

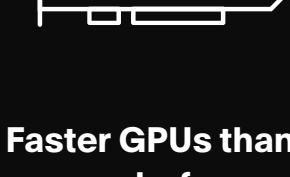
# xR- a technical guide for the new era of live production

Extended Reality (xR) combines Augmented, Mixed and Virtual Reality workflows to enable the layering of virtual content on top of the real world in-camera to create a fully immersive live production.

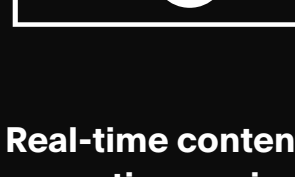
xR sits at the heart of three fast moving technology trends, maximising on each to accelerate its spread into the future:



**Finer pitch LED Screens**



**Faster GPUs than ever before**



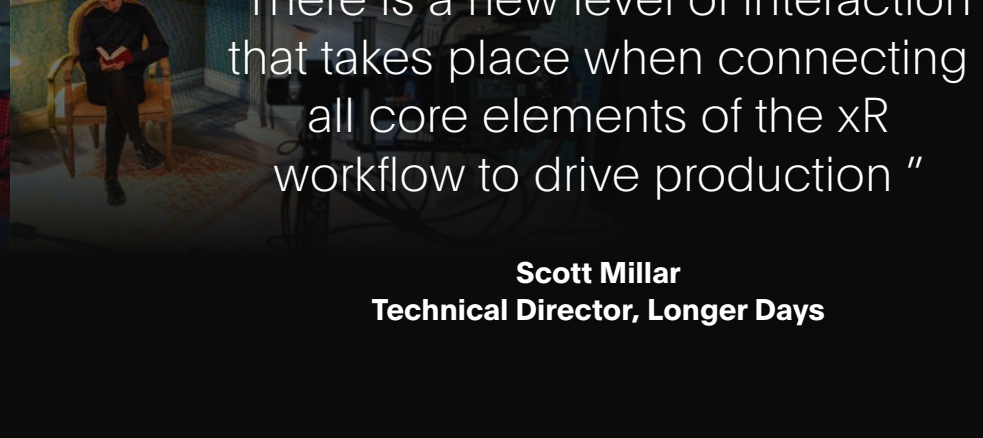
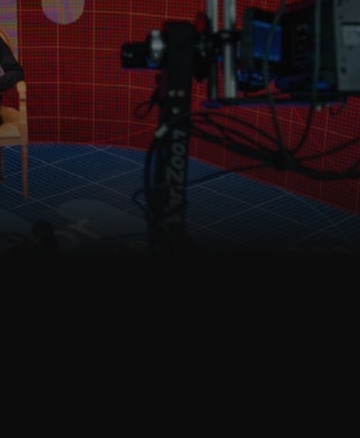
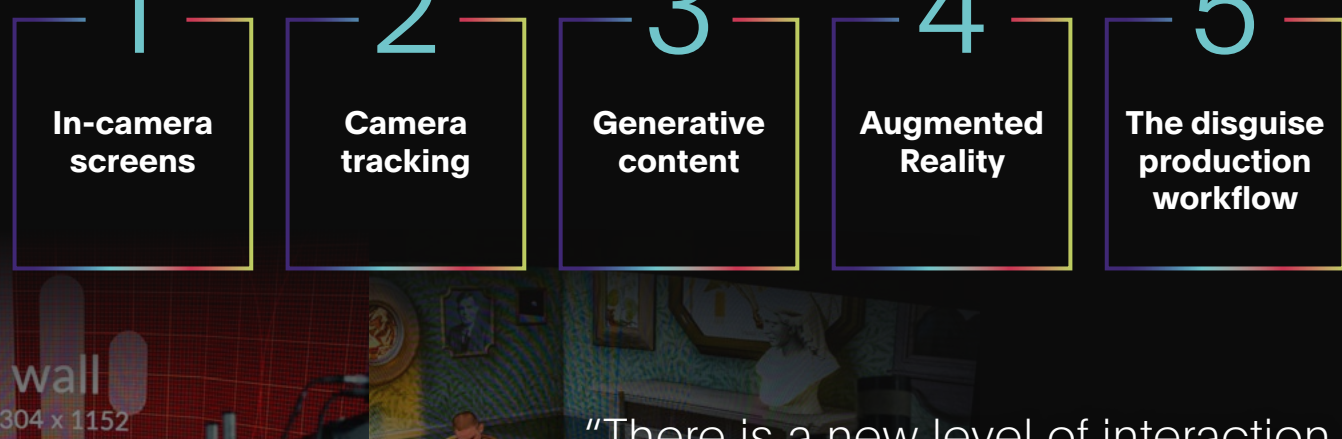
**Real-time content generation engines**

