Shared VR Environments

www.igloovision.com

Immersive Learning

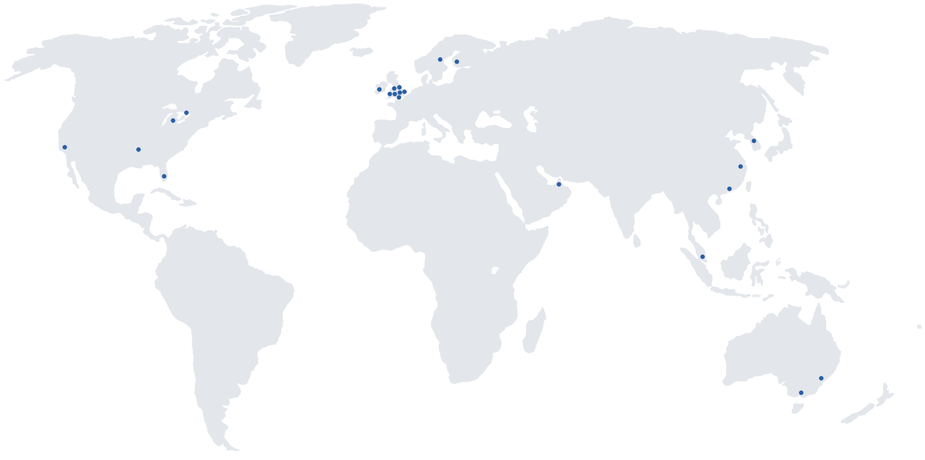
Igloo is the Shared VR company

We take any VR or 360° content and put it in a shared immersive space anyone can use.

It's a bit like stepping into a huge VR headset.

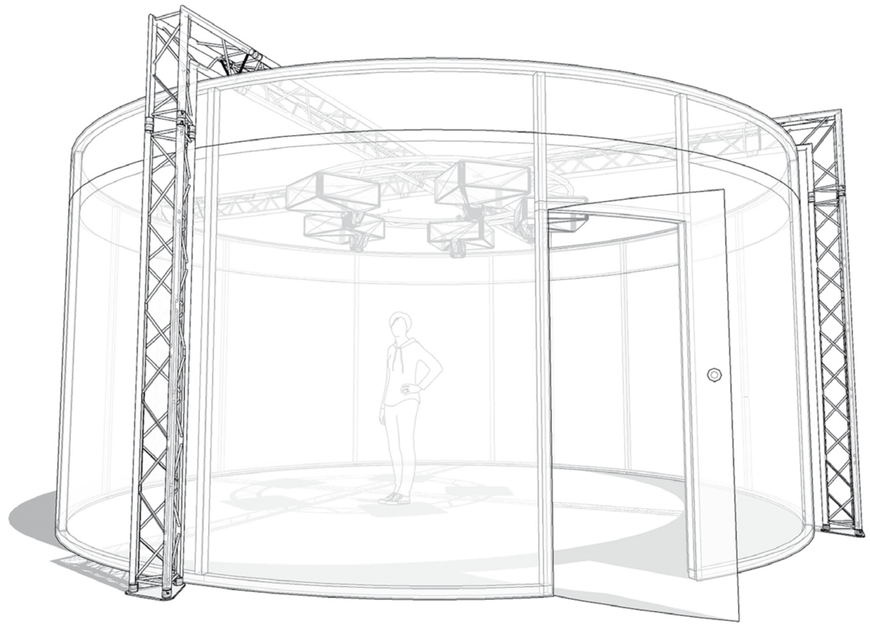
And, because groups of people can get inside, it's always a shared experience. So, it's great for entertainment and experiences. It's also perfect for collaborative teamwork and training. And it's a way of immersing groups of people into life-like environments.

Across the world, schools, colleges, academies and universities are deploying Igloo Shared VR in several ways and for several applications. And they're finding that, as well as being elegant and affordable, an Igloo is flexible, content-agnostic, easy-to-use, and easy-to-adapt.



