# What our first ever university client has learned about Igloo immersive technology

# Immersive teaching and learning

**Way back in 2014, the University of Brighton became the first university in the world to install a shared immersive space powered by Igloo technology.**

More than six years later, it's still there, it's deeply embedded in the curriculum, and it's being used for a growing range of research (this ***paper in the journal Frontiers in Psychology*** is just one of the many published research outputs).

Since the trailblazing investment, many more universities across the world have also installed Igloo technology, with many different use-cases, like:

- A **simulation system** for sports science, chemical engineering, architecture, medicine, disaster preparedness, and more
- A **visualisation platform** for architecture, engineering, interior design, construction, and more
- A **teaching space** for immersive storytelling, game design, virtual field trips, and much, much more

As a now-seasoned veteran in shared immersive tech, the University of Brighton's Immersive Digital Teaching and Learning's blog recently took the time to look back at everything it had learnt about using shared immersive spaces in teaching and learning. It put together an excellent summary of pros and cons, covering interaction, inclusivity, innovation, informing and investing - and ***you can read it here***.

That said, it never hurts to add another perspective. With 12+ years of building immersive spaces under our belts (and, to this day, we are still seeing uses of immersive technology that can surprise us) we think we can expand on its list.

So, in this piece we offer some additional suggestions that may prove useful to anyone investigating the use of this technology for their own organisation.



# Background

## The University of Brighton: Sports Science Simulator

The Centre for Sport and Exercise Science and Medicine (SESAME) at The University of Brighton has been the proud owner of a 210° Igloo projection system since 2014.

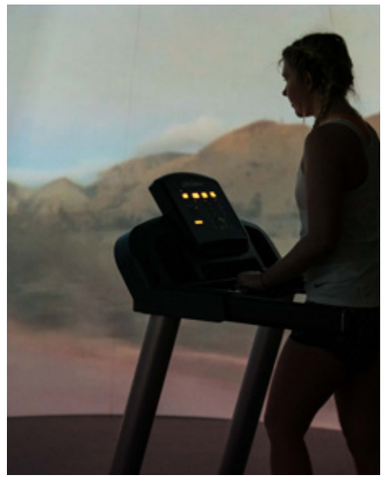
Floor space in the lab is at a premium, so we proposed a 210° screen that can be easily stored then quickly erected whenever it is needed. Meanwhile, the projection and audio system are permanently fixed, meaning even quicker set-up times and little need for warping.

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.

If you're interested in learning more, there's an in-brief ***case study on our website***, ***a video of the installation***, and a ***great article in Education Technology magazine***.

We have since worked with some of the world's biggest sporting brands that now use Igloo immersive technology for sports science applications. And other universities have been inspired by the example set - in 2020, for example, we installed an open-fronted 180° immersive cylinder in Leeds Beckett University's prestigious Carnegie School of Sport.

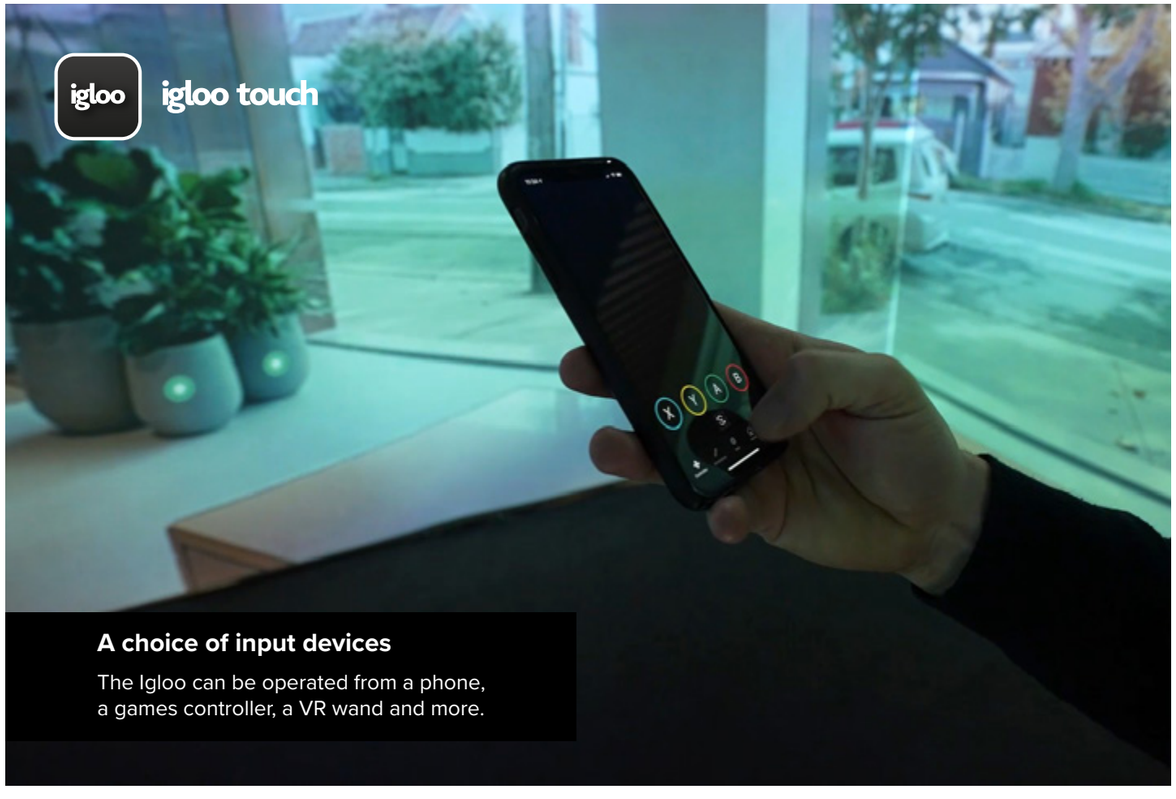
So, let's take a look at what the blog says about its use of the Igloo system and our response to each of its points.



