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# Learning and Play for All: Inclusive Design in the Classroom

The Norwegian Pavilion at London Design Biennale



AV1 by No Isolation, a telepresence robot.

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At the inaugural **London Design Biennale 2016**, Norway shared a vision of how inclusive design might provide a model for developing better buildings and cities around the world. This year, the **Norwegian Pavilion** narrows its focus, with an exhibition exploring the impact of inclusive design in the classroom – and, ultimately, society as a whole.

For the Biennale's second edition, **40 countries** take over **Somerset House** to present their design response to this year's theme: **Emotional States**. In collaboration with the **Royal Norwegian Embassy** and **Design and Architecture Norway (DOGA)**, together they present an interactive exhibition comprising two groundbreaking examples of inclusive design and technology coming together to improve educational outcomes, individual wellbeing and public health.

One is a **virtual gaming platform** designed to engage students in social learning both within and beyond the classroom walls; the other is a **unique telepresence robot** that allows children and young adults dealing with long-term illness to maintain a presence in the classroom, communicate with friends and socialise.

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*In their intriguing installation Norway has recreated a classroom, in which a robot and other pedagogical technologies are on display, to teach us all about the power of inclusive, people-centred design, which is at the heart of government policy in their country, as it should be everywhere.'*

–**Christopher Turner**, Keeper of Design, Architecture and Digital, V&A

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AV1 by No Isolation in the classroom and playground.

### AV1 by No Isolation

Long-term illnesses and lengthy hospital stays don't only remove a child from their education at sometimes critical junctures; they also separate them from their social lives, which can result in intense loneliness.

**Karen Dolva**, co-founder and CEO of **No Isolation**, first understood the severity of this problem when she met a woman who had lost her child to cancer. For both mother and daughter, the physical pain of the illness and treatment was secondary to the social isolation they both suffered as a result.

The establishment of No Isolation and development of **AV1** was a direct response to this all-too-common experience (currently around 72,000 children in the UK alone are unable to attend school because of long-term illness).

Developed in collaboration with children, teachers, scientists, families and the **Norwegian Cancer Society**, **AV1** is an app-linked **telepresence robot** that allows children and young adults to maintain a physical presence in the classroom, even when they cannot be there in person. Fitted with a camera, speaker and microphone, the robot allows children to learn alongside their peers, and maintain social contact with their friends, throughout the school day.

Crucially, AV1 streams **audio two ways**, and **video one way**. When developing AV1, No Isolation quickly learned that the children at home or in a hospital often found it uncomfortable to be on display in the classroom. By using one-way video, it allows them to stay in bed and participate in a way that best suits them.

Two motors mean the robot can raise and lower its head or revolve up to 360°, **enabling the student to see and hear everything going on in the classroom**; and 4G and WiFi connectivity ensure it can function both indoors and out – so there's no need to miss break time.

Formally launched in 2016, AV1 robots currently help close to **500 children** across Europe, acting as their eyes, ears and voice in the classroom when they cannot be there themselves.



Students using Kahoot at Marymount school.

## Kahoot!

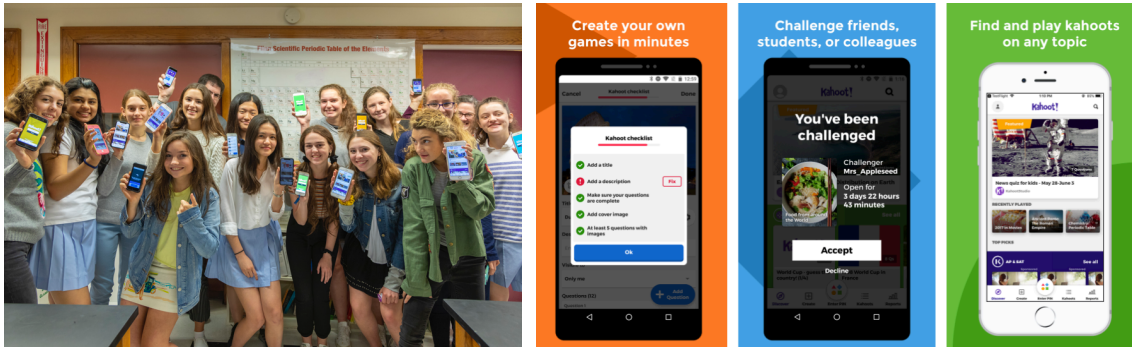
**Kahoot!** is a versatile and inclusive virtual gaming platform that transforms learning into an engaging, exciting and personally rewarding game-show-like experience. With any connected mobile device, Kahoot! users can access, create and share learning games and quizzes customised to any topic. In the classroom setting, this enables teachers to design and run **group learning games**, comprising questions and embedded media displayed on a central screen, with each student being able to answer through their mobile device – individually or in teams.

Teachers can set single-player games as homework challenges; use individual student's scores for formative assessment; encourage students to take charge of their own learning by creating their own games; create games to introduce new study topics or revise old ones, or reach out and play in real time with other schools in **180 countries** around the world.

