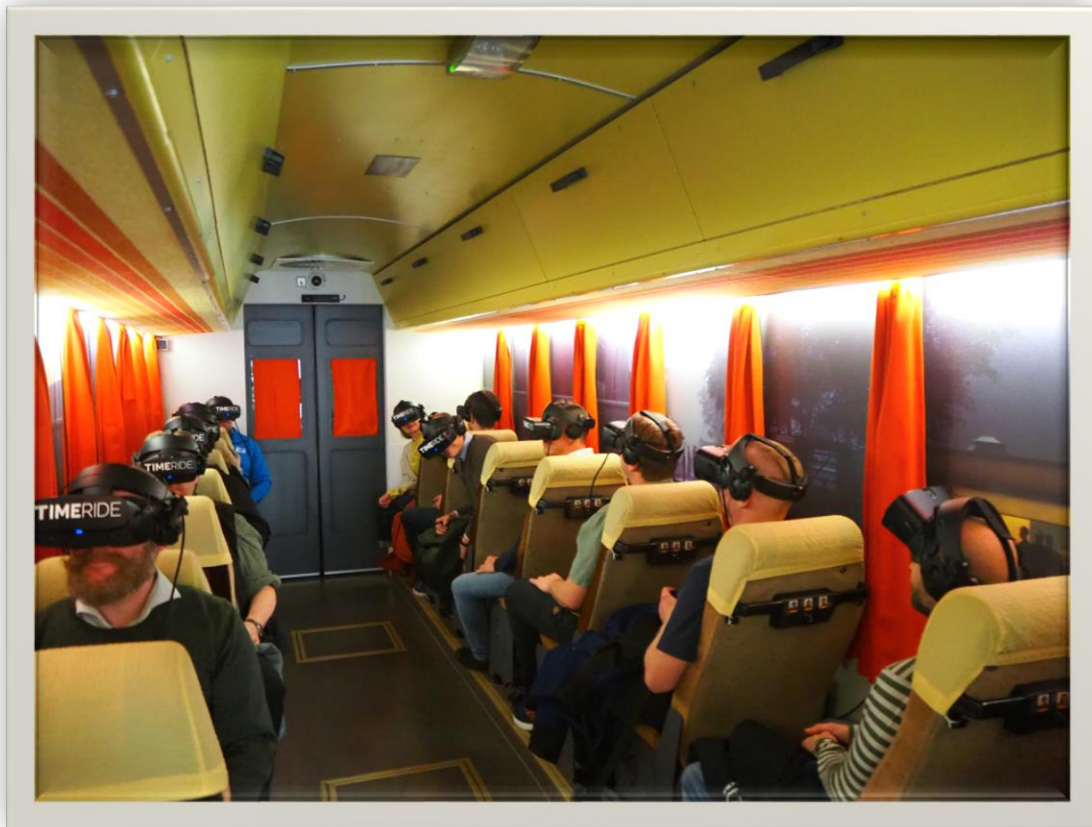


Project report for the *Nordic World Heritage VR-Network*, founded by Nordic Culture Point as a Longterm Network 2021 – 2023.



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Participants in the VR-Network is the World Heritage sites:

- *Decorated Farmhouses of Hälsingland (Sweden)*
- *Kongerens Jelling (Denmark)*
- *Kvarken Archipelago (Finland)*
- *Thingvellir (Iceland)*
- *Røros Mining Town and the Circumference (Norway)*

In 2021 the Nordic World Heritage VR-network got founded for Longterm Network by Nordic Culture Point. The purpose of the network was to facilitate the exchange of ideas/know how in using VR to communicate the World Heritage content. The objectives of the network was to enhancing skills in storytelling with VR as well as mapping and finding ways to share each other's experiences.

The World Heritage VR-Network have explored new ways of bringing World Heritage into the future virtual world, with the strong aim of relevance, accessibility and sustainability. Virtual reality (VR) is one way of telling the great cultural stories and at the same time reaching out to new audiences and visitors to benefit and understand their cultural heritage.

During the project period, a great deal of knowledge have been presented for the network. Our conferences have been filled with lectures, discussions, "aha-experiences" and most of all; built a strong relationship with the members that will last over the upcoming years.

The VR-conferences has been curated by each network member to give the best of that specific country to the others. Between the IRLconferences, digital meetings have been held regularly both with guest lecturers, own discussions and meetings in a VR environment.

The report continues to describe our experiences through the project period and shares inspiration, links and knowledge for other World Heritage sites to learn from.

➤ **VR-conference 1. World Heritage Kongernes Jelling, Denmark** (2 - 4 november 2021)

We convert to vikings...

The Danish team was the first host when the newly built Nordic World Heritage VR-Network met in Denmark. Network members from five World Heritage sites gathered at Kongernes Jelling and the fabulous visiting center for two full days; Kvarken Archipelago in Finland, Decorated Farmhouses of Hälsingland, Röros mining town and the Circumference in Norway and Thingvellir in Iceland. And of course the hosting representatives from Kongernes Jelling.

The Jelling program started with all of the teams introducing and exploring their sites and expectations. We called it "Hopes and Dreams". Though the Network had already met digitally in Teams several times, it was delightful to actually meet in person. It provided a deeper understanding for each site's different challenges, and the ones of Jelling in particular.

The first workshop was hosted by Khora. First with an introduction where all of the network members could try different VR-experiences followed by an interesting lecture of the possibilities with virtual, augmented or mixed reality storytelling.



Khora is a leading Scandinavian Virtual Reality (VR) and Augmented Reality (AR) production studio, creating cutting edge content within multiple application areas. Khora is a concept derived from Plato, and is defined as a place between the real and non-real that wavers between the sensible and the intelligible. With this in mind, Khora was created to become a bridge between the physical and

virtual worlds. It is here that we try to create space for people to develop and let loose their wildest imaginations. www.khora.dk

The aim of the VR-network is to cooperate, exchange and develop ideas and through the network be able to share VR-experiences of different World heritage Sites; first the Nordic and after that - go global. We will accomplish this by sharing resources and competencies. To visit each site has been central. So, a guided tour around the World Heritage site of Kongernes Jelling was mandatory and superbly delivered by Kongernes Jelling curator Adam Bak. After the tour – and a visit in the Berserker Box at the Testcenter – the groups developed new ideas for each site; how XR can be used, can the time be the story that's engaged visitors etc etc.

