhallista ja inspiroivaa yhteyttä luontoon ja universumiin.
- Pimeys luo mahdollisuuden tarkkailla tähtitaivasta, muita taivaankappaleita, ja taivaan ilmiöitä.
- Pimeydellä on useita tutkitusti todistettuja terveysvaikutuksia.
- **Pimeän taivaan turismi on maailmalla huomattavan suuri ja koko ajan kasvava turismin ala.**

## PIMEÄN TAIVAAN HANKKEITA

### JUUKA, KAAVI & TUUSNIEMI

- Pimeän taivaan hyödyntäminen osana vastuullisen matkailun kehittämistä -hanke
- Hankeajka: 1.12.2022 – 30.9.2023
- Rahoittaja: Lapin ELY (HAMA, 82 800 €)
- Hankkeen loppupäätös: PIMEÄ KUU -FESTIVAALI 15.-17.9.2023 Tuusniemi

### JOENSUU, POHJOIS-LAPPI, IS, IR, NO

- GLOW 2.0: Valaisemattoman taivaan mahdollisuudet pohjoisen matkailun edistämiseksi -hanke
- Käynnissä
- Rahoittaja: Interreg Northern Periphery and Arctic -rahoitusohjelma
- [GLOW 2.0 - GLOW2.0 \(karelia.fi\)](#)

### SYRJÄVAARA

- Pimeänsuojelualue Pohjois-Savossa: fähilipuisto, pimeätäiväkeskus, observatorio, galleria ja kahvila
- Vierailupaikka, retkiä ja kursseja
- [Syrjävaara Goodnight Oy - Syrävaara \(syrjjavaara.fi\)](#)

### TEKAPO, NZ

- Dark sky project - pimeänsuojelualue ja teemapuisto
- Opastettuja elämyksiä ja tietoa

### HELSINKI

- Helsingin häiriövaloselvitys 2021
- [https://www.hel.fi/static/tilit/kaupunkiymparisto/ulkailu/ulkailu\\_julkaisu-07-21.pdf](https://www.hel.fi/static/tilit/kaupunkiymparisto/ulkailu/ulkailu_julkaisu-07-21.pdf)

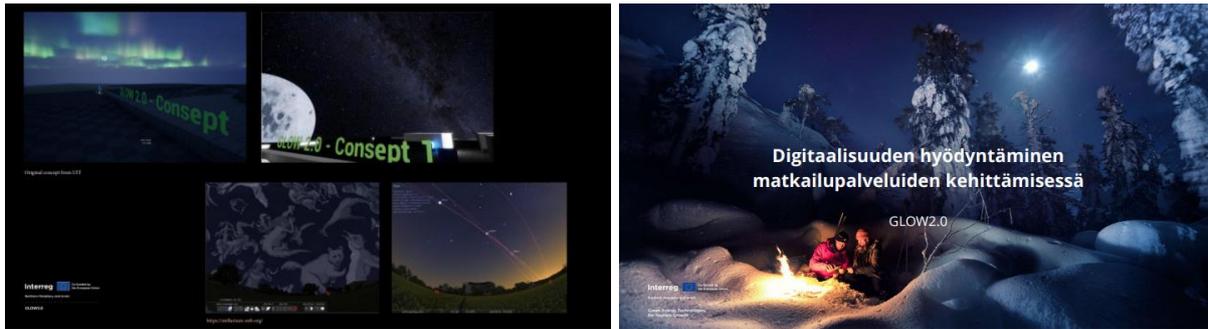
### SUOMEN YMPÄRISTÖKESKUS

- Valosaaste – vakava ympäristöongelma? (VALO) –hanke
- Hankeajka: 2011– 2013
- [Suomen ympäristökeskus > Valosaaste – vakava ympäristöongelma? \(VALO\) \(syke.fi\)](#)

