

ABBA

Exploring the future of immersive digital performance



Overview

This case study offers an overview of the *Abba Voyage* immersive music show, which uses next-generation digital production and live concert visuals to recreate the band as they were in the 1970s. *Voyage* opened on 27 May 2022 in east London, with an initial production run through to December 2022.

This technically ambitious production took more than four years to develop and was originally scheduled to launch in 2019, but was delayed due to the pandemic and related restrictions.

The show blends reworked Abba tracks with a fully immersive performance that sees the band recreated as digital 'ABBAstars' of themselves. *Voyage* is staged within a purpose-built 3,000-capacity venue at the Queen Elizabeth Olympic Village in east London as part of an ongoing programme to regenerate Stratford and Hackney Wick.

Voyage is Abba's first studio album since *The Visitors*, which was released in 1981, reaching number one in the music charts of the UK, Sweden and other countries, nearly five decades after the band's debut album *Ring Ring* (1973).



Voyage trailer

(Click to play)



Provisional trailer (November 2021) showing early stage work in progress, ABBA tar renders and staging.

Team structure

The creative and production team required for the development of *Voyage* drew upon extensive experience from across the music industry.

- Ludvig Andersson, son of Abba's Benny Andersson, took the role of lead producer on the project.
- Director Baillie Walsh, who has previously created music videos for artists including Kylie Minogue, Massive Attack and Bruce Springsteen, was overall creative lead.
- Director Johan Renck and producer Svana Gisla provided creative and production support.
- Dancer and choreographer Wayne McGregor was responsible for all show choreography.
- Little Boots and James Righton of The Klaxons oversaw the live music component, which also involves a 10-piece band performing at each show.
- B. Åckerlund undertook virtual fashion styling and design with pieces produced by Dolce & Gabbana.



Promotional image of Abba Voyage Live Show

Technical process

Initial production of the show took place in Sweden with a technical crew of approximately 200 people. The first stage involved full body and facial motion capture filming with all four members of the group over a five-week period. A rig of 160 cameras was deployed to capture spatial and movement data as the group performed live to the tracks that would go on to comprise the set list for *Voyage*.

This motion capture data was provided to a team at Industrial Light and Magic (ILM) in the United States who were responsible for creating digital avatars, nicknamed ABBAatars, of the group. The process involved blending motion data of the group with that of stand-in performers who provided additional dance and stage blocking movement to enable a continuous 96-minute performance.

Using images and video footage of the band as they were in the 1970s, the team at ILM tracked the natural facial expressions of the present-day artists onto 3D renders of their younger selves.

The cutting-edge complexity of these processes is borne out by the following statistics. More than 1,000 creative technicians globally took a combined total of around 1 billion computing hours to achieve the final performance effect — a digital recreation of Abba in their prime.



Technical process breakdown

(Click to play)



Costumes

Alongside their digital ABBAatars, each member of the group required a complete wardrobe of virtual costumes to wear across the performance.

Stylist B. Åkerlund, who has previously worked with artists such as Madonna and Lady Gaga, worked in collaboration with Dolce & Gabbana to create custom looks.

Physical pieces were created and then scanned by the team at ILM as the basis for creating digital representations of the designs. Particular care was given to modernising the look. The intention was to create costumes that the band might wear if they were performing live today, as opposed to rebuilding iconic looks from past Abba performances.

Location

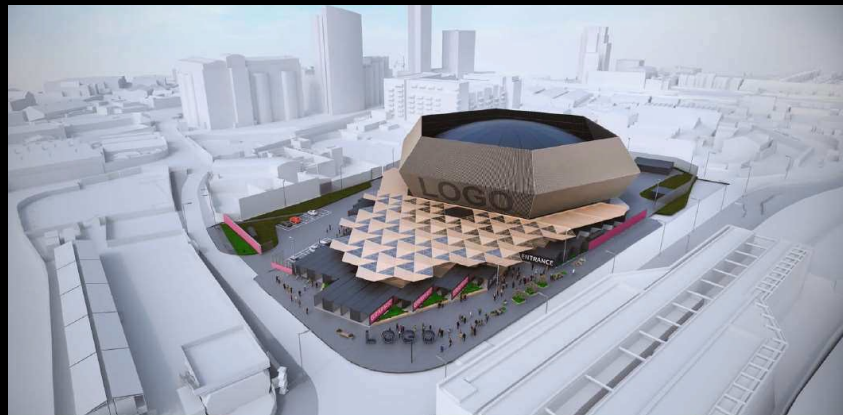
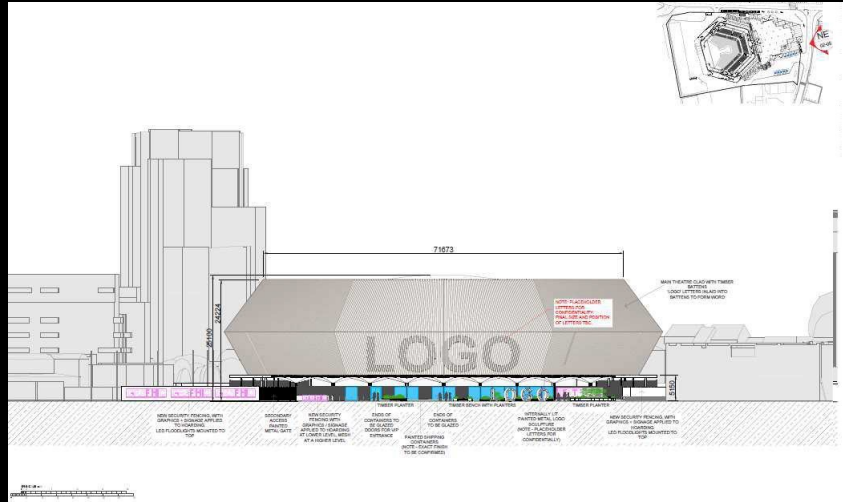
Given the challenge of the project's technical deployment and specific need for highly complex lighting rigs for both stage and audience areas, there were no existing venues in London that would have been suitable for the show.

A custom-built Abba Arena was constructed in east London by the British entertainment architectural firm [Stufish](#). The company has previously created live stage shows for artists including U2 and Beyoncé, as well as producing live award shows for the British Fashion Council and Global Citizen.

The brief was to create a building with sustainability at its core. From material choices and construction techniques to energy and water consumption and impact on local traffic flow, the project looked to minimise negative environmental and social footprint.

The final venue design encompasses these objectives through the use of repurposed and recyclable timber materials that can be flat-packed at the end of the run in London, to be transported to any future international location, extending the potential lifespan of the show.

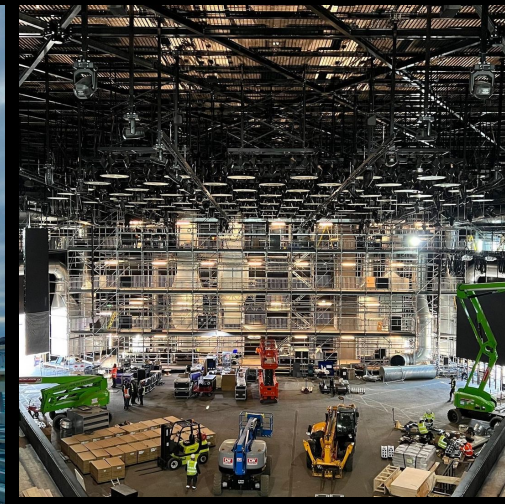
Bespoke venue development in east London




Architectural plans and render



Structural development



Interior build



160 motion capture cameras
5 weeks filming
1 billion computing hours
1,000 digital artists
96 minutes show duration