infinityset

InfinitySet is Brainstorm's flagship real-time virtual production, AR and XR solution, built for broadcast and studio workflows.

It combines hyper realistic rendering, data-driven graphics and flexible workflows so you can deliver richer shows, shorten production cycles and unlock new revenue from virtual and immersive content.

BOOK A DEMO

Make your dreams come true... virtually!

InfinitySet empowers broadcasters and studios to produce stunning virtual, AR and XR content in real time. Combining Unreal Engine realism with Brainstorm's own engine and broadcast expertise, it delivers cinematic visuals, faster workflows, and cost-effective scalability from PTZ cameras setups to large LED volumes.

Why broadcasters and studios choose InfinitySet?

Broadcast-quality & cinematic visuals
Native Unreal Engine support and Brainstorm's Combined Render Engine deliver high-fidelity PBR/HDR rendering and real-time ray tracing while preserving broadcast control and data workflows.

Flexible camera workflows
Patented TrackFree™ technology lets you mix tracked, fixed and PTZ cameras in a single production — reduce installation time and reuse existing studio kit.

Real-time finishing, on-air quality
Use InfinitySet as a live finishing hub to deliver your virtual content straight to air or output layered elements for downstream finishing — saving time and post production costs.

Scale from PTZ to LED volumes
Choose InfinitySet Lite for fast PTZ-based deployments or scale up to full LED volumes and multi-camera XR productions or large green/blue screen cycloramas. Use chroma and LED simultaneously, even from a single workstation.

Optimized software and hardware
Use several cameras with a single workstation, and create simultaneous renders with total ease for flexible operation. Or a render per camera for the most advanced productions.

InfinitySet Key Features

Unreal Engine native
InfinitySet is Unreal Engine-native, and controls UE blueprints, objects and properties from its own interface.

Combined Render Engine
Use Brainstorm's eStudio renderer, Unreal Engine, gaussian splatters, PBR or realtime ray tracing simultaneously on the same workstation for maximum flexibility. Add 16-bit float output, tone mapping and real-time 3D LUTs for consistent LED/plate matching.

TrackFree™ camera freedom
tracked, trackless, fixed or mixed-camera setups supported. Includes TeleTransporter, 3D Presenter, Virtual Shadows, Virtual Camera Detaching and MagicWindows.

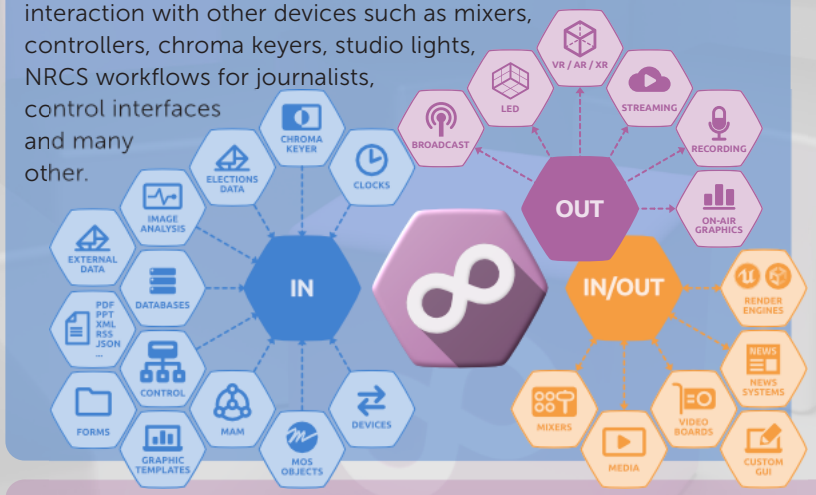
Real-time AR objects & lighting
Brainstorm or Unreal AR elements that reflect scene lighting and maintain physical properties (reflections, refractive behavior) for seamless integration.

Dual-GPU Optimized
Split rendering workloads to maximize performance and reduce total system cost.

Broad ecosystem support
Provide integrations and drivers for tracking systems, mixers, keyers, capture cards and NRCS.

Virtual Production and beyond

Infinity Set sits perfectly in any broadcast environment, acting like a hub for a number of technologies, from camera tracking to interaction with other devices such as mixers, controllers, chroma keyers, studio lights, NRCS workflows for journalists, control interfaces and many other.