The second day started with a presentation by Josephine Rydberg, cross media developer from Culture Gävleborg and the Decorated Farmhouses of Hälsingland, who presented some of the conclusions from her research on live multiplayer gaming in VR.

This was followed by an on line presentation from Art+Com /The Alexandra Institute (TBD) www.artcom.de and www.alexandra.dk, companies that has been central in the digital presentation of Kongernes Jelling

ART+COM Studios in Cologne and Berlin, use new media to design and develop installations, objects and spaces in both analogue and digital format. They create environments that allow people to enjoy experiences that would otherwise be unimaginable in everyday life. ART+COM use new technology as a means of artistic expression, as a medium for interactive communication and for sensory experiences. They augment the visitors' capabilities and show them new ways to interact with the world. Originally founded in 1988 as the registered association ART+COM e. V., today ART+COM works for international clients from industry, culture and research. At the ART+COM Studios, colleagues from the areas of media design, media art, IT development, programming, communication and product design, science, engineering and project management work hand in hand. Projects are developed in interdisciplinary teams working from different perspectives. www.artcom.de/en

At the end of two very interesting days the teams sat down in split groups to try and give feedback to the overall experience of the World Heritage center of Kongernes Jelling. Each group was asked to highlight five possibilities in which to, by VR, enhance the site and the story surrounding it.

The meeting in Jelling really set the standard, and the general feeling was that the Nordic World Heritage VR-Network will have three very interesting years to look forward to.

The idea of World Heritages is originally a cultural and peace project. Today, World Heritage sites play a key role in relations with the rest of the world, fully in line with UNESCO's intentions. The meaning and joy of learning and experiencing World Heritage could still be more interesting and more accessible. Virtual reality (VR) is one way of telling the great cultural stories and at the same time reaching out to new people to benefit and understand their cultural heritage.

Communication, creativity and education has for long been at the core of the work undertaken by World Heritage sites. The World Heritage VR-Network will explore new ways of bringing World Heritage into the future virtual world, with the strong aim of relevance, accessibility and sustainability.



We thank all the crew and members from Jelling for two fantastic days and looking forward to meet in Kvarken Archipelago this spring.



➤ **VR-conference 2. World Heritage Kvarken Archipelago, Finland** (3 – 5 of May 2022)

Lifted up by new land...

The VR-Networks second "meet up" started by boat. If you are going to experience – and understand this World Heritage site – boat is necessary. In this case; it was a so called RIB boat who brought us directly in to the Kvarken Archipelago. It was the perfect start for the visit. The beautiful sea, the stunning nature and the vastness of this site just made us understand the greatness of it. And all from the "right" perspective – the seaside.

As we arrived to Molpehällarna, we also got the opportunity to experience the island by foot. You could actually see the tracks from the ice age. The Finnish hosts could not have made a more interesting start of the visit.



Network members from our five World Heritage sites; Decorated Farmhouses of Hälsingland (Sweden), Röros mining town and the Circumference (Norway), Thingvellir (Iceland) Kongernes Jelling (Denmark) and the hosting representatives from Kvarken Archipelago in Finland started up day 2 at Wasa Innovation Center after a refreshing walk through the town of Vasa. It's interesting that this second Meet Up made us feel like we knew each other really good. The discussions and exchanging of experiences and new ideas floated easily from the very beginning, which is the purpose of building networks. To minimize the distance between us. As for that – we are already in goal...

The first item for the day was **KorsholmAR – The development process of an AR experience for Korsholm "castle"**. This was presented by project manager Heidi Hummelstedt from **KulturÖsterbotten** and Tobias Björkskog, project manager for Qvarken Game Lab (Novia University of Applied Sciences) **Qvarken Game Lab**

The Korsholm Castle was a medieval stronghold in Ostrobothnia, probably built in the 1370s and the oldest record dates back to 1384. The castle was originally built on a small island and was most probably surrounded by two palissades. The castle itself was probably built of wood. In the Middle Ages Korsholm was a property of the crown and members of the aristocracy. Today a low mound is all that remains of the castle and a monument depicts where the castle was situated. But how interesting if you could actually visit in AR! The project, that connects business with municipalities, are in making at the moment. And the presentation described both successfulness and difficulties.

Read the presentations: [KorsholmAR experience \(pdf\)](#) and [KorsholmAR Novia \(pdf\)](#)

One of the main focuses of the network is storytelling in a technically always changing world. Many times you have the technique, but not the stories that make the technique come to live. **Ann-Sofi Backgren, project leader of StoryTagging #Northword Brand-Sofi** was second up with the lecture **Culture and nature heritage – the power of storytelling.**

Ann-Sofi has a long experience of working with the World Heritage site Kvarken Archipelago and at the same time an expert in Storytelling. The huge impact in how you tell the story is at the same time both fantastic – and scary. With a bad or incomprehensible story, you can lose the target. For example; how do you make your hotel more interesting thinking out of the box? Watch this: [Krepelin Storytagging story - YouTube](#) It's all in the storytelling! [Read the presentation \(pdf\)](#)



Ann Sofie Backgrens lecture was followed by a concrete workshop using the "opera-method". This was a great way for the members in the Network, sitting in splitted groups, to cooperate. Many good, many crazy and many useful ideas were created in a relatively short time. The workshop revealed that one does not need lots of time, but great minds. So how can World Heritage Sites use storytelling? Through the stages of own suggestions, pair suggestions, group suggestions, explanations, ranking and arranging, we ended up with these five topics and the measures linked to them:

Create passion

- Set the World Heritage on fire! What would we lose?
- Infuse scientific facts with emotions
- Make boring things interesting
- Attract new audiences
- Play with the concept of "drunken" storytime

Create togetherness

- Use different senses to tell stories
- Use the concept of sitting around a fire
- Utilise humans in storytelling, both as guides in nature and roleplay in digital world
- Paint the picture of the World Heritage together

Create engagement and understanding

- Make history relevant today
- Learn to tell your core DNA story in a few sentences
- Play with the concept of "telling the story wrong"
- Cherish engagement among people

Create experiences

- Use seasons in storytelling
- Make the visitors to identify with the site and its stories
- Use local food to tell stories
- Utilise the concept of childhood throughout times

Create accessibility and openness

- Make sure that World Heritage is accessible to everyone

The Wasa Innovation Center hosts many tech companies who work with different kinds of science, culture, media etc. One of the companies is the gaming company **Platonic Partnership Oy** **Platonic Partnership - Games That Motivate Change** and **Jussi Loukiainen** told the story and process of how his company develops games, often with an horror angle. The lecture was titled **Gaming and**

History . The goal for Platonic Partner is to be the best narrative driven game studio in the world. So quite high expectations! Never the less, Platonic Partnership Oy is an award-winning game studio with focus on narrative-driven games for PC and consoles. Wisdom is all about developing solutions for better communication and understanding (e.g tacit knowledge) and they were always driving for cutting-edge solutions for their clients. Platonic Partnership Oy was awarded as **The Finnish Game Developer of the Year 2017**.