Working with universities and academies worldwide

The anatomy of an Igloo



Sound system
5.1 surround sound system (upgradable to a 9.1 Sennheiser AMBEO system) - to deliver studio-quality spatial soundscapes.

Frame
Aluminium truss frame (upgradable to a sleek powder -coated frame) - to give you a robust structure that can also be re-sited for pop-up events.

Cover
Fully-branded fabric outer skin - that looks just incredible and can be easily customised with your own logo, identity and messaging.

Projection
5 x full HD short throw projection system (with any number of upgrade options, including 3D, ultra-short-throw, and 8K) - for crystal clear wraparound imagery.

Technology
Igloo Media Player and wifi router, combined with the Igloo software suite - a system that is specifically engineered and configured for Shared VR applications.

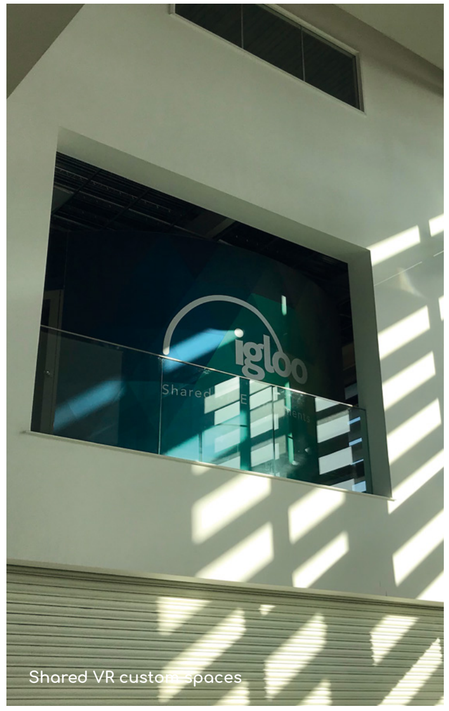
Door
Curved, lockable door to complete the 360° projection screen - to create a complete, fully-enclosed, self-contained Shared VR and collaboration space.

Screen
Fully immersive 360° projection screen (upgradable to an acoustically transparent version) - specially printed to create the optimum projection surface.

This is the standard, 6-metre Igloo product. But you can choose from a range of sizes or formats, or we can create something bespoke, specifically for you.

Three types of Igloo installation


Shared VR cube



Shared VR custom spaces

We offer three main types of Shared VR space:

Shared VR cylinders and cubes
Super-flexible, indoor-only solutions, that squeeze into almost any space.

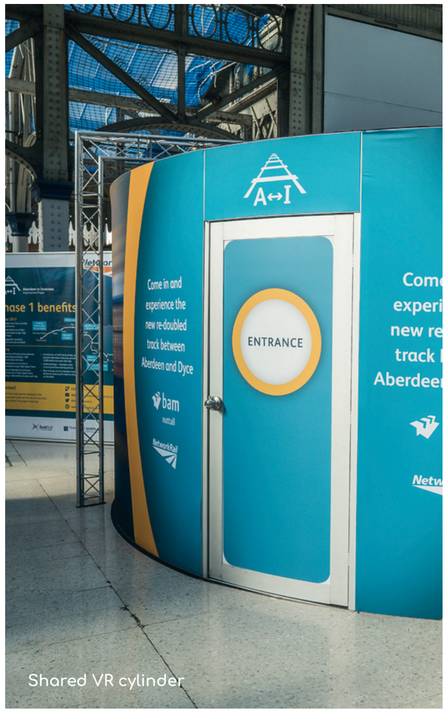
Education clients include:
Michigan State University, Khalifa University, and Deakin University.

Shared VR domes
Distinctive, all-weather structures, that always make an impression.

Education clients include:
Loughborough University, Hong Kong Academy of Medicine, and UK Fire Service College.

Shared VR custom spaces
Use our technology to fill any space with immersive, wrap-around sound and vision.