*Dark Sky seminar and workshop programme information package.*

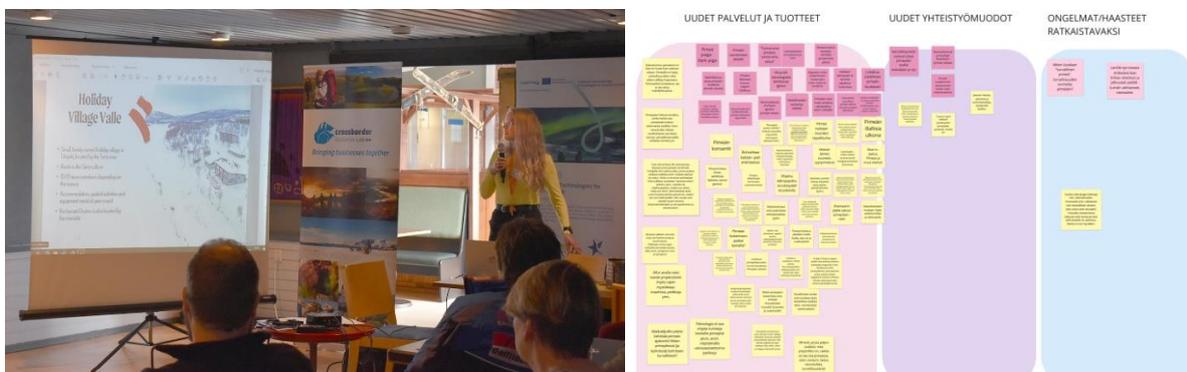
In the third project period, in North Karelia Finland, two enterprises (i) Nuoriso- ja Matkailukeskus Hyvärilä Oy and (ii) Äksyt Ämmät Oy were engaged by Karelia UAS (14.11.2023) in Nurmes city on potential of immersive and other technologies to promote tourism business. Thereafter, Karelia was invited by Kontioloikka Oy to their event in Kontiolahti Finland on 23.11.2023 to engage its area businesses on ways of harnessing digitalisation to develop tourism services. The enterprises later joined the series of workshops by Karelia UAS based on GLOW2.0 developed modules.





*GLOW2.0 presentation during the events.*

In February 2024, PLAKY joined Tunturi-Lapin WYNE-project event, where GLOW2.0 themes were also discussed as part of the workshop. The focus was on potential new services and products, new networks models, and challenges that need solving to enable development.



*Presentations and workshop results from mapping session during workshop in Lapland, Finland.*

In period 3 of the project, a series of workshops targeted to SMEs and related tourism organisations were organised in Finland. The main focal points for the localised workshops were:

- *Module 1: Dark sky concept in product/service development - Service design & storytelling;*
- *Module 2: Immersive and other technologies applications in tourism, Testing of technologies as base for ideation and;*
- *Module 3: Dark sky in sustainability science, Dark sky as added value to tourism.*

## CAPACITY BUILDING WORKSHOPS S/2024

A framework for service design based workshops for North Karelia spring 2024, based on regional needs for the capacity building of SMEs. Framework can be utilized in different regions taking local needs into consideration when planning.



### Capacity Building Workshops in Eastern Finland, spring 2024

The workshops were designed to help the SMEs develop products and or services related to dark skies with emphasis on utilising service design methods and design thinking approaches. The SMEs were also offered a possibility to receive individual consultations in form of one-on-one sessions. Adopting and adapting Dark Sky themes in own tourism offers (A2.6) was the focus during the second workshop in the series; it took place on 4.4.2024.



## Koulutus 2

Toisessa koulutuksessa sukellamme syvemmälle pimeyden hyödyntämiseen osana matkailupalveluita tai niiden markkinointia. Mikä on sinun yrityksellesi sopiva tapa yhdistää pimeys toimintaasi? Kenelle asiakkaistasi pimeys tuottaa eniten lisäarvoa?

Jos et päässyt mukaan ensimmäiseen työpajaan, pääset hyvin mukaan tältä sivulta löytyvien materiaalien ja tehtävien avulla. Voit käydä myös kurkkaamassa Koulutus 1 -väilehdeiltä edellisen työpajan esitykset!