Piia Orava, project leader of Creative Kvarken, Kvarken World Heritage association and member in the Nordic World Heritage VR-Network then told us about the interesting work of Kvarken Archipelago goes Kuula.co. Kuula is an 360 virtual tour software that works with both VR glasses and browser. No app nor login is needed. [High Coast Kvarken Archipelago - World Heritage on Kuula](#) It can easily be used at home, school, work etc. The first tour version was introduced to VEGA project: Virtual Reality Education and Game-based Achievements in Classrooms. Read the presentation: [Kvarken Kuula.co experience \(pdf\)](#).

At the end of the day the teames brought us up to date on whats been going on i each site since the last meeting in Jelling. This proved to be both really interresting aswell as fulfilling. All teams had started or was in developing of new AR or VR expeiriences. Kongernes Jelling had new ideas to springing form their meet-up and had continued to produce great content. In Thingvellir sites for immersive experiences had been choosen and developed, and the Norwegian team was in a early phase of developing their VR visit to the mine. Kvarken had their beautiful 360 visit to the archipelago and the Swedish team was just about to unveil their new gamification of the decorated farmhouses.

The next day held another Excursion in the World Heritage site Kvarken Archipelago. A guided tour with excellent guiding by Kenth Nedergård, Piia Orava and Fia Antus. A bus took us to Svedjehamn for a wonderful walk and a visit at the World Heritage Gateway Center.



We thank the Finnish team for great and interesting days in Vaasa and in WHS Kvarken Archipelago. The hosting was excellent and inspiring. The next "meet up" will take place at the 10th of October in Thingvellir, Iceland.

Nordic award to the Nordic World Heritage VR-Network!

The prize The Nordic World Heritage Award 2022 was awarded to the *Nordic World Heritage VR-Network* represented by the World Heritage site Decorated Farmhouses of Hälsingland and Region Gävleborg. The award was presented at the annual Nordic World Heritage Conference at the Rjukan-Notodden World Heritage site in Norway 5-8 September where the network also had a presentation in the programme.

Motivation:

"The award is granted for innovative collaboration between Nordic World Heritage Sites, and the network will serve as an example and inspiration for many others. The network also gives new tools for interpreting World Heritage values and reaching a broader audience."



➤ **VR-conference 3. World Heritage Þingvellir – Iceland** (11-12 October 2022)

From rain to nordic light – Iceland made us wet but brighter...

The Nordic World Heritage VR-Network gathered again for the third time. Þingvellir in Iceland hosted the meeting. And may I say – in an brilliant way. As did Kvarken and Jelling before them.

Þingvellir is one of Icelands three World Heritage sites. The visitor center is situated in the site and was the place to be under our conference days. Network members from our five World Heritage sites; Decorated Farmhouses of Hälsingland (Sweden), Röros Mining Town and the Circumference (Norway), Kvarken Archipelago (Finland), Kongernes Jelling (Denmark) and the hosting Þingvellir (Iceland) started up by bus on an extremely rainy day in Reykjavik. Þingvellir is about 45 minutes drive from Reykjavik. After a warm welcome from Torfi Jonsson and Einar Saemundsen all the teams had a short description of "top-of-minds" and what has been happened since the meet up in Kvarken.

Happily everything is moving forward in different speed. There was a discussion about a need of a platform and a "place" to discuss ways and costs of things. VR/AR/XR are different in so many levels and the costs varies from site to site. It would though be great to have ways to share both ideas and possible costs.

We got to meet the Danish member Adam Bak, who unfortunately was back home with covid, in a really cool 360 way from Jelling. From there the discussion drifted to ways to introduce other Nordic Unesco sites to our places. This might be a method to do so.

The exhibition at Þingvellir was a great experience to visit. Such great narrative. It really showed the World Heritage site from a technical view and it made the site so much more understandable.



The exhibition was created in close cooperation with the company Gagarin in Reykjavik. A company that we had the opportunity to visit under the days to come. But to really understand the magnificence of Thingvellir; you have to explore the place and the nature.

Although the rain was pouring from the sky, east and left, the network members got a great guided tour by Torfi Jonsson. The historic place, an open-air assembly, was established in 930 and continued to meet until 1798. Over two weeks a year, the assembly set laws and settled disputes. But how can we imagine that, when time has fled and all you can see is the beautiful landscape? The answer is; by your phone. This "instrument" that everyone carries with them is an extraordinary tool to "see" the chiefs from 30 tribes in place. So, even though the landscape is as living as the nature can be, the technique made it come even more alive.



Back inside and dried up we discovered an introduction from Skúli Björn Gunnarsson in Skriduklaustur, skuli@skriduklaustur.is

[Skúli Björn Gunnarsson \(pdf\)](#)

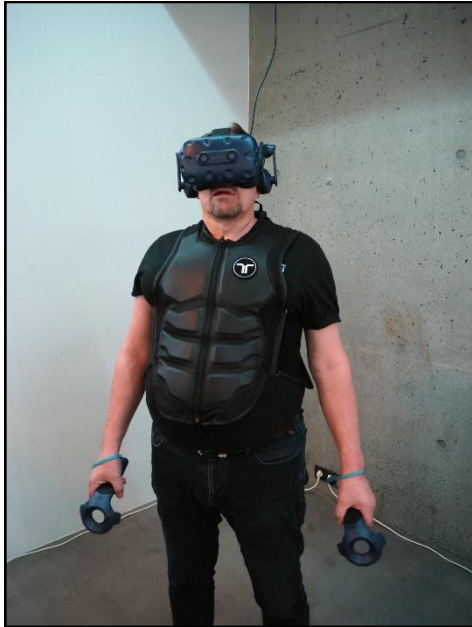
Skuli told the common truth that different kind of projects can drive development forward. The teams got lots of ideas on how to do things on budgets and with limited knowledge - a win/win.

After Skúli, Steinunn Anna from Locatify held a presentation. Her company locatify.com has developed tools for both indoor and outdoor guide/exhibition. The presentation gave everyone an idea of that it can be easier than you think to create games and plays via app tools.