# Interaction

How easy is it to run an immersive space and create content for it?

| | What they say | What we say |
|---|---|---|
| Pros | Large immersive spaces don't require VR headsets or tablets to interact with them - meaning they can be used by multiple people. | This is why so many people buy Igloos. They remove constraints and enable teamwork in a shared space - and physical props can be brought inside too. |
| Pros | Content can be easily created in-house for and by students. Images and videos can be collected from real-life environments and scenarios. | Too true. It's getting cheaper and easier all the time to create high quality 360° content - plus you can get it from a growing range of content libraries and archives. |
| Pros | Students can therefore collaborate on capturing content and engaging with the final immersive experience, though perhaps some additional skills are required to format the content for the screen. | To help you on your way, we've put together a handy content creation guide that shows how to use your bread-and-butter tools to edit and format your content - which can easily be followed by non-tech-savvy students or academics. |
| Cons | As immersive screens often make use of real-world projections, there can be limits on creation, sourcing content, and limits to interactivity and immersion. | Through game engines, YouTube 360, VR toolkits, or integrating with apps, you can actually go beyond real-world images. You can display anything you can imagine in an Igloo - and interact with it in several ways. |
| Cons | Given the set-up and size of an immersive space, it's hard for students to engage with it without actually being present in the space. | We've found a solution. As demonstrated by the University of Adelaide[1] during the heights of the COVID-19 pandemic, an Igloo makes an excellent virtual lecture theatre. |
| Cons | While they can be shared, immersive screens are less interactive and immersive than VR headsets, although interactivity can be heightened by adding chosen devices. | True, but it's not an either/or. They can be combined with headsets. And technology marches on. For example, the Munster Technological University[2] makes use of a highly interactive Igloo with floor projection, head-tracking, etc. |
| Cons | Educators run the risk of simply imitating pre-existing teaching methods instead of taking advantage of their new medium for innovation. | This is why we've built Igloo Home[3]. It's an ultra-user-friendly UI to make it easier than ever to experiment. And immersive teaching is growing more and more imaginative. |




**A choice of input devices**

The Igloo can be operated from a phone, a games controller, a VR wand and more.

**Mid Sweden University**

Mid Sweden University's RCR Simulation Lab lets researchers study how groups of people can deal in crisis situations.

# Inclusivity

How easily can students get involved with your immersive space?