Real-time Post

What if we are able to create, in real-time, virtual scenes that can't be distinguished from real ones? Or virtually re-create a scene that an be repeated take after take, until it is perfect? That is the beauty of virtual production, and InfinitySet is the tool of choice regardless using LED volumes or chroma sets.InfinitySet can work both as a preview hub and a finishing suite, allowing for substantial savings in the production and post production costs, ensuring the shots are adjusted (chroma key, tracking, background plates, etc) prior to enter in post-production. InfinitySet allows for creating virtual scenes in real-time that can be perfectly assimilated with real ones, with a quality that permits to output the composite scene to on-air or save the elements as layers for finishing.

Dedicated LED / XR toolset

As **LED-based Virtual Production** and **XR** are increasingly common, Brainstorm has developed specific features for easier, faster and more integrated creation of **immersive XR content** on large LED volumes.

These features simplify and accelerate XR content, so InfinitySet is the 'go to' solution when creating not only standard LED-based XR or backgrounds for film and drama, but also **Immersive Mixed Reality**, **in-context AR**, **XR Set extensions**, or **multi-camera** setups such as **Ghostframe** or **Frame Remapping**. **Tone mapping** and **real-time 3D LUTs** easily match the colors of the set extension, and tools like **XR Config** or **CalibMate** vastly simplify the process of setting up the LED volume.

InfinitySet can produce all the above (backgrounds, XR, AR, set extension...) **from a single workstation**.

Hyper realistic image rendering

The **integration** between the real and virtual objects and environments is essential, so the next step in virtual set production and Augmented Reality applications is to increase the realism of the content. This involves high quality rendering and the perfect integration between the different elements of the scene to provide a sense of realism.

Along with advanced rendering features such as **real-time ray tracing**, **PBR** or **HDR**, Brainstorm fully supports **Unreal Engine**, providing photorealistic scenes in any resolution, and other rendering technologies like **Gaussian Splatters.**

PBR AND HDR

InfinitySet fully supports PBR shaders as materials, which can also be imported from external shader and material editors like Substance. InfinitySet can render HDR outputs with **wide-gamut** pictures, rendering floating 16 bit per channel/ component, supporting for P2020 gamma correction output. This allows for **post-rendering exposure control** and **extended-range filtering**.

REAL-TIME RAY TRACING

InfinitySet takes full advantage of the latest hardware developments found in the latest NVIDIA GPU technology and its own Dual GPU capabilities. With these technologies InfinitySet can deliver **real-time ray tracing**, which provides a much more accurate rendering, especially with complex light conditions.

Unreal... or not

InfinitySet works natively with Unreal Engine 5, so it can achieve anything Unreal Engine provides, with the added value of the multitude of benefits of including more than 30 years of Brainstorm's experience in broadcast graphics and film, virtual set and augmented reality production. This experience includes tools for data management, playout workflows, virtual camera detach, multiple simultaneous renders and much more, all these added benefits of using the Brainstorm environment.

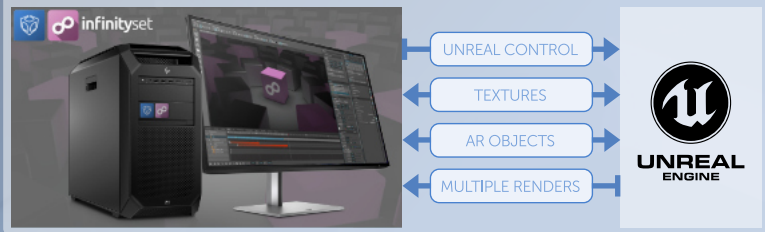
InfinitySet can utilize eStudio - Brainstorm's own render engine-, Unreal Engine, or combine both in the same production. It's up to each user to decide which render engine works best in any situation!

UNREAL CONTROL

InfinitySet also adds a new control layer, a dedicated, user-friendly control interface. The Unreal Control can see any blueprints, objects and properties in the UE project, and control them directly from InfinitySet, which results in a new, unique and revolutionary workflow that does not require to previously prepare blueprints for every action in UE.

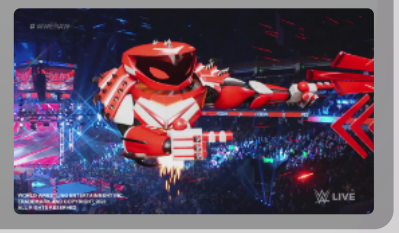
Unreal Control works in both directions, so it can also transfer any input to UE to use it as a texture within a UE object, like live video feeds, including chroma keyed talents, movies and playlists, still images, Aston projects with StormLogic and of course regular textures. This also enables to easily include data-driven graphics in our projects.

INFINITYSET AND UNREAL ENGINE



Unreal AR

InfinitySet integrates UE objects, pixel and color accurately, within the Brainstorm environment and vice-versa, so UE objects maintain their properties (reflectivity, lighting, refractions...) in the scene. InfinitySet provides additional support for video hardware devices, including support and driver updates for video boards and to virtually any tracking device, mixers, cameras, automation, capture devices and many more.