[Locatify - Gamifying the learning experience for heritage sites with location-based app content \(pdf\)](#)

Imagine you could transfer yourself to a battle in Iceland in the year of 1238. The Battle of Örlygsstad was one of Iceland biggest battles, fought at Örlygsstad in 1238. Three of the most powerful families met in a battle to get the power of Iceland. About 60 men fell out of the nearly 3000 who took part.

The company Sýndarveruleiki invited the themes to participate in the VR-game “The battle of Iceland“ together with Sturla and his men with the mission to fight and find the magic sword. To really feel – and not just see and participate - every game player was dressed in a special vest. Once you started to play in the battle you could actually feel when a rock hit you, which of course made the experience even more real. Sýndarveruleiki demonstrated the game and we all killed a lot of Icelanders – and vice versa...



The game was awarded with a nomination for the European award "Heritage in motion" in 2021 and has been in pop-up versions in both museum and other historical places. 1238.is/is

So how did it go in the battle in the year of 1238? Well, Sighvat Sturlason, who was one of Iceland most powerful chiefs – and also a poet, though very little of his poetry has been preserved - fell in the fight. He had then been inflicted with 17 wounds, which was seen as proof of great bravery.

The teams was, however, still most alive after this great experience. And for that we are very grateful! emil@newreality.is

[Battle of Iceland 1238 \(pdf\)](#)

In the evening the network celebrated the fact that we were awarded the Nordic World Heritage Award by the Nordic World Heritage Association for *“innovative collaboration between Nordic World Heritage sites. The network will serve as an example and inspiration for many others. The network also gives new tools for interpreting World Heritages values and reaching a broader audience.”*

Gunnar Grímsson grimsson.gunnar@gmail.com was the first speaker of the day. He showed us what one man, one drone and a lot of time and some tech knowledge can do as he has documented and digitalized his grandfathers art gallery and home – the Icelandic artist Benedict Gunnarsson. And it was a home filled with art of a lifetime.

It was quite amazing to get the favor of stepping in to an artists house and to be able to walk around the mass of paintings spread out room after room. Gunnar's project was to register the art collection though several pieces after that have been sold and spread out from this home to other who now have the great opportunity to enjoy the beautiful art.

Málverkasýning í sýndarveruleika — Benedikt Gunnarsson

After Gunnar's presentation María Guðmundsdóttir from Parity Games, maria@parity.is did visit the meet up and made us dive in to the game Island of Winds. islandofwinds.com/

This is a game that's draw a lot from Icelands culture and its natural environment. The colors, the incredible imaginative creatures and the fact that you can choose to take a non violent path in the game (as in opposite of The battle of Iceland) it just was fascinating to look and listen. The work has also been used to digitalize objects from local museum that otherwise has lack of time, effort and knowledge to do this.

Parity Island of Winds (pdf)

Then Josephine Rydberg, from the Swedish team, introduced us to Mozilla hubs and its possibility to guide people in the digital world. How do we behave in VR, how do we move, interact and how do we tell stories? We are all aware that the medium and the content are in a symbiotic relationship and one affects the other. But since VR is in it's expressive infancy we are still exploring what this means. We are discovering that VR can't simply be treated as a videogame, much as early film makers discovered that film isn't the same as theatre on a screen. Filmic expression has its own language that we are so used to today that we take camera movements and montage edits for granted.



What are the dramaturgical tools and tricks that are unique to VR? We'll only find out if we dive in and do some experiments. In Josephine's research project she stages some trial and error situations. What might be relevant to the Nordic Point project is guiding in VR. How do we catch people's attention in a live situation? How do we interact and take turns when our peripheral senses are hindered? What are the possibilities for engagement and participation for "the audience"?

During our visit at Þingvellir, we had the chance to try and be in the same virtual space and try to simulate a guiding situation. When looking at the pictures that document this event you can see the participants standing far apart and looking in different directions even though their avatars are huddled together and facing each other.

This workshop was a first step. Next time we'll gather around a 3d object, like the ones created in connection with the excavations at Skriðuklaustur. Of course we don't have to be in the same room for this. Let's hope we will see each other in VR before we meet up in **Røros**.

researchcatalogue.net/view/1748748/1757493

hubs.mozilla.com/RGKMyy9

Back in the bus, the themes headed to Ljósafofstöð and enjoyed the exhibition of Iceland's oldest hydro stations. The company Gagarín designed and installed the exhibition for the 50th anniversary. The aim was to create a highly interactive and modern visitor center where everyone could learn about the basics of the nature of electrical power, the discoveries that led to the mass production of electricity and the development of harnessing renewable energy in Iceland today. The team got the opportunity to test all the interactive tools, how to put energy to a big, interactive concrete wall which illuminates from within when force is applied to it.



You could also discover the energy of the world by a tangible timeline that reviews the major milestones and discoveries in the history of electrical production. For better and for worse. It was a really good example of how the technique can be used in create a need of learning.

The last but not the least visit on this meet-up in Iceland was the visit of Gagarín. A great introduction was made by concept designer Lemke Meijer and we all got very impressed by their competence and ideas for interpretation in general and specialty for the visitor center of Thingvellir. We had a fantastic visit to Gagarín gagarin.is and we got to enjoy it. Introduction in function, prototypes, and the effort of teamwork.

[GagarinAR_VR \(pdf\)](#)

This was the third meet-up and everybody went happily home to our different World Heritage sites, loaded with ideas, new interesting facts, inspired to take things that we learned with us home and – of course – with even more strengthened bounds between the sites in the network.



- **VR-conference 4. Røros Mining Town and the Circumference, Norway** (21 – 23 march 2023)

Nordic World Heritage VR-Network becomes Norwegians...

The fourth VR-Network conference was in beautiful Røros, for this occasion embedded in snow. It was amazing to drive in to the little city and the expectations were high as the members gathered in front of the Røros museum to go down into Olavs mine. The excitement of the programme was big and may I say, all expectations were fulfilled as the entire conference was very very successful.

On arrival the network participants boarded a bus headed for the heart of the world heritage – Olavs mine. The tour starts in the exhibition on top of the mine's entrance. The exhibition gives insight in geology and mining, focusing on methods as well as social conditions and working environment for the employees of the mine. It's a humbling experience to descent into the mine. It is not very deep – but vast and with a chronology guiding us through how mining changed through the mines almost 400 years of history. The entrance showing methods from the 1600:s and down to the hall of Olav where mining stopped in 1972.