| | What they say | What we say |
|---|---|---|
| Pros | Students can access and interact with an immersive space without additional devices. | Yes, but if you want to use additional devices to interact with it (phones, tablets, game controllers, VR wands, etc.) you absolutely can. |
| Pros | The immersiveness of the shared space can be boosted with sound systems, haptic technologies, simulation machineries, etc. | Mid Sweden University[4] demonstrates this by making use of sound, smells, floor vibration, smoke machines, etc, to form an authentic crisis simulation lab. |
| Pros | Low thresholds to creating and editing content can easily tailor immersive experiences to students. | And it's becoming easier and easier. Students can even build game engine experiences themselves. |
| Pros | Students can transport themselves on virtual field trips or simulate settings that would be impossible otherwise. | And this can also be enhanced with full wraparound screens, floor and ceiling projection for a CAVE-like experience. |
| Pros | Immersive screens can help enhance not only students' learning outcomes, but also self-confidence, memory, engagement, creativity and empathy, encouraging cohesion and mutual understanding within the group of students. | Education is our fastest-growing market - and we suspect this is one of the reasons why we're growing more and more popular with universities and commercial training providers. |
| Cons | Immersive spaces are primarily visual - although subtitles and popup boxes may enhance an experience, or haptic and simulation technologies can add another layer at an additional cost. | Many extra bells and whistles are available, they're often surprisingly affordable, and an Igloo is infinitely adaptable. For example, Mid Sweden University chose our tech to recreate crisis scenarios. |
| Cons | Both individual and distance learning to accommodate students is not an option. | An Igloo can be adapted into the perfect virtual lecture theatre and hybrid event venue, and universities and enterprises have both been able to successfully demonstrate this[1]. |

# Innovation

What can immersive technology bring to traditional teaching methods?

| | What they say | What we say |
|---|---|---|
| Pros | Immersive technology could revolutionise traditional methods of teaching and create more exciting and interactive learning activities. | And we've seen use cases that absolutely demonstrate this. For example, the University of Adelaide creates simulation sessions to transport students to a busy hospital ward to learn medical procedures. |
| | Immersive spaces may be more expensive than traditional 360°/Augmented Reality tools but are perhaps better for simulation-based learning - until Mixed Reality tools become available. | True, but we're looking forward to integrating with those tools. We've been experimenting with Mixed Reality whether with LIDAR scanning or even systems similar to the university's own. |
| Cons | While there are incredible opportunities, the lack of clear guidance and use cases may leave a lot of users in the dark when it comes to using shared immersive tech for teaching. | The use of immersive tech in teaching has massively accelerated in recent months. And to help catalyse the spread of ideas and best practices, we've created a user group for all our university clients. |
| | In a still-rapidly developing sector with a lot of uncertainty, it's important not to put all your eggs in one basket with expectations placed on this technology. | It's anecdotal, but we've seen plenty of cross-disciplinary use of this technology providing engaging teaching and learning[5] - and infinite adaptability and flexibility is an important part of the Igloo ethos. |

**University of Adelaide**

The University of Adelaide makes use of Igloo shared immersive technology to deliver state-of-the-art medical simulation training - to students both there in-the-flesh and remotely.


**University of Essex**

The university bought 20 GoPros and 360° cameras to encourage its students to create content for its Igloo shared immersive cylinder.

# Informed

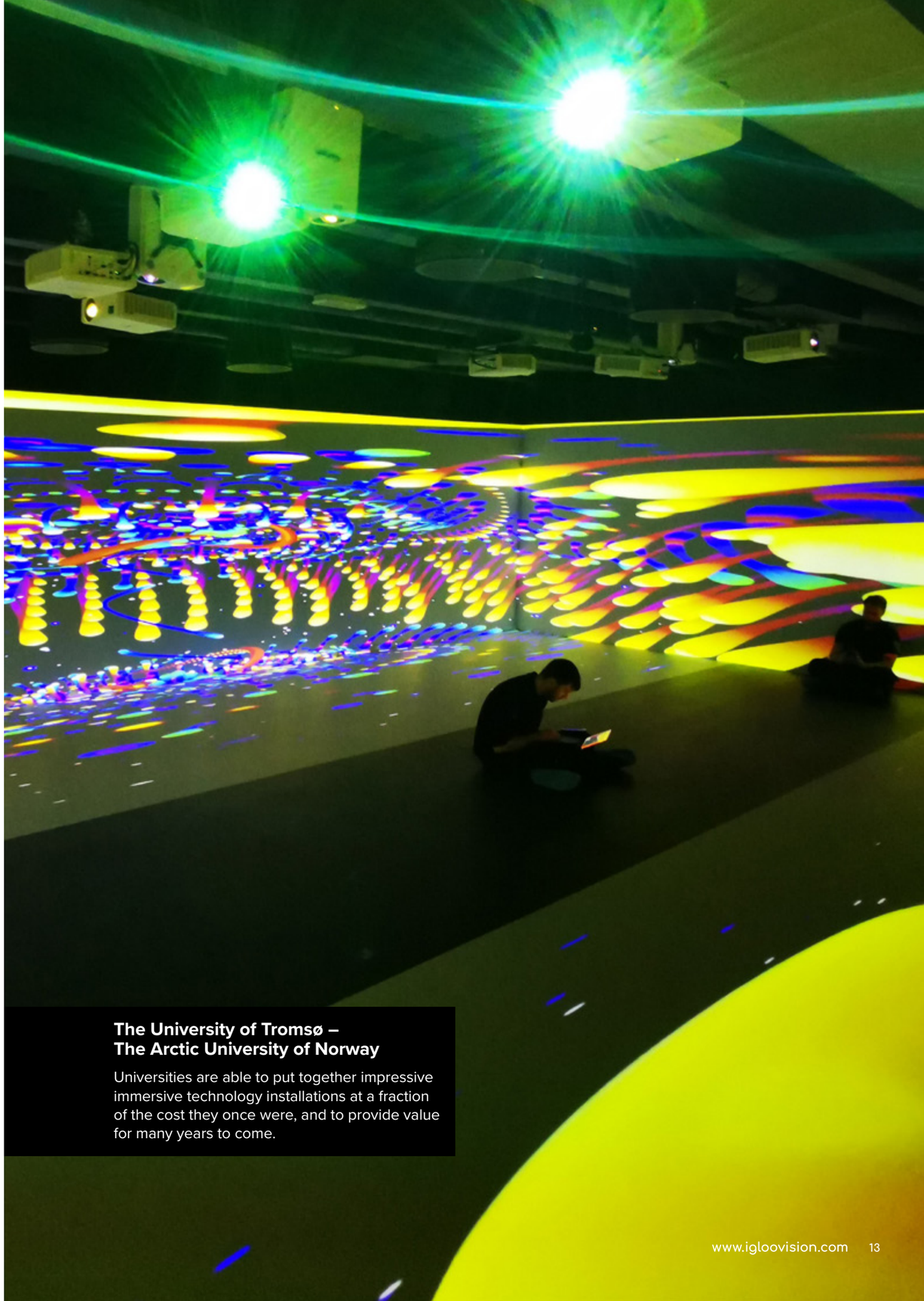
How can you make an informed choice on what immersive technology to be using?

