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Interaction Seeds

Dowel innovation

Raise awareness about Nature-based Solutions thanks to immersive video and photos

Domain:
Climate Action and Environment

Place:
Nice, France

Duration:
3-days event

Target audience:
General public
School students

Mission

Posidonia meadows are endemic to the Mediterranean sea and provide numerous ecosystem services that benefit both human well-being and the environment. They are a refuge and nursery for fish, a carbon sink and protect the coastline from erosion. However, human pressures lead to a decline in the seagrass beds in certain areas. Limiting these damages is essential, and the engagement of the various stakeholders, including the general public, is key. The aim of the interaction was to raise awareness in the local community on the importance and beauty of the seagrass beds in the Nice Côte d'Azur metropolitan area and surroundings, and to develop a sense of shared responsibility for the regeneration of our common natural environment.

Engagement activities

This interaction was structured around two main activities: a virtual dive and a photo exhibition.
The first activity allowed participants to explore seagrass beds through a virtual dive, using a 360° underwater video experienced via Virtual Reality (VR) headsets.
A scientific mediator accompanied the activity, providing live explanations to guide participants throughout the experience.
The second activity was a photo exhibition that combined scientific information with underwater photography,offering visitors an opportunity to further discover and better understand Posidonia and its vital ecological role.

Artistic activities

A short 360° video, captured underwater by divers, accompanied by music and displayed in a VR headset to provide a full immersion.
A carefully designed photo exhibition, giving space to inspiring photographs, and supported by scientific explanations.

IMPACT

- Emotional trigger
- Sense of shared responsibility
- Discovery of the beauty of our marine environment
- Better understanding of the impact of human pressures
- Increased awareness about the importance of protecting and restoring nature

WHAT HAPPENED?

The interaction took place during the **Festival of Sciences - Ocean**, organised by the University Côte d'Azur. During three days, researchers, scientific outreach associations, museums, metropolitan and city services and companies gathered in the heart of Nice to meet the general public and explore the ocean sicence in new and engaging ways. The final day was fully dedicated to schoolchildren.
The activities led by InteractionSeeds were designed in **strong collaboration with Nature Dive, a local association** bringing together scientists, professionals divers and photographers, **and the** Nice Côte d'Azur metropolitan area.
Together, they worked towards a shared goal: to make the invisible visible and raise public awareness about the crucial role of seagrass beds and the urgent need to protect them.

Virtual Reality (VR) was used to allowed participants to dive into the heart of the Mediterranean, discovering ecologically sensitive areas like seagrass meadows through immersive 360° virtual dives. This impactful experience was complemented by a photographic exhibition, where visitors could further explore the world of Posidonia and deepen their understanding of its importance.

PARTICIPANTS ENGAGEMENT

Immersive experience
The activities started with an immersive experience of a dive on a seagrass bed. Participants were welcomed in small groups (15 at a time), and a scientific mediator gave them a short introduction about what they were going to experience and why. VR headsets were then handed to them, and a 360° video was played. Explanations about what could be seen in the video (species, impacts of human pressures) were provided in parallel by the scientific mediator. This first activity lasted roughly 20-25 minutes, as quality of experience was prioritised over quantity of participants.

Photo exhibition
Building on this foundation, the activities continued with a photo exhibition on Posidonia, designed by NaturDive, featuring pictures taken by underwater photographers from the association and other professional photographers. The exhibition was structured in five topics (1. The species and habitat, 2. Its habitants, 3. The ecosystem services it provides, 4. The impact of human activities, 5. How to act to protect them) of four pictures each. The participants were invited to enter the exhibition and explore each topic.

Providing feedback
To evaluate the impact of the initiative, participants were asked to rate their immersive experience, by choosing bottle caps of different colours (red: didn't like, blue: neutral, green: liked the experience). They could also provide feedback in a visitors' book.

Artistic activities

The main creative technology used in this interaction was Virtual Reality (VR), but the experience itself was firmly grounded in reality. The 360° video, filmed underwater by NaturDive's professional videographers using specialised cameras and waterproof casings, offered an authentic dive into the Mediterranean. Carefully edited to create a vibrant and breathtaking journey just a few minutes long, the video took participants along the coastline to discover some of the region's most precious marine treasures: from coral reefs and seagrass meadows to rocky and sandy seabeds and their diverse inhabitants.
To further heighten the emotional connection, the video was accompanied by a music soundtrack played directly in the VR headset, intensifying the sense of immersion. This virtual dive allowed participants to (re)connect with their underwater natural heritage. Alongside the visual journey, the video also highlighted the efforts led by NaturDive to protect and restore this fragile ecosystem.
Participants were not left to explore on their own. A scientific mediator guided them in real time, providing synchronised explanations about the species they encountered, the threats these ecosystems face, and the visible consequences of climate change and human activity. This guided approach ensured participants left not only with a sense of wonder but also with a deeper understanding of the urgent local environmental issues.

