

CoSTAR Live Lab Facilities

CoSTAR Live Lab is one of five labs that make up the UK's Convergent Screen Technologies And performance in Realtime (CoSTAR) network, founded to stimulate the creative economy. Working with industry, Live Lab aims to pioneer the future of live entertainment. We offer research support, access to our facilities at Production Park and funding for research projects through specific calls. The Lab is a collaboration between the University of York and Production Park, with additional partners including TAIT, Wakefield Council, York and North Yorkshire Combined Authority, and significant co-investment from companies such as Vicon and L-Acoustics. CoSTAR is a £75.6 million investment by the UKRI Infrastructure Fund, delivered by the Arts and Humanities Research Council (AHRC).



Our Spaces

CoSTAR Live Lab is located on Production Park, near Wakefield. The Lab is divided into four main research spaces.



UX Lab: Our reconfigurable space that can transform into an office, living room, workshop, or custom UX study setup — designed to provide the facilities you need on demand.



Future Venues Stage: Our model performance space, designed for testing live technologies and workflows in a way that perfectly balances experimental control with ecological validity.



Network Labs A & B: Two identical acoustically treated sound-isolated labs. Designed for simulating connected spaces whilst also functioning as high-spec studios for immersive production.

Our Technologies

The Lab is filled with state of the art technologies, to democratise access for companies and creatives.



Motion Capture: Motion Capture: Marker-based motion tracking system with 24 x Vicon Vero V2.2 cameras, configurable across lab spaces. Markerless motion tracking system with 10 Vicon Vanguard and 6 Vicon Vero 1.3 cameras, above the performance area in the Future Venues Stage. Full Vicon software suite for both solutions. Stage lighting and haze allow us to test these systems to their ecological limits.



Spatial Audio: State-of-the-art L-Acoustics L-ISA 28-channel hemispherical sound reinforcement system, optimised for Ambisonics servicing the Future Venues Stage. Sixteen channel systems, deployed with Genelec loudspeakers, in both Networks Labs and the UX Lab. A specialised ten channel microphone array, for realistic sound capture and active acoustics.



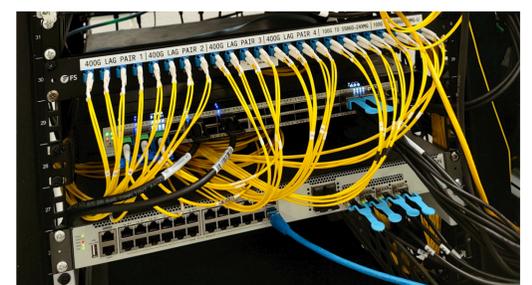
Virtual Production: A commercial LED volume run by XPLOR is next to the Lab, which we collaboratively use for R&D activities. The volume comprises over 260 ROE LED screens.



Biosignal Acquisition: Comprehensive suite of monitoring solutions for behavioural and psychophysiological research. Hardware provisions include 20 x Polar H10 units, 20 x Shimmer devices, and two Sony ZV-E10 II cameras for video capture. Computer vision solutions such as OpenFace 2 and PyVHR are used to enable contactless insights.



High-Performance Computing: 2 x state-of-the-art 3XS custom rack-mount workstations featuring dual NVIDIA RTX PRO 6000 graphics and AMD Threadripper processors. 4 x versatile tower workstations, optimised for motion tracking and game engine workflows. 4 x high-specification laptops, with RTX 5070 Ti graphics processors.



Networking & Connectivity: Private 5G network connected to a 400Gbit fiber backhaul, which also integrates our High Performance Compute Machines. Dante network for connecting all audio devices in the Lab. SDI video cabling and Cat6 ethernet breakout switches in both Network Labs.

Research & Technical Staff

UoY: Alan Pedrassoli Chitayat, Jacob Cooper, Helena Daffern, Dar'ya Guarnera, Jack Hardwick, Jonathan Hook, Gavin Kearney (PI), Michael McLoughlin, Damian Murphy, Joseph Williams.

XPLOR: Phil Adlam, David Pauliuc, Peter Nye, Tyler Palmer, Ben Ingledew, Ted Harcombe.