Education clients include:
National University of Singapore, Mid-Sweden University, and University of Brighton.



Shared VR cylinder

Shared VR domes

They're all designed and delivered by Igloo, and powered by the super-smart Igloo software.

Options include:

Igloo Warp & Blend

Our advanced geometry correction and edge-blending software, enabling any imagery to be projected across a seamless 360° horizon.

Igloo Control

An intuitive, easy-to-learn user interface, enabling you to set-up, scale and schedule your 360° content, switch between different channels, and programme clip settings.

Igloo Playback

Our 360° media player application, enables you to play multimedia files like videos, CGI and panoramas, enhance them with surround sound, and project them in 8K.

Igloo Realtime

A set of software plug-ins and tools to integrate with a range of game engines (Unity and Unreal) and visualisation tools (like Solibri, Revit, Revizto and Navisworks).

Igloo Remote

Control the Igloo system easily and remotely on any iOS or Android device, including consumer-grade phones and tablets, as well as pro-level equivalents.

Igloo Web

Display any website in 360°, project social media feeds, display Google Slides presentations, display 360° mapping systems (Esri, Street View etc.) and more.

Powerful, flexible technology for any Shared VR application

Igloo technology is about so much more than 360° playback.

Instead, every Igloo comes pre-loaded with a full range of Shared VR apps, to help you engage with ANY immersive content.

We are releasing more functionality all the time. And, if ever a client wants something more bespoke, we can easily write the code to make it happen.

Igloo Capture

Display up to 12 separate channels of non-360° content from external sources (such as Powerpoint, Prezi, Skype calls, camera feeds, etc.) via HDMI, NDI and RTMP.

Igloo Encode

A drag-and-drop HAP encoding widget (drag any 360° movie file onto the widget and it will automatically encode the file with optimal Igloo HAP settings).

Igloo VR Spectator

Simultaneously play VR or 360° content both in headsets and Igloo Shared VR (enabling spectators and team members to see what's happening in the headset).

Igloo 3D

Project any 3D-ready imagery stereoscopically and/or more fully integrate the Igloo system with 3D visualisation programs (requires active 3D glasses and projectors).

Igloo 4D

Schedule triggers for multi-sensory DMX/MIDI hardware (e.g. fans, lights, aroma diffusers, heating and cooling devices, etc.) to enhance audio visual experiences.

Igloo Livestream

Stream 360° content in real-time, at full-resolution, across standard networks, without the need to pre-render and upload.

Igloo Edit

Use your 360° screen as a VR editing suite by displaying your composition preview in real-time from a range of editing programs (inc. Adobe After Effects & Premiere).

Igloo Interact

Enable audiences and team members to interact with your 360° content by integrating gesture control systems, head tracking, and touch tables.

Igloo Beta

Automatic enrolment in our development programme, giving you early access to our latest innovations and features.

How universities are using Igloo Shared VR

Take virtual field trips
Take trips through time and space, without leaving the campus.

Content options: a vast range of educational programming is available from global media brands like the BBC and Discovery, as well as content from specialist educational providers.

Enhance game development
A collaborative way to create and review VR gameplay in Unity and Unreal.

Content options: our Igloo Realtime app comes with a set of plug-ins that enable you to display, interact with and navigate through Unity and Unreal projects.

Prepare students for the new world of work
With enterprise XR solutions taking root, and immersive workspaces taking off, employers are looking for job applicants with practical experience in immersive technology.

Content options: Igloos are commonplace in the innovation hubs of several global businesses, like Accenture, BP, Dell, Microsoft, NTT, and we can tell you about the content they use.

Visualise 3D designs
View and adapt 3D designs as well as BIM and CAD data in an immersive group setting.

Content options: Igloo integrates, out-of-the-box, with all the industry standard design and visualisation tools (like Autodesk, Revit, Solibri, Bentley, Sketchup, and many more).