## A new way of working

The new era of live production has opened up new opportunities in the way of virtual production and remote collaboration. disguise xR enables non-essential contact among teams, mitigating the risks posed by traditional approaches to filming immersive visuals which would involve high-level, real-time in-camera shoots, green screen and other VFX.

## The technology that makes xR possible

xR brings together five key production elements which when combined, can deliver more engaging and interactive experiences on screen than ever before:



“There is a new level of interaction that takes place when connecting all core elements of the xR workflow to drive production ”

**Scott Millar**  
Technical Director, Longer Days

## Discover the 5 core elements of xR



### In-camera LED screens

In-camera screens provide a quicker, higher-quality alternative to green screens post-production, allowing subjects in front of them to see and interact with the CG content around them more naturally. As all content is generative, more creative visual decisions can be made on set in real time.

### Camera-tracking technology

Camera tracking gives producers the ability to show an environment from the perspective of the camera, making it look like it's filming a 3D space. Multiple cameras can be tracked and calibrated at the same time for a more seamless transition between shots.



### Generative content

Generative content lets you render the virtual environment on-screen from the perspective of the camera. As the camera moves, the projected perspective moves with it creating a false sense of depth on screen, also enabling an extension of the set beyond the space of the LED screens.

### Augmented Reality

AR enables the layering of CG content across the real world on-camera. The virtual content is sent to the outgoing broadcast feed of the camera so viewers can see the AR elements appear on the LED screen. AR can also enable a full 360° view of the 3D world as the camera rotates.



### The disguise production workflow

Tying all previous features together is the disguise xR workflow, consisting of the disguise 3D pre-visualisation software and video mapping server. The workflow provides one single environment to receive and control real-time generative content and map it onto the LED surface.

## Why disguise?

- One centralised system**  
 The disguise workflow combines real and virtual world elements in one system, removing the need for additional production equipment.
- Spatial and colour calibration**  
 disguise automatically aligns the 3D world on camera with the LED stage and will also calibrate the colours on stage with those in the set extension to create a seamless canvas.
- Render engine-agnostic**  
 disguise integrates with industry-leading generative content engines Notch, Unity and Unreal, to unlock opportunities for collaboration with different visual effects producers across all 3 engines.
- Total system synchronisation**  
 With disguise you can synchronise multiple render engines from a single timeline. With latency compensation built into the workflow you can ensure minimal latencies to deliver stunning experiences.
- Trusted by the world's biggest and best**  
 Born out of a pioneering new technology to deliver show-stopping live visuals, disguise has been trusted by the world's leading brands and artists to boost awareness and engagement, drive demand and grow loyalty for over 20 years.

## An xR powered virtual conference

disguise xR has helped deliver the 2020 virtual edition of the 'Sapphire Now' conference, hosted by worldwide enterprise application software company SAP. The customised xR setup enabled presenters to travel from home to inside the factory to various suppliers seamlessly and in the blink of an eye whilst filming from a single location.

xR has also already revolutionised production in various industries including **film, broadcast, live music, education and esports.**

*Project credits: Purple, Live Legends, Faber AV*



## Discover the ultimate storytelling tool, with disguise xR

→ **Get the latest xR insights, case studies and technology developments from disguise**  
[disguise.one/xR](https://disguise.one/xR)

→ **Book a demo with a technical solution specialist**  
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