| | What they say | What we say |
|---|---|---|
| Pros | Knowing the affordances and limits of immersive spaces compared to other kinds of immersive media can help educators make choices as to which tool to use when and maximise success in benefiting students. | True, but an Igloo is innately flexible and user-friendly - and as the university has discovered, doesn't leave you saddled with just one application. |
| | As the years go by, there will be more case studies and knowledge that further make shared immersive technology more beneficial. | We've put together a list of case studies ourselves beyond just our university clients on our website[6]. |
| Cons | Staff need to invest additional time in planning learning activities around immersive experiences in order for students to fully benefit. | As more-and-more people use this technology, there are more existing frameworks out there. But we're big advocates for our clients exploring this technology and seeing what they find. |
| | Externally sourced content can be subject to copyright concerns which may limit content available. External content could also not be wholly in-line with teaching objectives. | As well as sourcing external content, we're excited to see you take your own journey in creating immersive content. University of Essex was a great example, buying 20 GoPros and 360° cameras to help its students and faculty create content. |
| | Immersive technology can be used to capture a variety of user data - raising questions as how to protect this data and who has access to it. | Definitely something to consider (but, for our part, we do not track any data from any kind of head-tracking, facial or voice recognition technologies inside an Igloo). |

# Investment

How to get the most bang for your buck with a shared immersive space.

| | What they say | What we say |
|---|---|---|
| Pros | One immersive space can be used to provide all students and staff with a form of immersive teaching and learning without any additional devices. | An Igloo is cost-effective, you can scale it up or down, and it's endlessly reusable. What was once a multi-million pound setup only available to the richest universities is now within the reach of any organisation or department. |
| | Any developed immersive experience can be kept and revisited for years to come. | We see clients building a bank of repeatable experiences to be used and adapted. |
| | Content can be produced in-house easily and affordably, saving the expense of having to source external content providers. | 360° cameras are cheaper than ever. You can also make use of LIDAR scanning on smartphones, virtual toolkits, game engines, archives of free content like YouTube 360, etc, etc, etc. |
| Cons | Alongside the costs of an immersive space, there is also the time and money needed to properly train and support staff and students. | As part of the Igloo service, we provide training and support to clients so they maximise the use of their Igloo. We put a big emphasis on ease-of-use. Plus we have 12+ years of experience to make sure you're getting the most bang for your buck. |



**The University of Tromsø – The Arctic University of Norway**

Universities are able to put together impressive immersive technology installations at a fraction of the cost they once were, and to provide value for many years to come.