Create repeatable experiments
Run, repeat and adapt experiments, and incorporate sensory stimuli, without having to go out into the field.

Content options: Igloo's systems can easily be integrated with additional technologies, like accelerometers, room control systems, and 4D content solutions.

Present complex data
The vast 360° screen is the perfect way to analyse, present and assimilate data.

Content options: you can layer data from several sources and, using our Igloo Web app, get more value from web-based analytic tools, like Tableau, Emu Analytics, and Flow.

Run simulations and plan scenarios
Prepare and train groups of people in scenarios that are too expensive or hazardous to create in real-life.

Content options: Igloo integrates, out-of-the-box with several simulation tools, like XVR and TSC, as well as conventional game engine-based content.

View and review VR and 360° films in a shared setting
A new generation of filmmakers are exploring the potential of immersive 360° content, and many of them love the shared experience of an Igloo.

Content options: in an Igloo you can easily play 360° film and panoramas, as well as animations, and computer generated imagery (CGI).

Case studies

Igloos are used by universities and academies across the globe - here are a few of our favourite installations and assignments.

Mid-Sweden University : Risk and Crisis Research Lab

Mid-Sweden University is a state university which, as its name suggests, is located in the geographic centre of Sweden.

One of its best-regarded departments is the Risk and Crisis Research Centre, which aims to get a deep understanding of how people react to crises. And, as well as bringing together academics from several disciplines, it has partnerships with several of Sweden's largest companies.

Igloo was asked to help build the new Risk and Crisis Lab, a 40 square-metre facility, combining a wide range of simulation systems, such as surround sound, vibration, scents, and temperature. As well as simulating crisis situations, researchers can judge people's reaction to them through, for example, eye tracking, sound recording, and physiological monitoring.

Using the Igloo Media Player and a rig of 8 high-spec projectors, Igloo created the Shared VR facilities. Our system also integrates with several of the other technologies.

When it was first launched, it generated a slew of media coverage, which you can read if your Swedish is up to it on page 10.

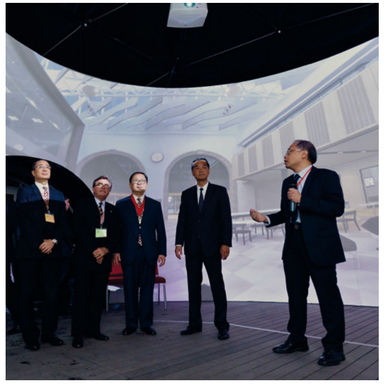
University of Brighton : Sports Science Simulator

The Centre for Sport and Exercise Science and Medicine (SESAME) at The University of Brighton is the proud owner of a 210° Igloo projection system.

Floor space in the lab is at a premium, so we proposed a 210° screen that can be easily stored then quickly erected whenever it is needed. Meanwhile, the projection and audio system are permanently fixed, meaning even quicker set-up times and little need for warping.

The simulator is primarily used to research reaction times and decision-making in sport-related situations. By using digital media to immerse participants in unfamiliar surroundings, psychological effects can also be assessed. And the benefits of the system have been covered by Education Technology magazine (see page 10).

> *We did think about using VR headsets, but there are too many potential issues. For example, as a sports person, you need to see your own body. You also need to be able to move freely. And, often, you need to see your teammates, and arrive at a collective decision. You can't do this properly when you are wearing a headset."*
>
> **Dr Nicholas Smeeton**
> **Principal Lecturer**
> **Sports and Exercise Psychology**
> **University of Brighton**



HK Academy of Medicine : VR Training

The Hong Kong Academy of Medicine (HKAM) selected us to supply and install a 9-metre Igloo simulator as a key training tool for the newly formed Disaster Preparedness and Response Institute.

Our partners at E-Semble (now XVR Simulation) provided the Unity 3D-based XVR software. The first Igloo simulator to be permanently installed in Asia, and prominently located near the main entrance to the HKAM building, it provides cross-agency, immersive disaster response training.