The workshop, attended by 8 SMEs, focused on customer centred service creation, customer journey mapping, and creating a sellable product. The first phase of the second workshop was originally supposed to be organised jointly with Kolin Matkailu Oy as synergy for our tourism projects, but unfortunately this section was cancelled due to low attendance. The second phase of the workshop specifically designed for GLOW2.0 was however realised. The workshop focused on service design and customer experience. Firstly, Karelia UAS's Tourism and Hospitality Principal Lecturer shared key insights and innovations from ITB event in Berlin. Karelia's service design and communication specialist followed thereafter by leading the workshop and focusing on two methods to empathise with the customer's perspective and improve the customer experience; customer journey mapping and using an arc of drama to see the service process. SMEs were at the end given an assignment to help their design process; The Dark sky product card. The purpose of the Dark Sky Product Card was to bring together the input from the previous workshops: the content of Dark Sky as part of a tourism service, customer insights and the content of the service.

In the third workshop that took place on 16.5.2024, attended by 7 SMEs, utilising storytelling and narratives in business, presentations of created services, and immersive technologies were in focus. Karelia UAS's Tourism and Hospitality Principal Lecturer opened the event by discussing the use of storytelling in designing services and products, marketing, and creating unique experiences for customers. This was followed by Karelia's service design and communication specialist who delved into the significance of knowing customers in the second part of the workshop, sharing insights how to collect and analyse data continuously, and how to engage customers in the development process. PLAKY partner attended the workshop too.



*Presentations and engagement during events.*

Karelia has also worked from the very beginning with one-on-one sessions. GLOW2.0 project via Karelia UAS, has worked on ways Darkness values could be integrated in the regional Koli National Park. For this, infomaterials development work with Metsähallitus took place with various meetings and visit to the Nature Centre to develop actions. It was decided that materials will consist of basic information about light pollution and dark skies. Learnings from Mayo Dark Sky Park were also shared. A series of 3-4 infoboards with written and illustrated content on natural darkness, light pollution and darkness preservation will be produced by the project for the nature centre with possibility to localise these in other similar locations, e.g. Nuorisokeskus Hyvärilä in Nurmes, also engaged with GLOW2.0. The aim is to have these at the Nature Centre, possibly also Nuorisokeskus Hyvärilä in Nurmes before dark period 2024 in order to test visitors' engagement. Karelia also assisted SME Syrjävaara Oy with research analysis translations for light pollution measurements and with application process for Dark Sky certification from DarkSky International. The application was sent forward by the entrepreneur.

## IRELAND

In Ireland, during period 2 on 12.9.2023, 15 regional SMEs were engaged with a seminar/workshop event. The workshop featured Case Studies from local businesses providing valuable insights, a brainstorming session and exchanging knowledge. This event successfully expanded SMEs network of businesses eager to explore opportunities in dark sky tourism. 3 enterprises from Finland and 1 enterprise joined from Iceland joined the seminar event as part of learning journey event. The event included sessions on business models for dark sky tourism development. GLOW2.0 video (<https://www.youtube.com/watch?v=Ak44unjJlL>) showcasing what immersive technologies can offer for regions and businesses was also showed during the event.



*Learning about different service designs and business models during seminar in Belmullet, Mayo, Ireland.*

Udaras partner thereafter, on 20.10.2023, organised "Building a Sustainable Tourism Business" event in collaboration with South West Mayo Development Company, and WestBIC. 17 SMEs attended. For the event, a significant emphasis was placed on dark skies tourism and the essential knowledge around light pollution. The event saw a large turnout and involved collaboration with many organisations. The sessions and workshops explored various significant topics including business grants, sustainable practices, technological applications to expand their reach, and innovative strategies to extend the tourism season. Positive feedback was obtained from the audience.



The event was also featured in a press release [Connaught telegraph](#).





**Údarás na Gaeltachta**



**South West Mayo**  
DEVELOPMENT COMPANY CLG  
Comhacht Fásartha  
Iathbheoan Mharaí Tu CTR

## AG FORBAIRT GNÓ TURASÓIREACHTA INMHARTHANA

### BUILDING A SUSTAINABLE TOURISM BUSINESS

**Áit/Location:** Halla Thuar Mhic Éadaigh  
**Dáta:** 20 Deireadh Fómhair / 20th October  
**Am/Time:** 10am - 1pm

**10.00 - 11.45am - Cur i Láthair Presentations / Talks:**

**Fáilte / Welcome** Sabina Trench  
**10.00** Turasóireacht Ghlas / Green Tourism, Funding for SMEs Derek Hannick

**10.15** Spéartha Dorcha / Astro Tourism, Mayo Dark Sky & GLOW 2.0 - Martina Ní Dhóláin

**10.30** Turasóireacht Phobail/Developing Community Led Sustainable Tourism  
Dominic Ó Móráin / Michael Hegarty

**10.45** Turasóireacht Ghlas / Green Initiatives in a Tourism Business  
Óstán Westport Woods - Case Study Michael Lennon