The visit at Olavs mine ended up in the museum where everybody got a guided tour. The parts of the exhibition with small figures and models were absolutely fascinating and triggered the participants' imaginations to what it might have been like to work in a mine and smelter back in the old days.

The Norwegian team had put together a great programme and made the good initiative to invite more participants to the conference this time, which broadened the contact network in a really good way. To get the whole picture, so to speak, of the World Heritage site Røros Mining Town & the Circumference the conference opened with the history presented by the World Heritage coordinator Odd Sletten and the director of the Røros Museum Tone Rygg. As Tone so well said; Røros museum is a relatively large knowledge institution in a small society. Røros has just under 4000 inhabitants, still the museum is a central part in the town and have 28 permanent staff, 8 visitor arenas and approx 60 000 visitors a year. Røros was inscribed on the World Heritage list 1980.

www.verdensarvenroros.no

[Røros WHS \(pdf\)](#)

[Røros museum \(pdf\)](#)



After a short presentation of the site members in the network Ragnhild Hutchison, historian and director of Tidvis. Tidvis is a non-profit company that explores and develops new ways of communicating and making research available, with a focus on history. The aim is to use both well-known and new tools and technologies. Examples of such are databases, games, 3D models, augmented and virtual reality, animations, interactive sensory experiences and good, flexible design on all surfaces.

It was actually so great to see and listen how Tidvis works from very large VR-projects to small more tactile ones. The example from an elderly home with a tiny memory box was incredibly touching. As for the time machine for children and families.

At the end; the learning issues from Ragnhild was:

- Find the story
- Think about the story for at least two weeks

(Do you still believe that this is the most important story in the world?)

- Then - and only then - start thinking about the tools you may use to tell the story.
- Nothing beats physical! If you have it – flaunt it! Digital is for when you don't have it...
- Know your details and consider practical aspects of all things technical
- Make a small prototype - and test it
- Content is king! Content is king! Content is King!

Useful links:

- Tidvis www.tidvis.no
- Ein bit av historia: <https://tidvis.no/bitavhistoria/>
- Oslo havn 1798: <https://oslohavn1798.no/>
- Time machine: <https://www.tidvis.no/tidsmaskin.html>
- Digitale Tautra: <https://digitaletautra.no/>
- Miniutstilling: <https://www.miniutstilling.no/>
- The Widows Boutique: <https://widowsboutique.com/>

Tidvis (pdf)

The Falstad center www.falstadsenteret.no

Falstad was a German concentration camp in Norway during the German occupation 1940-1945. Originally, Falstad was actually a boarding school, but in August 1941, the SS took over the area and turned it to a concentration camp, administered by the Gestapo mainly used for transit for political prisoners from 13 different countries. Aprox 5000 prisoners spent time in Falstad, waiting for transportation to Germany or the concentration camp in Grini. From 1943 to 1945, at least 43 Norwegians, 101 Russians and 62 Serbs were executed in the forest next to the camp. The search for buried victims in the forest has not yet ended, the remains of more than 200 murdered people have been found so far. The prisoners in Falstad were liberated in May 1945, and the camp was converted into a labor camp for traitors. Falstad, so to say, turned the other way around. And later again it turned in to a a public elementary school for the disabled. It was a boarding school for children from all over the country.

Today the camp is a museum. A memorial and human rights center. At the conference the historian and head of research Ingeborg Hjort, told the moving story of the place which is very difficult and complicated to deal with considering all the cruelty that happened during world war two. So, the museum has used new technology to be able to broaden the story of Falstad in different ways. The area is now a quiet place, but memories of the concentration camp are still there. And should be.

The challenge has been to make the experience part of history, but at the same time interactive and attractive for young people in particular. So how do you make an experience attractive in an old concentration camp? Can you, for example, laugh when you walk through? In Falstad, they used AR and wisely made an investigation into how the experience was received, which was instructive both for the creators and for the future to come.

[Falstad \(pdf\)](#)

Svea on Svalbard – The art of live happily ever after www.niku.no

Living in Svalbard during the winter can be tough. No sun in sight for at least four months. On the other hand, during the summer months it lights up 24/7 for the same amount of time... Mining was carried out here for many years in the mining community of Svea. For a period Svea was the largest of four coal mines on Svalbard. But as recently as 2017, the decision was made to shut it down, and as if that was not enough, the traces of Svea were also to be swept away to be part of nature again.

At the same time, Svea is of course seen a cultural heritage. So how do you preserve an interesting historical community and at the same time remove it? The buildings must be demolished, as well as roads and the airport. A gigantic project that will cost enormous money. The demolition alone is estimated to cost around 2.5 billion norwegian kronor. But before, everything must be documented and, luckily, digitized, an assignment that has gone to NIKU (Norwegian Institute for Cultural Heritage Research).

The mission has taken NIKU to a long, exciting and hard working project. To the VR-conference the archaeologist and researcher Erich Nau told the fascinating story of how not only document Svea digitalt but also how to tell the story. To document and digitalize the area as well as every building take years and the assignment requires a large dose of patience. But the result is beautiful in the way that the village of Svea still remains although it has gone back to dust.

The last speaker for the day was cluster manager Keith Melligen from VRINN Immersive Learning Cluster. An organisation who works hard for networking and participation in the industry that works with virtual reality and other immersive media. It is pretty amazing that VRINN succeeded in gathering so many stakeholders. It tells us that the VR industry engages many people today. Every year, in november, VRINN organizes the big conference Nordic VR Forum. [Nordic VR Forum - YouTube](#) VRINN www.vrinn.no

VR seminar workshop: Cold Part

The guided tour that took place after the speakers was an interesting and well educating walk for the conference members. The excellent guides from the museum really made us understand Röros and how the small town grown and developed for a long period of time.

And it was also useful for the big workshop that would take up the rest of the day. The big task was to workshop with the central question; how to "dress" the extraordinary and fantastic large and super cold room with a new exhibition. The conference members were split up in several different groups and got one hour (!) to come up with ideas. And ideas there were plenty of.



Here is the summary of input for the development of the cold section.

Generally

- The main task of the museum is to find what kind of stories the cold section could tell.
- The smelting process is uninteresting and generic - rather tell what it was like to work there!
- The cold part calls for a large and impressive REAL exhibition - not a digital presentation!
- Have a section on child labour. Have a corner for children. Put children to work!
- Several agreed that an entrance down in the cold part would be best and most logical. Then the audience gets a view of the cold part as they go higher. Exit through the museum shop is a matter of course.
- For God's sake, don't clean up the ruins. Leave the dirt and dust behind.