Hertfordshire University : Clearing Campaign

For many UK universities, A-Level results day is an important recruitment opportunity, and Hertfordshire University was looking for the perfect way to grab attention and create interest.

Ideally, potential students and/or their parents would be taken on a tour of the campus, to experience the quality of the university's facilities. The next-best solution would be to take them on a virtual tour using some existing VR content.

At first, the university considered a headset experience but was put off by the practical considerations. Its solution was to commission a 6-metre Igloo for a pop-up event on the concourse of King's Cross station - which would be seen by up to 100,000 people in a single day.

Michigan State University : Digital Scholarship Lab

Michigan State University has invested in a cutting-edge Digital Scholarship Lab (DSL) within its Main Library that includes a 360° immersive visualisation room from Igloo Vision.

The Shared VR facility offers flexible applications for all disciplines in teaching, learning, and research. For example, history classes can explore architecture from around the world; interior designers can make their designs come to life; and game developers can develop and display their video games in a fully immersive environment.

This was a significant project for Igloo, not just because it's our first US-based university assignment, but also because it features an array of the latest generation laser projectors, equipped with specialised ultra-short throw lenses. This means we get all the benefits of laser projectors (image quality, blendability, reliability, etc) in a relatively confined space, with no shadowing and no loss of image quality.

Incidentally, this installation generated a ton of media coverage, including a great piece in Education Technology magazine.

> *Located at the heart campus, our students and faculty now have access to a state-of-the-art facility that elevates our widely recognised strengths in the digital arts and humanities."*
>
> **Christopher P. Long**
> **Dean of College of Arts & Letters**
> **Michigan State University**

Loughborough University : Chemical Engineering

Loughborough University's Department of Chemical Engineering is using Shared VR to teach graduate students about the realities of working in a live process plant.

The Igloo dome is now tightly integrated into the Department's graduate curriculum. In particular, students use it to understand the interplay between control room operations and field operations. They also use it to get a clear understanding of safety implications – for example, by deliberately upsetting processes to see the effects, without risking the disastrous consequences that would ensue in the real world.

Plymouth University : ICCI 360 Festival

Innovation for the Creative and Cultural Industries (ICCI) is an initiative which builds on Plymouth University's expertise in creative and cultural education, research and practice.

In 2010, it enlisted a 21-metre Igloo and full production crew to run a week-long ICCI 360 Festival, which took place in Plymouth city centre and showcased a programme of 360° events – including film, animation, photography and live music.

Then, in 2012 a second ICCI 360 Festival was selected for Cultural Olympiad in Weymouth, and Igloo once again played a pivotal role.

Deakin is building an Imaginarium at its Geelong Waurn Ponds Campus to provide students with an immersive and collaborative learning environment

The Imaginarium will support a new teaching methodology for the Faculty of Arts and Education – iSee. It's a technology-rich learning space that allows students to be immersed into endless environments, conditions and eras. With visual and audio simulations, students can be transported to another time and place to learn, engage and research.

Deakin University,
1st November 2019

Using Shared VR to understand how novices become experts

How Brighton Uni's Centre for Sports and Exercise Science and Medicine successfully uses an immersive environment to replicate real-life scenarios.

Education Technology,
27th November 2017

Digital Scholarship Lab First Of Its Kind In U.S.

Designed for multi-disciplinary use, Michigan State University's Digital Scholarship Lab is the first in the United States to have an Igloo Vision visualization cylinder, which provides a shared experience in which multiple people can work together while surrounded by a fully immersive 360-degree projection screen.

MSU Today,
23rd January 2018

What the papers say

Immersive 3D training experience unveiled with potential to transform the chemical engineering industry

A Loughborough University computer science expert has collaborated with BP on an immersive training experience that enables safety-critical tasks to be rehearsed in a simulated environment.