Using technology based on research conducted by co-founder **Morten Versik** while studying at **Norwegian University of Technology and Science**, and developed in accordance with the principles of inclusive, behavioural and learning design from co-founders **Jamie Brooker** and **Johan Brand** of start-up incubator **We Are Human**, Kahoot! is suited to any educational context, from kindergarten to university, as well as business training, conferences and events. Since it was launched in 2013, Kahoot! has built up a following of **70 million monthly active users**, had more than **51 million games created**, and been **played in every country in the world**.

## The interactive classroom

For the **London Design Biennale**, **DOGA** will be transforming one of the rooms of **Somerset House** into an interactive classroom and sick child's bedroom, integrating the two technologies and incorporating text, visuals and videos to enable visitors to engage with them. Desks equipped with iPads and headphones will allow individual visitors to play Kahoot!, discover more about each of the products on show and learn more about inclusive design as an effective people-centred tool for innovation. Hosted sessions focused on Kahoot! and AV1 will give visitors hands-on opportunity to **explore the potential of these two pioneering technologies** in a close-to-reality setting.



(Left) Students using Kahoot in the classroom. (Right) Kahoot app for Android phones.

*'The installation demonstrates how two Norwegian start-ups used technology to help solve problems that they discovered through their people-centred design research. It shows how putting people's functional, personal and emotional needs at the centre of the design process can lead to creative and novel solutions that improve life. It communicates the value of empathy within technology and emotion within the digital realm. Ultimately, it draws links between binary developments and human endeavour, demonstrating the power of technology to meet people's needs in a way that is equitable, inclusive and inspiring.'*

– Onny Eikhaug, Curator, DOGA

### The Nordic Model

In recent years, **Norway** has been consistently ranked as one of the world's **happiest countries**. Although there are a number of factors that have contributed to this, Norway's government-enshrined emphasis on inclusivity has undoubtedly played a significant role.

Often referred to as '**the Nordic model**', the social governance of Norway is rooted in the principles of **equality** and **inclusion**. Beyond striving to maintain a stable public sector in tandem with productive and profitable private enterprise, this approach necessarily nurtures **inclusive-design thinking**. The idea that all people should have the same opportunities to participate in society – including access to the physical environment, information, communication and education – requires that those people are placed at the centre of all design and development projects with public impact.

Curator **Onny Eikhaug** has selected **No Isolation** and **Kahoot!** for this exhibition as two of the most innovative Norwegian enterprises that reflect the social ideals of Norway and embody the design philosophy it embraces. Although very different in function and purpose, they are both enormously successful real-world expressions of the Nordic model – and powerful testaments to the social value of inclusive design thinking.





## Notes for Editors

Learning and play for all, through inclusive design and technology  
Somerset House, Strand, London WC2R 1LA  
4–23 September 2018

**Press preview** Monday 3 September 2018, 9am to 12.30pm  
Talk: Friday 21 September 2018

### About curator Onny Eikhaug

Onny Eikhaug is a Programme Leader at DOGA, responsible for pioneering and developing activities in the field of people-centric inclusive design. She also spearheads the centre's government-funded Innovation for All programme, promoting inclusive design as an effective strategy for innovation to businesses and the public sector. She holds an MBA from the Norwegian School of Economics and Business Administration. Onny was recently honoured with the Inclusive Design Champion Award at the Include conference 2015 at the Royal College of Art in London.

### About [DOGA](#)

Situated in central Oslo, Design and Architecture Norway (aka DOGA) was formed from the merging of the Foundation for Design and Architecture and the Norwegian Design Council. The centre's mission is to explore the intersection of design and architecture and promote the understanding, knowledge and use of the twin disciplines from a commercial and social perspective. It is actively involved in a host of international initiatives intended to explore ways of using design and architecture to develop products, services and environments.

### About [No Isolation](#)

Founded in 2015, No Isolation has so far helped more than 450 children and young adults across Europe. Partnered with the Norwegian Cancer Society, the University of Oslo, Swedish-Finnish telecom company Telia, and several high-profile Norwegian hospitals, No Isolation received its Seal of Excellence from the European Commission in 2016. The company currently has a presence and product, in Norway, Sweden, the Netherlands, Denmark, Switzerland, Belgium, Germany, France and the UK.

### About [Kahoot!](#)

Kahoot! is on a mission to improve education globally, by unlocking the magic of learning for everyone. Founded in 2012 by Morten Versvik and Johan Brandand Jamie Brooker or We Are Human, Kahoot! began as a joint project with the Norwegian University of Technology and Science, developed with the support of Professor Alf Inge Wang, and Norwegian entrepreneur Åsmund Furuseth. They used behavioural and inclusive design methodologies to help bring disengaged students from the back of the class to the front. This learner-centric approach was designed to unlock the 'learner in us all', focusing on the human behaviours and motivations to learn rather than generalising users by titles or roles. This has led to a nuanced learning experience suited to different types of learners in different contexts. The company now has 70 million monthly active users and 50 employees, with offices in Oslo (Norway), London (UK), Austin and Palo Alto (USA).

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