**11.00** Comhshaol / Sustaining Habitats, The Lough Carra Life Project -Kieran Flynn

**11.15** Turasóireacht Chósta / Coastal Zone Tourism Developing Tourism in the Coastal Zone & EmpowerUS  
Micheál Mac Donnacha

**11.30** Digiú Turasóireachta/ Digitalisation of Tourism Creating Social Media Content Using AI  
Alastair McDermott

**12.00 - 1 pm Ceardlann / Speed dating (15 min sessions)**

**An tAistriú Glas/Finding opportunities in Green Transition**  
(Derek Hannick / Mayo LEO)  
**Forbairt Turasóireachta Chósta/Developing Tourism in The Coastal Zone**  
(Micheál Mac Donnacha - Empower Us)  
**Spéartha Dorcha/Dark Sky & Astro Tourism**  
(Martina Ní Dhóláin - GLOW 2.0)

**AI generated content for Social Platforms**  
(Alastair McDermott)

**Turasóireacht Réigiúnda/Developing Regional Tourism Offering** (Dominic Ó Móráin)

**Tacaíocht & Maoiniú/Funding Supports for Digital and Green Transition** (Mayo LEO)

**Na deiseanna/Broad opportunities within the emerging landscape of the tourism industry.**  
(Fionnan Nestor)

**1-2.00pm Lón Lunch provided**  
**Ceapairí Tae & Caife**

**11.45- 12.00 Tae & Caife**      **Clárú / Registration : [orla@udaras.ie](mailto:orla@udaras.ie)**

*Building a Sustainable Tourism Business workshop programme.*

In summary, the Regional Workshop on Building a Sustainable Tourism Business, held during Mayo Ideas Month at Halla Thuar Mhic Éadaigh, served as an important gathering for entrepreneurs, and business leaders in the field of sustainable tourism. The presentations and workshops provided valuable insights into how sustainable tourism can be not just a concept but a practical reality, particularly emphasising the potential of dark skies tourism and its synergy with technological innovations like VR/AR technologies.

In period 3 of the project, Ireland partners further engaged with regional SMEs through a workshop titled 'Stars and Strategies for a Sustainable Tourism Business' held in the picturesque Leenane, Co. Galway on 15.3.2024. The event took place during Astronomy Week, bringing together enthusiasts and professionals interested in Dark Sky themes and the pursuit of sustainable tourism practices.