Phys Org, 24th September 2015

Your Classroom in 360: Ideas for Using Enhanced Reality in Your Class

Virtual and augmented reality facilities are becoming a reality in many universities across the country. At Michigan State University, the library recently installed a digital scholarship lab that includes a 360 room and a virtual reality (VR) room, and language instructors have begun to explore their uses for language teaching and learning.

FLT Mag,
13th June 2019

Nytt världsunikt labb invigt

På onsdagen invigdes det nya forskningslabbet för risk-och krisforskning på Mittuniversitet i Östersund, som är världsunikt enligt de själva.

SVT Nyheter,
15th November 2017

It's not just universities... how Igloo Shared VR is used in primary and secondary education

In our 10+ year history, we've been engaging and inspiring young people at educational events, festivals and visitor attractions. And a growing range of education-related content is becoming publicly available, enabling you to immerse learners in the curriculum - such as Google Street View, and content from global media brands like the BBC and Discovery, as well as content from specialist educational providers.

Take virtual field trips

Take trips through time and space, from the inner workings of the human body, to the outer reaches of the galaxy.

Content options: use tools such as Google Street View natively in the Igloo, as well as specially designed content from educational providers.

Share VR experiences with a wider audience

Display VR or 360° content in an Igloo without the need for headsets which may not be suitable for younger audiences.

Content options: easily display a range of 360° and VR content including films, panoramas, and interactive game engine content in Unity and Unreal.

Prepare for stressful situations

Give students a virtual rehearsal, enabling them to practice and hone skills without fear of failure, and prepare them for unusual or unfamiliar scenarios.

Content options: use programs such as Virtual Speech to create scenarios with branched questions, avatar interaction, and voice analysis and feedback.

Enhance empathy

Allow students to experience the lives and situations of others, and use the Shared VR experience as a component of citizenship and personal development programmes.

Content options: bring whole groups into a shared viewing of 360° documentaries and into the heart of the story.

Royal Academy of Science :
Ocean Drifters

Every year at its London HQ, the Royal Society hosts Science Live - a week-long event which gives children an opportunity to interact with science and question top scientists about their work.

A 12.5-metre Igloo provided the venue for Ocean Drifters, a 360° film about a secret world beneath the waves. Narrated by Sir David Attenborough and set to a specially commissioned score, the film explored the world of marine plankton and the influence it has on almost every aspect of our daily lives.

Science Museum Group :
Space Descent 360°

One of the challenges with conventional VR experiences is how to share them with younger children. This is something that the UK's Science Museum Group had faced with the Space Descent VR experience featuring astronaut Tim Peake.

It's been hugely popular. It's attracted plenty of media attention. But it's only been suitable for ages 13+, which precludes a large proportion of Science Museum visitors - and can make for some furiously unhappy would-be astronauts.

Igloo was asked if we could help to make the experience more inclusive, and suitable for the whole family. And, as a result, a 360° 3D version of the experience was created for a 6-metre Igloo dome, which was in-place for the entire summer season.

Historic Royal Palaces :
Movie Maker Mission & Tudors on Tour

Igloo's 360° immersive space made a perfect mobile museum for Historic Royal Palaces.

During both 2014 and 2015, we teamed-up on two separate Learning & Engagement initiatives – the Movie Maker Mission (featuring a 'crowdsourced' 360° film produced by Aardman Animations), and Tudors on Tour (featuring a historical 360° tour of Hampton Court Palace produced by TX and SphereVision).

"Igloo's 360° immersion is a completely new way of simulating real-life situations and learning by doing. Imagine a classroom that can be transformed into a London street during the blitz, the bottom of the ocean, or the inside of a human heart. The scenarios are endless."

Professor Steve Molyneux,
Learning Technology Strategist
and Apple Distinguished Educator

Igloo is the Shared VR company

From bases in the UK, USA, Canada and Australia, we work with clients worldwide, and have partnered with many schools, academies, universities and research establishments.

To find out more, visit us at www.igloovision.com

email us on info@igloovision.com

or telephone us on +44 (0) 1588 673 337

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