Dual GPU Support

InfinitySet is compatible with Dual GPU workstations, so it can split the rendering requirements between the two GPUs. Sharing rendering allows for using one of the GPUs for rendering the Brainstorm engine while the second one can be fully dedicated to the higher Unreal Engine requirements, maximizing performance and improving overall scene quality on performance-sensitive XR environments.

Dual GPU opens the door to reduce hardware costs, as a single workstation can do the work normally assigned to two, while simplifying workflows and scene matching.

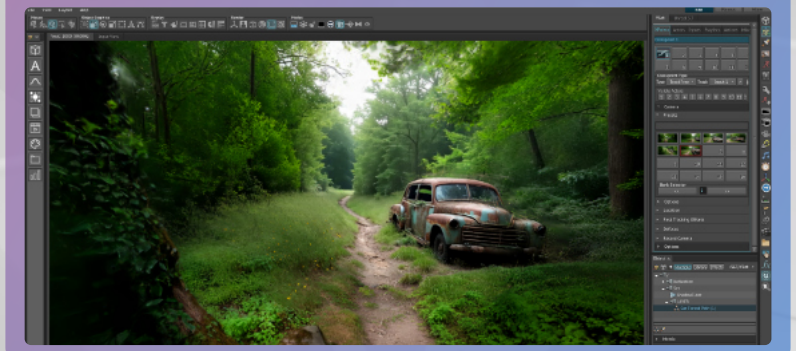
New on InfinitySet 7

Brainstorm Suite 7 is the perfect companion for your virtual content creation. Whether it is virtual production, real-time graphics, AR or XR, anything you imagine can be created with Brainstorm... virtually!

Suite 7 introduces enhanced hardware and software efficiency, further improving the Dual GPU support. This capability significantly boosts performance within a single license and workstation while simplifying system architecture. The new workflow enables InfinitySet to deliver faster interoperability between Brainstorm's eStudio render engine and Unreal Engine, supporting three camera inputs that can be composited in Unreal and output simultaneously from a single workstation. The system can also generate simultaneous LED wall rendering, set extension, and AR graphics from a single render node, maximizing efficiency and reducing infrastructure requirements.

Gaussian splats

3D Gaussian Splatting is a cutting-edge, real-time rendering technique that creates highly detailed 3D scenes from 2D photos. **Gaussian Splats are now native** to the eStudio render engine, which allows for **photo-realistic rendering** with **less performance requirements**. By optimizing millions of tiny, colored, and transparent 3D Gaussians (ellipsoids), it achieves photorealistic quality with high-frame-rate rendering, ideal for VR/AR.



AI tools

Suite 7 incorporates **AI and machine learning** to streamline and facilitate processes. Using AI we bring in a low level technique to integrate algorithms and trained models to interact with video and audio. As an example, InfinitySet can infer the talent's shape and movement from a video source, facilitating processes such as virtual shadows, AR, etc. Also, voice commands have been implemented to help operations even while in production.

Tracking&VideoIO

IMPROVED CALIBRATION TOOLS

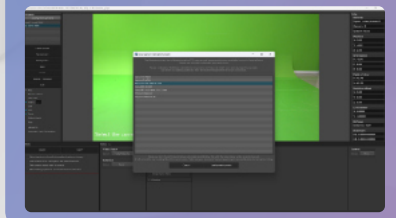
A great functionality to **quickly calibrate PTZ and locked off cameras** in a matter of seconds. It removes the time and complexity a user had to deal with when moving a camera from position a to position b in the studio and there's no positional tracking.

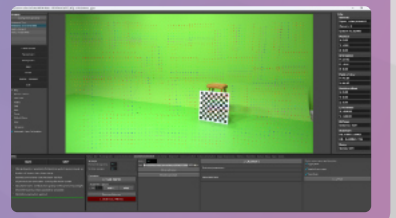
PRE-MADE PTZ CALIBRATIONS

InfinitySet includes **presets** to load up full camera calibrations for Canon, Panasonic and Sony PTZ cameras. This reduces setup time and opens the door to users that might not have lens calibration knowledge to start using cameras easily.

OPENTRACK IO COMPATIBILITY

OpenTrackIO is a new, non-proprietary camera tracking protocol that is becoming a standard. More sophisticated than Free-D, it includes fields for the **final FOV** of the lens, and can manage **nodal point displacement or distortion**.





And much more!