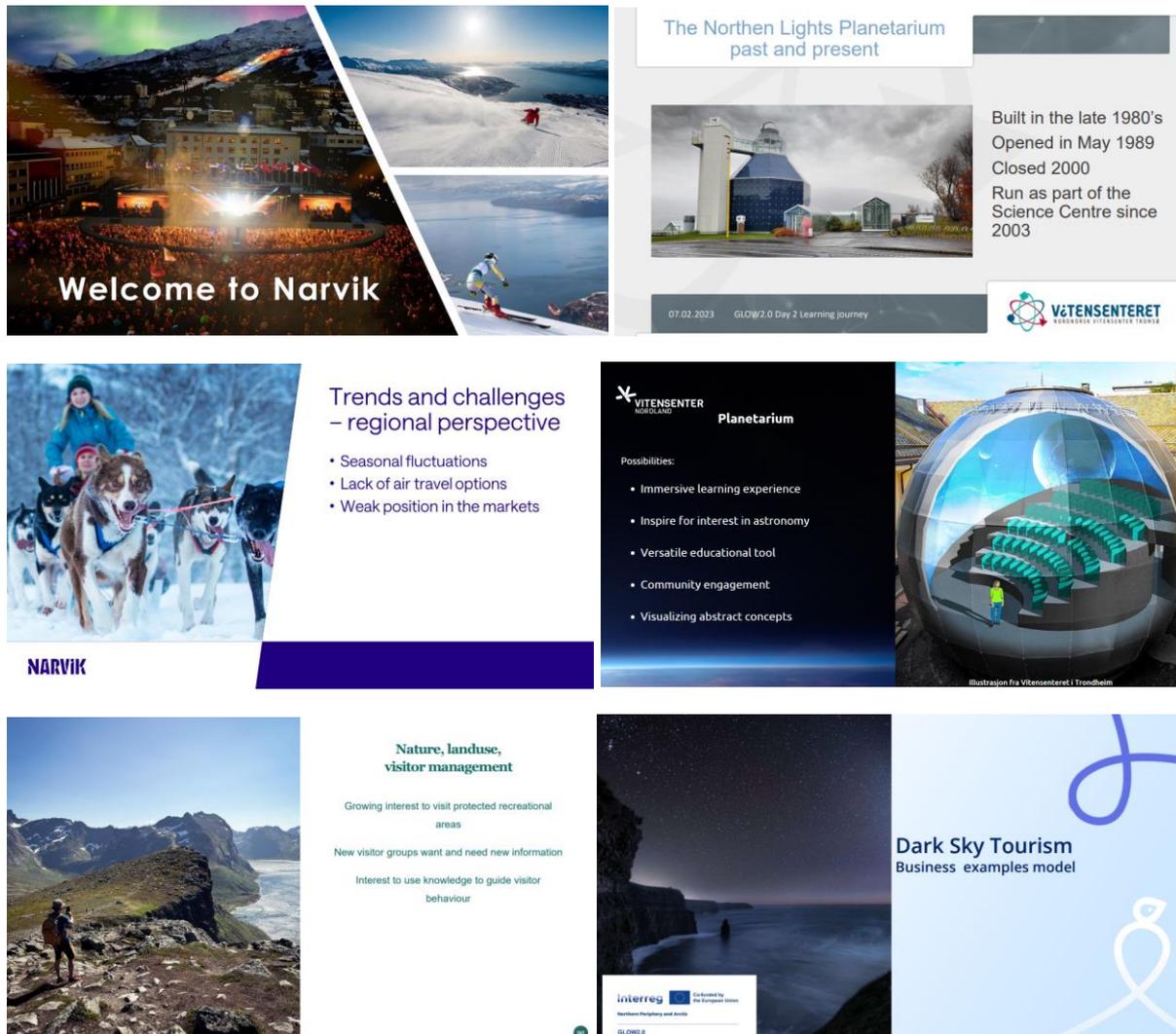


*Agenda and participants at the Stars and Strategies for a Sustainable Tourism Business workshop in Ireland.*

The event featured information sessions and workshops covering a selection of significant topics, from the fascinating world of stargazing as a business, unraveling the mysteries of the night sky and how they can be leveraged to attract tourists year-round. Storytelling, a timeless art, was also a focal point – with discussions on how tales of celestial wonders can be utilised to enchant visitors and create a memorable experience. A major highlight was the guided stargazing walk, a journey under the stars, where participants were immersed in the beauty of the night sky, while the expert guides provided invaluable insights into constellations, planets, and celestial phenomena, making the experience both educational and awe-inspiring. A strong emphasis was placed on 'Dark Skies Tourism', as emerging vital aspect of sustainable travel, with discussions revolving around the various opportunities available to local businesses in this niche, highlighting innovative strategies to extend the tourism season beyond the traditional peaks and trough.

## NORWAY

During third project period, on 7.2.2024, Norway partners realised a regional workshop/seminar held in hybrid mode. The workshop featured diverse line-up of speakers considering Northern Norway's tourism industry in different perspectives. During the event, Narvik municipality CEO set the tone with a welcoming speech, emphasizing the importance of collaboration and innovation in driving sustainable tourism initiatives. Subsequent presentations covered a wide spectrum of topics, ranging from light pollution, tourism trends and challenges, business capacity in dark sky tourism, to technological innovations and their implications.