Following the VR experience (which often sparked a strong "wow effect"), participants could continue their journey with a photo exhibition. Large-format panels (80 x 120 cm) showcased stunning underwater photography while delivering scientific insights in clear, approachable language suitable for a general audience. To engage the public, the photographs were given catchy and humorous captions, such as 'Green Thumb with Posidonia' for an image of scientific divers replanting Posidonia fragments, or 'Trendy Natural Beaches' for a photo of students lying on Posidonia dead leaves accumulated on the beach.
Each of the five section of the exhibition focused on a specific theme, presented through a combination of an educational panel (available in both French and English) and three inspiring photographs illustrating the topic. QR codes were also provided, offering visitors the chance to access more detailed content online.
The photographs, captured by members of NaturDive and other professional photographers from the Côte d'Azur, aimed to stir emotions while also providing solid scientific knowledge. The exhibition, like the VR experience, was a carefully crafted balance of wonder, learning, and a powerful call for action.

Find the scientists and artists from NaturDive, on Youtube

A wonderful immersion and discovery of the beauty of the underwater world, and a way of raising awareness of the need to preserve it.
A visitor

Impact of the interaction

The combination of visual arts (through immersive video and a striking photo exhibition) created a powerful and engaging learning experience. Participants were able to explore the beauty of the underwater world while gaining a deeper understanding of the vital role Posidonia seagrass beds play and why protecting them is crucial.

The immersive VR experience was met with enthusiasm from visitors of all ages. Both adults and children asked many questions, showing genuine curiosity. When asked to share feedback using coloured caps, nearly 100% of participants responded positively. Interestingly, it was mostly children who actively voted. The visitor's book captured almost 30 heartfelt comments, reflecting the emotional impact of the experience. Over the three days, approximately 450 people took part using the VR headsets (208 men and 234 women), spanning a wide age range from 6 years old to over 60, including 215 children and 227 adults.

Following the event, a survey was sent to teachers who had brought their pupils on the third day. The survey revealed that the VR experience was highly appreciated by the students. Teachers praised not only the innovative use of VR technology but also the vital role of the scientific mediator, whose explanations helped children of all ages better understand the topic and engage meaningfully with the video content.

The exhibition's impact will extend beyond the festival. It is scheduled to be displayed at the Cannes harbour from June to September 2025 and will be adapted and reprinted for a second showing at the "Home of Environment" in Nice in autumn 2025. This mobile version will then travel to several schools and public libraries throughout Nice in 2025 and 2026, continuing to inspire awareness and appreciation for marine ecosystems.

Art speaks to the heart – underwater photography connects people emotionally to the ocean, inspiring care and action for its protection.
Ioana STOICESCU, Photographer & professional scubadiver

Good practices for replication

For successful replication, DOWEL provides the following lessons learnt and good practices:

- The interaction should be embedded in a **public event accessible to all**, to guarantee a large audience, and in particular hard-to-reach citizens. This implies developing strong connections with the local ecosystem, in particular local authorities. The **cooperation with a local authority** may also result in co-financing to support the interaction.
- The immersive experience with VR headsets (360° video + music) has a **wow effect** but it is important to go beyond by providing **popularised scientific information** to the participants. The **mediator** plays a critical role.
- For the photo exhibition, **the scenography and the setup is key** for people to understand how they should "navigate" the exhibition and make sure they get the intended messages. A **facilitator** is also recommended.
- We developed both an immersive experience and a photo exhibition, designed to be complementary. It was however difficult to monitor and facilitate both in parallel, synergies were therefore limited. Replication of only one of those two parts could be easier and bring more focus.
- The **commitment of scientists, artists as well as scientific mediators** is a pre-requisite. In our case we worked with an association that combines all, but in other locations, different organisations may have to be involved to gather all the needed profiles.

Resources

The 3-days activity with 15 VR headsets and 2 scientific mediators costs **3 300€**.
The recording and editing of the 360° underwater video costed 4 500 €. The development and printing of the photo exhibition costed 2 000 € (not including the costs of the dives to take pictures).

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