- Improved UE Compositor
- Support for UE 5.7
- Compatibility with DLSS 4
- ARTNET Support
- StreamDeck & Bitfocus companion control
- LED output, Set Extension and AR in only one node
- New layers options in stacks: borders, animated presets, on-viewport edition
- 360º outputs for VR
- New software mixer interface
- Multiviewer support

Multirender using one workstation

Flexible workflows and tight budgets are increasingly common in today's production landscape, and being able to respond to the most complex requirements quickly and efficiently is critical.

As a side effect, virtual production also contributes to the industry's sustainability, by reducing the carbon footprint with the reduced travel costs, construction or less computer power and requirements for post-production.

InfinitySet's raw processing power and optimized software performance make a difference when users need to handle both LED and chroma sets, multiple camera inputs, and real-time AR graphics. Key features like extra-render, 3D LUT-based set extensions, mixing real and virtual scenery, and immersive talent tele-transport can be achieved using just one workstation, even working with 4K UHD, which emphasizes performance, scalability, and ease of use.

Turnkey package

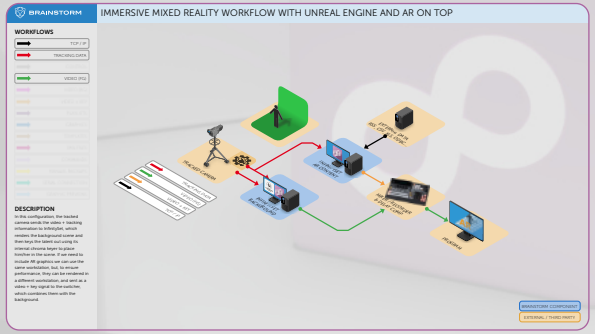
InfinitySet is delivered as a complete, fully configured turnkey system ready to use, fully and immediately integrable in any broadcaster's workflow. Using standard broadcast plus complete IT connectivity, all Brainstorm products are prepared to work at its best since day one.

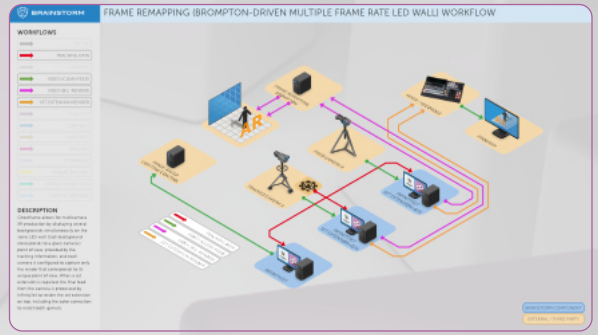
The InfinitySet family

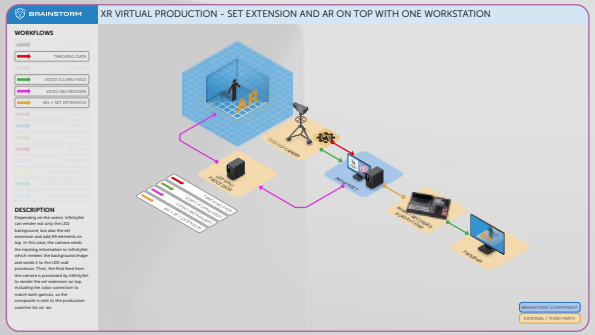
InfinitySet is an advanced and flexible solution for virtual production, XR and AR, that provides all the tools for creating fantastic virtual content.

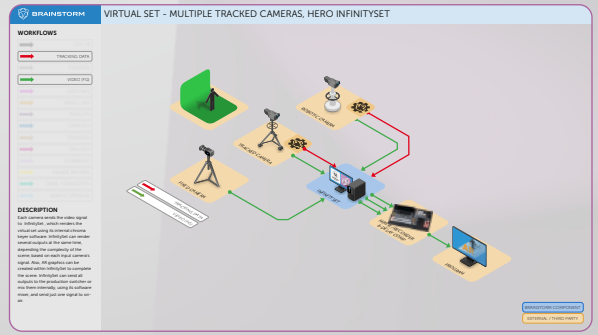
InfinitySet Lite has been developed to work with PTZ camera environments, removing the complex set up and calibration of typical tracking installations.

InfinitySet OnDemand is a web-based application that remotely controls one or several InfinitySets' camera presets, actions, transitions, keying or graphics.









Get Started!

Contact Brainstorm or visit our website to evaluate which InfinitySet configuration fits your studio and budget. We'll help you choose a configuration with the right balance of cameras, GPUs and Unreal integration for your productions.

contact@brainstorm3d.com
www.brainstorm.tv
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