*Seminar session presentations showcasing service designs and needs during seminar/ LJ event in Narvik, Norway.*

The presentations prompted considerable interest and sparked fruitful discussions among stakeholders on technical knowledge, future work, networking, and potential collaboration for sustainable tourism development. A captivating demonstration session at the UiT XR-lab, and Virtual Planetarium (VP) showing the potential applications of VR technology within the context of GLOW2.0 sparked enthusiasm among participants, stimulating further exploration of innovative solutions.

## ICELAND

During the second period of the project, SSNV had telephone meetings with SMEs that had shown their interest in the project/considering ways dark sky tourism can be an alternative for them to develop something new. In the third period, SSNV organised a regional awareness event on the 25.1.2024 in Skagaströnd visited from stakeholders such as SMEs and municipality (in total appr. 30 persons), using the event also to promote own regional events and GLOW2.0 joint webinar (30.4.2024). SSNV also used the opportunity before the upcoming "LightUp 2024" to talk about darkness with Iceland science presenter Sævar Helgi Bragason.



*Marketing materials for SSNV events.*

SSNV thereafter organised three regional workshops. These took place between the end of March and the begin of April (25.3, 26.3, 3.4) in three different places of the area. There, the dark sky philosophy and the GLOW project was presented to regional stakeholders. Number of participants happened to be less than SSNV expected, as due to sickness, SSNV had to postpone them in the two weeks around easter. Nevertheless, good discussions and ideas were sourced. SSNV organised thereafter an online seminar in Iceland focusing on "Service design" (31.5.2024) led by Mrs María Hjálmarsdóttir, experienced tourism professional and destination designer/manager.

## JOINT EVENTS ACROSS WHOLE PARTICIPATING REGIONS/ NPA

All partners in collaboration also arranged, in addition to other regional events, capacity building events in form of learning journeys and joint webinar covering the various themes in GLOW2.0. These were designed to support tourism enterprises and organisations from participating regions/ NPA-regions, including those not directly working with the project. Among other themes, enterprises and organisations were engaged on ways immersive technology solutions could assist them in marketing or delivering their products or services related to Dark Sky Tourism.

### Learning Journeys

In Ireland, during period 2 on 12.9.2023, 15 regional SMEs joined in a seminar/workshop event. 3 enterprises from Finland (Arctic Stargazing Tours, Syrjävaara Oy, and Ilomantsi Tourism Association) and 1 enterprise joined from Iceland (1238 - historical experience using VR) also joined the learning journey. The learning journey and seminar offered stakeholders a forum to discuss, learn from one another and network for tourism. At the same time, in a parallel session, partners were able to follow on work progress and make plans for next phases of the project. Partners and stakeholders joined up after the networking session, to explore together and learn about the tourism development opportunities and challenges in Mayo region. Stakeholders also got to test the raw version of the virtual planetarium being developed by the project.



*Photo: Project partners and stakeholders from Ireland, Norway, Finland and Iceland during networking session.*