# We deliver to universities worldwide

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Ryerson University

Savanna State University

Tampere University of Applied Sciences

The University of Tromsø – The Arctic University of Norway

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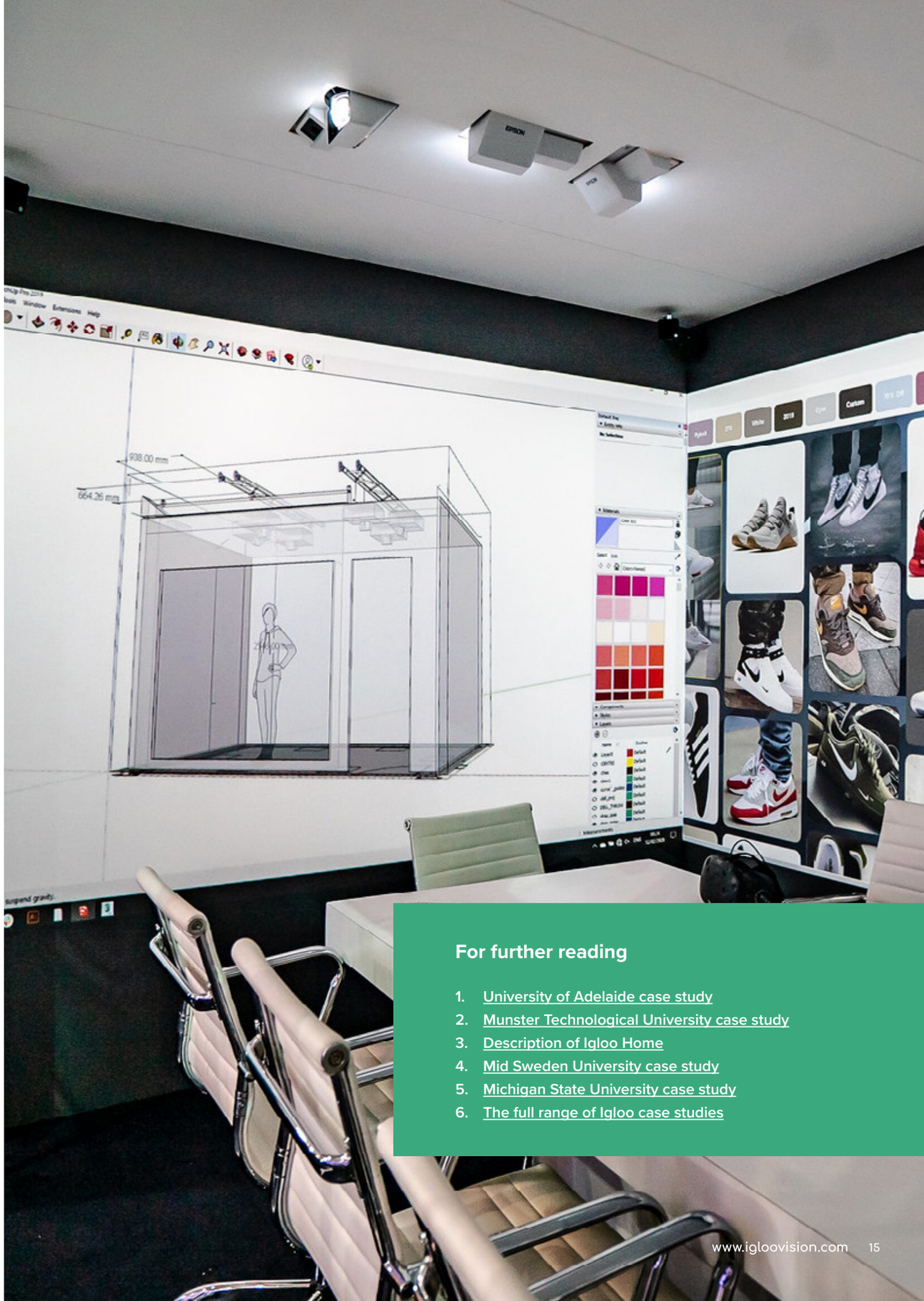

## For further reading

1. University of Adelaide case study
2. Munster Technological University case study
3. Description of Igloo Home
4. Mid Sweden University case study
5. Michigan State University case study
6. The full range of Igloo case studies

For more information

# Igloo Vision is the shared immersive space company

**Igloo designs, develops and delivers immersive technology and software that takes any digital content and puts it into a shared immersive space.**

From bases in the UK, USA, Canada, and Australia, we work with clients worldwide. Our largest, fastest-growing market is education. So far, 40+ universities have installed Igloo immersive workspace systems, and many more installations are in the pipeline.

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

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