- The cold part has the potential to give the audience an overwhelming experience.
- It is important to make full use of the room, the size of the room is phenomenal.
- Bring out the hard working in the smelter: the heat and the noise.
- Again - it is important that the cold part conveys physical elements, that it is a REAL exhibition - do not focus on digital communication!!
- Use the wall to project graphics, mapping and information
- Let the audience smell, lift and carry coal.
- Let the audience load baskets with coal or lift coal into a melting pot.
- Let children use the rail, slag pots and move slag from A to B

Senses

- Several suggested the importance of including the senses in the exhibition
- Smell of sulfur oxide
- The heat from the ovens (can the audience go near an oven to feel the heat?)
- The cold when there was no fire in the smelter
- Weight and scent of coal, iron and copper
- Lots of noise - from the cabin river, from the melting areas, from the machinery
- Intense lighting – bring forth flames, glowing copper, etc.
- How dirty can you get from working with roasting, coal, slag, smelting, machinery?

Questions

- How are melters trained?
- Was there pride attached to working in the smelting hut?
- The four elements: air, fire, earth and water. How do they play together in the smelting hut?
- Did the workers shout at each other to communicate? Did they scream in pain?
- What accidents could happen in the smelting hut? (Fall down and row break in the cabin wheel)
- How to create wonder and curiosity in the hidden rooms and hatches in the cold section?
Lighting?
- Crisis situations? Explosions? Evacuation?
- Payment?

Game suggestions

- Scoreboard with ranking of the top scoring families
- Multiple choice game
- Touchscreen mini-game with, for example, the slag track and fuel for the roasting and melting process.
- Well, a profession connected to the smelting hut. Go through the training for the profession.
- Leveling in the game: Upgrade to bessemer melting (drastically reduce the melting time), and upgrade so you can extract more copper from the mine.

- Play about the supply and flow of fuel - avoid the melting hut catching fire!
- Game about mining with a competitive element, who mines the best, and most environmentally friendly(!) - opportunity to mine greedily but thus not sustainably and creates dissatisfaction in the local community

Ideas

- Load coal into the melting furnace - make sure it is at the right temperature, not too cold or too hot
- Collaborative task: one person looks into a peephole of a converter, another checks the right amount of air flow
- Pour the liquid copper into the mold (?)

Other

- Show the facade of the melting furnace and the converter and what the cold part looked like.
- *Peppers' Ghost illusion* throughout the entire upper walkway
- 3D projections in the cold section: The whole room darkens every 20 min., a curtain is pulled over and a large projection begins, the room smokes, dramatic arrangement!
- Screens that can be pressed along a conveyor belt that runs through the cold section. The different stations tell about different parts of the work in the smelting hut.
- VR visit to the mine.
- Show the entire process in VR: from felling, lighting, extraction and shipping to weighing, roasting, smelting and export of copper

Symbol and brand for Smeltytta and the cold part:

- Copper bar / Copper bar
- Jernsu / Iron bear
- Can, for example, be sold as key rings. Possibly you can get one or the other depending on whether you had a successful melting process (in the game).

We thank the Norwegian team for a great visit in Röros!



- VR-conference 5. WH Decorated Farmhouses of Hälsingland, Sweden (3 - 5 oktober 2023)

The festivity of life; the Nordic World Heritage VR-Network sees a brilliant past - and future...

After visiting four fabulous World Heritage sites; Kongernes Jelling, Kvarken Archipelago, Thingvellir and Röros – the time had come for the fifth and last site; Decorated Farmhouses of Hälsingland. To welcome the VR-Network is a lovely mission. After the nearly three project years we know really are a network in a true sense.

“The Decorated Farmhouses of Hälsingland” are seven listed farmhouses and has been a World Heritage Site since the summer of 2012. There is a rich variation of older and well preserved farmhouses in Hälsingland, in 36 parishes over four centuries. The seven listed farmhouses represents nearly thousands of other farms in the landscape. The Hälsingland farmers had a habit of building large and lavishly decorating rooms for celebration. The richly painted banquet rooms were used only for important occasions, such as weddings. So the large festivity rooms were only used sometimes only one or two times under a lifetime for festivities; the festivities of life.



The farms are mostly privately owned, so a question was raised; is it possible to increase accessibility to World Heritage through virtual storytelling? Can it attract more people to discover World Heritage with the help of new technology? Real rooms from one of the seven listed World Heritage farms "Bortom Åa" - Gammelgården in Fågelsjö, have recreated in a VR environment. In the environment, a visitor can move freely, study the room, paintings, furniture and move objects, just like in real life, fixed from any place in the world.

The equipment that is used is an HTC Vive and the experience is programmed using the Unity game engine. The physical space has been designed as a degree project at the Industrial Design program at the University of Gävle. The aim and purpose is to increase accessibility to the World Heritage and attract new target groups to explore an exciting part of history. And its also an investigative, experimental way of getting to know VR as a new medium and tool for communication, design and storytelling.

So, although the World Heritage site is situated i Hälsingland, it felt natural to start the fifth "meet up" for the VR-Network in the afternoon 10 Swedish miles south at the county museum, Länsmuseet in Gävle, where the VR-experience is built up.

Everyone had the opportunity to try and experience the latest edition, and of course the room itself was interesting. How it is built up like a small, "private" room with padded walls with bells that warn when you are on your way "into the wall". A visitor can move around without any human helper, and if you are company, school class etc you can watch outside what the "player" see's an experience.



After the presentation och the site and the VR-roomexperience, the network members made there way up to Hälsingland where the rest of the conference were to take place.

The second day the network woke up to the foggiest day ever, wich was a little bit scary and confusing though one of the programme items was to row down the river Ljusnan in a Viking boat. Though this was a secret for the members. Only the organizers felt worried...

Josephine Rydberg works with cross media at Kultur Gävleborg but also has been devoting 50% of his working time to research since autumn 2018. The research is a collaboration between Region Gävleborg's Center for Research and Development (CFUG) and Stockholm University of the Arts (SKH). The research project is called "Dramaturgy for Participatory Practices" and is about finding a responsive dramaturgy for stories with a participatory audience. The project has a practical focus and compares analog formats with virtual ones. So based on Josephine's experience and research work she held an interesting lecture about social and immersive platforms.