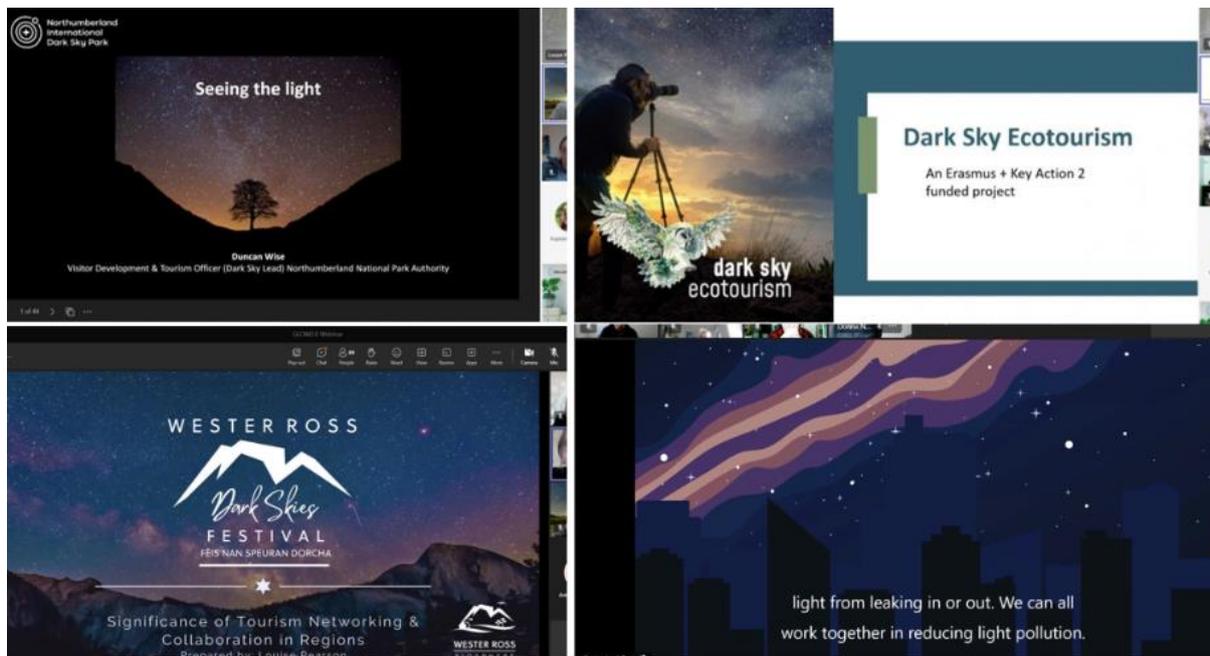
From partner meetings, GLOW2.0 virtual planetarium testing, networking and team discussions, visiting the Blacksod Lighthouse and Solas and learning from their business model, to listening the keynote speakers Georgia MacMillian (Mayo Dark Sky Park) and Kerem Asfuroglu (environmentally sustainable lighting designer), both partners and stakeholders left with increased knowledge and practical insights on the difference they can make regarding light pollution, ways of extending the dark sky tourism season and of course the importance of networking for tourism. The discussion feedback from stakeholders was very much appreciated. Special thanks were given to Irish partners Údarás na Gaeltachta and WestBIC for organising such a fruitful and valuable learning journey.

In Norway, during period 3, stakeholders such as Nordnorsk Vitensenter, Vitensenter Nordland, Narvik Kommune, Visit Narvik, and SALT joined the seminar/ learning journey event (6.-7.2.2024), making it a dynamic platform for collaboration and knowledge exchange. The testing sessions on the further developed beta version of virtual planetarium provided GLOW2.0 with more details on how the experience will be delivered. The best ways and options to enhance the experience was

discussed. Additionally, types of tourists who might use the experience and the best placement options such as storytelling/ sound ambience to reach the widest audience and raise awareness about the development of Dark Sky Tourism were also considered. The learning journeys have been important events for testing the immersive technology/ virtual planetarium being developed in the project with target groups.

Joint webinar for SMEs and organisations across NPA regions interested in GLOW2.0 themes

Partners implemented in collaboration a joint webinar on 30.4.2024 aimed at communicating project themes, their importance, and showcasing examples of green business models in tourism using Darkness as added value, including immersive technologies potential. The joint event was planned in cooperation, led by Karelia UAS and Udaras/UnaG. Karelia UAS and Udaras worked on the programme and liaised to get speakers to the event. Partners commented on the programme. All partners worked together to attract stakeholders from own countries/ regions to the webinar event. The event attracted 147 registrations and 106 connections (as some participants joined as a group) on webinar day. WestBIC played a huge role in moderating the event.



*Presentations during the joint webinar event jointly organised by GLOW2.0 partners in cooperation.*

The joint events and workshops were very successful, yielding high-quality feedback from participants. The learnings and feedback are being used to develop other GLOW2.0 activities and outputs that are/will be available for use during the course of the project, among other, via NPA GLOW2.0 website: <https://www.interreg-npa.eu/projects/glow20/home/> (resources, outputs & results).

NPA GLOW2.0 thematic videos for enterprises and organisations

GLOW2.0 video (<https://www.youtube.com/watch?v=Ak44unj1jLI> ) produced during period 2 of the project has been very useful during the events and workshops. The video gives an exemplary

demonstration of what immersive technologies can offer for regions and businesses and how this can be integrated in current business models or as standalone product/service offer.