<https://www.regiongavleborg.se/globalassets/kultur/halsingegardar/nordic-world-heritage-vr-network/virtual-realityworld-heritage.pdf>

IVAR Studios is a small team of professional storytellers with unique qualities and specialties to become a award-winning team as they are. And it was a really good experience to have both Fredrik Edström (founder/producer) and Jonathan Lövhölm (immersive producer) as guests.



IVAR studios are passionate about telling unforgettable stories in new formats and with new technology. They've worked with great brands that – in their opinion - make the world a better place, industries that educate future generations, and guided visitors through their impressive productions and processes. IVAR helped lots of museums tell their fascinating stories in a more compelling way, showing places that few people can reach, an impact in so many different ways.

Under a few hours we did get a very inspiring lecture of so many options we can work with, and after that we got to experience several different cases that IVAR had developed.



After the lunch the network got to meet Lasse Feltblad, who actually lives at one of the seven World Heritage farms; Gästgivers: Lasse is also a committed church boat rower and this day, maybe especially for our "viking-friends" from Jelling and Thingvellir, the boat was converted into a Viking ship. Rowing together on the river Ljusnan is a fantastic experience, especially when the river, like this day, was mirror like. It paved the way for this day's big discussion and question - the future of the network and its expansion. In order to really recharge for today's discussion, the entire network had to rest for a while in the waves of the river Ljusnan and listen to the tunes of music from all the Nordic countries.



The discussions took form at the World Heritage farm Gästgivars, and we were warmly welcomed by the farm owners Pia och Björn Ohlsson. First we got a grand tour of the farmhouse. The large festivity house at Gästgivars in Vallsta has been decorated by the stylistic painter Jonas Wallström. He had a solid schooling, which enabled him to imitate the finest English china. He also developed the art of painting stencils in a way that spread to other parts of Sweden. The farm's name comes from the Inn that was run on the farm during the 17th and 18th centuries.

After that discussions took part for the rest of the day. The network was divided into groups to discuss evaluation of the project, survival and target image as well as strategy for organization and future funding.

Many good ideas emerged as followed:

- Continue the network
- Widing it for other sites
- Widing it from VR
- Nordic – European – World
- Create news from the sites regurlary (Nordic webb?)
- Cooperation & sharing cuts costs
- Common platform, common storytelling
- Benefits of choosing the right tools and common learning
- Long-term sustainability
- Make the World Heritage moore visable.
- Important that we meet up.
- A network who is special in the frontline; tecnique, art,pedagogy. We need to be innovative.
- Connect in platforms
- Youth exchange

The conference ended and as the last trip, the Mystery Tour i Berlin is ahead, we all agree to continue the discussion there. Over all the Network was totally unanimous; the Nordic World Heritage VR-Network is here to stay. But we have to broaden the participants and the target to digital storytelling.



➤ VR-conference 6. Studytrip to Berlin, Germany (7 – 8 november 2023)

Wir sind alle Berliner!

Berlin is an amazing city. Full of contradictions. Modern meets cultural heritage, history meets future, east meets west – its all in there an a perfect place to spot and learn, wich obvioulsy is the main core for the Nordic World Heritage VR-Network.

Already at the planning stage, we knew that the so called "meet-ups" for the project would include one conference at each World Heritage site. But also one last trip to a place we did not know from the start. We had an idea that during the project we would hear about one or more places where we could go to use for inspiration in a future perspective. The choice fell on Berlin as an cosmopolitical place were we also had connections. It seems like a great opportunity for the network to be able under two hole days discover different kinds of "storytelling" to take back home.

So the network members from Kongernes Jelling, Thingvellir, Kvarken Archipelago, Röros and Decorated Farmhouses found themselves scour the streets and museums of Berlin in search of inspiring VR experiences and methods of communication through innovative dissemination of new techniques and immersive storytelling.

Our first stop was at the Timeride Berlin, an VR-experience who takes you back to 1985 when Berlin was devided in east and west. The way the company built up the experience was indeed really interesting. First you entered a room where you litterally was looking through the wall and at the same time got the background of the splitting of Berlin.



Secondly you entered a room and were presented to three different witnesses of that time, with different perspectives and life stories. You got to choose one of them in the third and last room, where you took place on the bus taking you back to 1985 with your chosen person to guide you. The VR-experience was in that way really personel, the speaker was not just an impersonal voice, it was someone who had actually been there and done that period of history. That made the experience much moore authentic in a really good way. www.timeride.de/en/berlin



After that the Network members went to Naturkunde Museum. The Museum für Naturkunde, is one of eight research museums of the Leibniz-Gemeinschaft in Germany. The museum houses a massive collection of more than 30 million zoological, paleontological, and mineralogical specimens, including more than ten thousand type specimens. It is most famous for a number of spectacular exhibits:

- *Brachiosaurus brancai, the largest mounted dinosaur skeleton in the world*
- *The most exquisitely preserved specimen of the earliest known bird, Archaeopteryx lithographica*
- *The spectacular glance into a genuine research collection in the re-opened East Wing with more than one million zoological objects preserved in 88 tons of alcohol*
- *The beautiful "Wall of Biodiversity" showing 3000 single species in one display, but yet only a small percentile of known biodiversity*
- *Tristan Otto - Europe's first original Tyrannosaurus rex*

Unfortunately the museum was at our visit hacked so no digital experience could be displayed. But the dinosaurs did eventually come "a live" when you looked through special goggles. And yes, they were big... [Museumportal Berlin - Museum – Museum für Naturkunde Berlin \(museumsportal-berlin.de\)](http://museumsportal-berlin.de)

After that we went to the Museum of Communication. A fascinating odyssey regarding the way humanity communicates with each other through out history. Unfortunately, the curators had missed that perhaps not everyone reads and can understand German. In a museum of communication, perhaps English text would have been appropriate. On the other hand, it was a painful realization that this problem also exists at home. Translation of text into other languages is indeed an important part of communication. [Homepage – Museum für Kommunikation Berlin \(mfk-berlin.de\)](http://mfk-berlin.de)

Last stop for the first day was a guided tour at the Spy Museum. In the sense of how resourceful you can be; the Spy museum had no limit for how exciting, clever, inventive, crazy and fascinating ways

you can use – if you are a spy... Of course the history of Berlin made it even more interesting consider the fact the divided town was acting on each side in the years after world war two and the years to come after that. The museum had some interactive places, but mostly the hired guide took the time. [German Spy Museum - Berlin's Hands-On History Museum \(deutsches-spionagemuseum.de\)](http://deutsches-spionagemuseum.de)

Second day started with a visit to Art+Com. The company ART+COM Communication designs and implements media installations and spaces that import complex content in a targeted manner and turn information into a tangible experience. They create exhibits for exhibitions, museums and brand spaces. Content is always in the priority, never technology. In total 60 – 90 persons, researchers, developers, designers etc, work for the company and the customers are all over the world. For instance they created the exhibition for Kongernes Jelling.