*Clips from NPA GLOW2.0 produced video by Lead Partner Karelia UAS.*

The produced GLOW2.0 video (<https://www.youtube.com/watch?v=Ak44unjllLl>) showcases an example use of immersive technology in promotion/ marketing of tourism; it gives an idea of use in tourism for target groups for example (1) as a product on its own offering thematic experiences to visitors, (2) as a plan B in service offer where the promised/ marketed phenomenon are not visible due to bad weather, or (3) use in trade fairs jointly marketing the regional offers (phenomenon, stories, etc) which cannot be easily marketed/ understood by tour agents/ visitors (e.g. international) without the visual effect. The aim was to give insights, support /enhance understanding about possibilities of technologies uses for adding value to own offers /regions, offering concrete example about ways to develop immersive offers.

GLOW2.0 additionally produced an animation video during period 3 of the project (<https://www.youtube.com/watch?v=b8HbeZQx-Y>) demonstrating the benefit of dark sky protection. The video, shared during joint webinar 30.4.2024, shows ways by which enterprises and organisations among other, can advocate for/ internalise actions that limit light pollution within own facilities/ regions, thereby advancing the protection of darkness; an added value for tourism economy and important aspect of sustainable business, that similarly saves resources (e.g. energy) and enhances destination wellbeing (human, animals, environment, economy).



## Conclusion

In summary, GLOW2.0 events and workshops aimed to provide valuable insights into how sustainable tourism cannot just be a concept but a practical reality, particularly emphasising the value of Darkness as an added value for societies, the potential of dark skies tourism, and its synergy with technological innovations in the light of Artificial Light at Night (ALAN) and Climate Change.

The regional workshops and events were important venues for tourism enterprises and organisations interested in adopting and adapting Service Design methodologies to support them in developing their service/product for the Dark Sky's Tourism Economy. Participants gained an understanding of (1) ways they can enhance/ build new offers and or market offers based on Darkness values, (2) ways to integrate immersive technologies, AI and storytelling to add value to offers, and (3) possibilities from joining ongoing initiatives/ networks/ clusters. Participants also got introduced to among other, invaluable tools such as carbon calculators, light pollution assessment and measurement tools, benchmarking and self-development materials, visitor identification methods, and immersive technologies that can support delivery and marketing of their services.

The joint workshops and events brought local businesses, communities, infrastructure providers, and policy makers together in a forum where they were able to discuss/ learn ways to improve tourism while protecting the environment from excessive and misdirected artificial lighting at night (ALAN). The events showed ways actions can be internalised and advanced when everyone shares the same goal and is dedicated to it, while participation levels, comments and feedbacks showed how important the themes were for target groups/ regions. Practical examples of economic success from forerunners in this field, the exchange of actionable ideas, virtual planetarium testing, and networking possibilities during workshops and events helped advance embracing of darkness values in NPA regions and most importantly via tourism and hospitality.

Immediate impact in involving of enterprises and organisations in the Service Design innovation and marketing workshops and events was that enterprises did not only learn about importance of protecting the night sky, they also got an opportunity to envision how Darkness values and visual content (immersive technologies) can offer new opportunities, create value, and or improve their current offers or joint region's offers:

- *Improved knowledge about darkness values potentials for enhancing/ increasing visibility of own enterprise tourism offers, also via storytelling, immersive technologies;*

- *New knowledge how immersive technologies could be used as plan B in service design of enterprises when considering ALAN and climate change impacts and effects, limiting for example cancellation of events and purchased services/ visitor satisfaction;*
- *Knowledge how visitor segmentation, place-based and regional heritage, and immersive technology visual content can be used to offer impactful marketing for example for international visitors not versed with the areas' / region's offers;*
- *Knowledge how immersive technologies, networking for sustainability, and green business models for tourism could be used to save time/ costs.*

Green business models (considering impacts & effects of light pollution and importance of protecting the night & dark sky) can attract economic benefits to enterprises (values from Darkness), while preserving resources and wellbeing of humans and the environment. The aim of GLOW2.0 project is that by the end of the project, enterprises and organisations will have adopted Service Design Methodologies in their Marketing or Innovation processes through their involvement in the project.

## **FURTHER INFORMATION**

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Link to project website: [NPA GLOW](#)

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