It was extremely fascinating how they always make plenty of time in research and how their engagement is important for each project. And not only Art+Com's engagement but also the customer and the future audience. To involve the upcoming visitor, and never start with a "we have it-solution" was really something to take with us. The trend – and the key - is to empower the visitor from the very beginning. How can we for example involve the visitor? How can we connect to different things? To inform and at the same time take the visitor on a trip and an extended experience? And in the end - the story is always the most important thing.



So as we learned: Don't go for the paper, go for the process! As difficult it could be with our system of procurement... We are so on the wrong track there.

Art+Com made the exhibition at Futurium in Berlin, so the next step for us was to visit the huge and magnificent building or correctly; The house of future, where everything is about the question: how do we want to live our lives? In the exhibition, visitors discovered many possible futures; in the Forum, they could participate in open discussions; and, in the Futurium Lab, they could try out their own ideas. So your visit starts when you get a bracelet from a welcoming robot and through your visit you can explore, learn and even get provoked. Lots of interactive details – and sorry to say lots of text to... But, when you walk thru you get these alternative questions where you can blip your answer with the bracelet, which actually forms a picture of your opinions of the future in a ticket to take with you home. <https://artcom.de/>



Over all, one can say, the idea how to make the audience or visitors approach a subject or an experience was mostly better than the exhibition itself. And maybe that could add a dimension in our work, to bring in the recipients a head and to engage them so they turn from viewers to active visitors in order to maximize the experience through an deeper understanding.

Berlin was the end for this founded project. Nordic Culture Point have given the Nordic World Heritage VR-Network a great start, a solid network, wich will sustain with or without founded money. We have learned a lot and this last trip to Berlin raised so many question and insights.

So, thank you Berlin and thank you Kongerenes Jelling, Thingvellir, Kvarken Archipelago, Röros and Decorated Farmhouses of Hälsingland.



Summary:

When writing an application, it is natural that you want to include as much substance as you can, everything to be done, results of the work. Yes as much as possible. We can honestly say that we could never believe that the year in the network project gave so much more than we could have imagined. All the fantastic lectures, all the discussions and engagements, all the ideas that we took home to our respective World Heritage sites and that we were able to share via other meetings and conferences in both a Nordic as well as an European level. We are pretty sure that the Nordic World Heritage sites knows what the VR network is and what we've done. It is our belief that the project years have given us enormous experiences, sometimes even far beyond VR and technology, but all beneficial for the Nordic World Heritage sites.

The time period has been both digital meetings, digital lectures and so called meet ups at the sites and a final "mystery" trip that took us to Berlin.

The network continues to work together, but will now expand to more World Heritage sites and other actors. We thank you for this fantastic opportunity to learn and educate ourselves while making friends and colleagues for life.



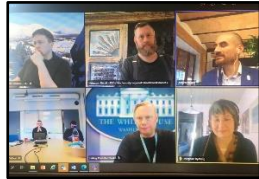
"Looking in to the future..."

2021

- Project starts Teams conference
- Develop the websites. Communication start through social media platforms
- September – Digital meet up. Guest lecture: Jonathan Barbera and Jeremy Grech, St Martins Institute of higher education, Malta.
- November – Meet up 1. World Heritage Kongernes Jelling, Denmark

2022

- February - Digital meeting Guest lecture Amilcar Vargas, World Heritage site Gaudi; Casa Batllo, Spain



- March – Digital meet up "show and tell" in VR (Mozilla hubs)



- May - Meet up 2. World Heritage Kvarken Archipelago, Finland
- September; presentation at the Nordic World Heritage annual Conference



- September – Recieve the Nordic World Heritage Award
- September – meet up; Kvarken Archipelago
- October - Meet up 3. World Heritage Thingvellir, Iceland

2023

- March - Meet up 4. World Heritage Røros Mining Town and the Circumference, Norway
- Sept - Representing at the annual Nordic World Heritage conference, Vatnajökul, Iceland
- October - Meet up 5. World Heritage Decirated farmhouses of Hälsingland, Sweden
- November Meet up 6. Berlin

Checklist according to the application.

- *The network will serve to facilitate the exchange of ideas/know how in using VR to communicate the World Heritage content.* CHECK!
- *The network will be looking at ways to distribute and share each other's experiences.* CHECK!
- *The network can test new ideas and practises with all the World Heritage site involved.* CHECK!
- *Visiting sites of different kinds, outdoor, old fragile buildings, remote or urban, the network will be able to work with a wide variety of the challenges involved with communicating and making these sites accessible to a wider audience.* CHECK!
- *Some of the workshops will include presentations from techpartners but also experiments with live-guiding in VR.* CHECK!
- *The aim of the network is to cooperate, exchange and develop ideas* CHECK!
- *The World Heritage VR-Network will explore new ways of bringing World Heritage into the future virtual world, with the strong aim of not only ensuring that it remains relevant, accessible and sustainable, but also is more easliy disseminated towards ex schools and libraries.* CHECK!
- *By connecting to each other, these sites can share their results, best case practices as well as mistakes.* CHECK!
- *By creating a network for World Heritage sites working with VR, learning about communication in a new medium can be aggravated at a lesser cost in regards to both time and money.* CHECK!
- *The different World Heritage sites will cooperate, exchange and develop experiences and ideas from each and every sites knowledge in the matter of virtual reality. The success as well as the struggle.* CHECK!
- *We will share experiences from interpretation, what kind of technical skills we have used, how the audiences in the different sites has responded to different kind of VR-experience in the matter of communication.* CHECK!
- *We will share the same experience as we participate and test different kind of new material.* CHECK!
- *Some will take place in a virtual environment to futher practise, understand and incorporate the benefits of the thechnology.* CHECK!
- *All partners will participate in visits and the exchange of best practices, special lecture connected to a workshop at the meet ups.* CHECK!
- *Each member will also connect with other sites in the current country so by the end of the project, we will have a strong network that can continue to work together.* CHECK!

