

DATASHEET

Transform your visions into engaging content

Brainstorm's award-winning InfinitySet dramatically enhances production value to capture and retain new and larger audiences, while greatly reducing production costs and opening up new sources of revenue.

InfinitySet is the ultimate virtual set, AR, XR and real-time 3D graphics solution, not just for showcasing a number of extremely advanced technologies, but also for the flexibility it gives to operators and producers alike.

Forget all you know about virtual studios. Anything can be accomplished with InfinitySet, from simple **virtual sets** with fixed cameras to advanced and complex productions involving tracked cameras, external feeds with **embedded tracking** data and **data-driven graphics** interacting in real-time with the set and the talents. InfinitySet also features industry-first technologies such as selective defocus and bokeh, 3D Presenter, volumetric lighting and more.

InfinitySet supports most of the common 3D formats to integrate external objects into the virtual set. InfinitySet integrates

Aston graphics, including external data sources for data-driven graphics such as bars, pies, charts, statistics and many more, along with StormLogic interactions. These graphics can also be animated within InfinitySet to create **complete AR & XR productions**.

Fully compatible with **Unreal Engine**, and with advanced rendering capabilities such as real-time ray tracing, PBR, or HDR, InfinitySet's Combined

Render Engine allows Epic Games' Unreal Engine and Brainstorm's own eStudio engine to **working together in a single workstation**.

VIRTUAL PRODUCTION	AR / VR / XR	MOTION GRAPHICS
NEWS & SPORTS	ELECTIONS	LIVE EVENTS
PRESENTATIONS	ENTERTAINMENT	CORPORATE

InfinitySet is not just the most advanced **virtual set and augmented/mixed reality solution**, but it integrates perfectly in any broadcast **workflow**. With Suite 5, InfinitySet introduces advanced **XR workflows** using large LED volumes, also with **mixed production** including chroma sets and live, in-context AR.

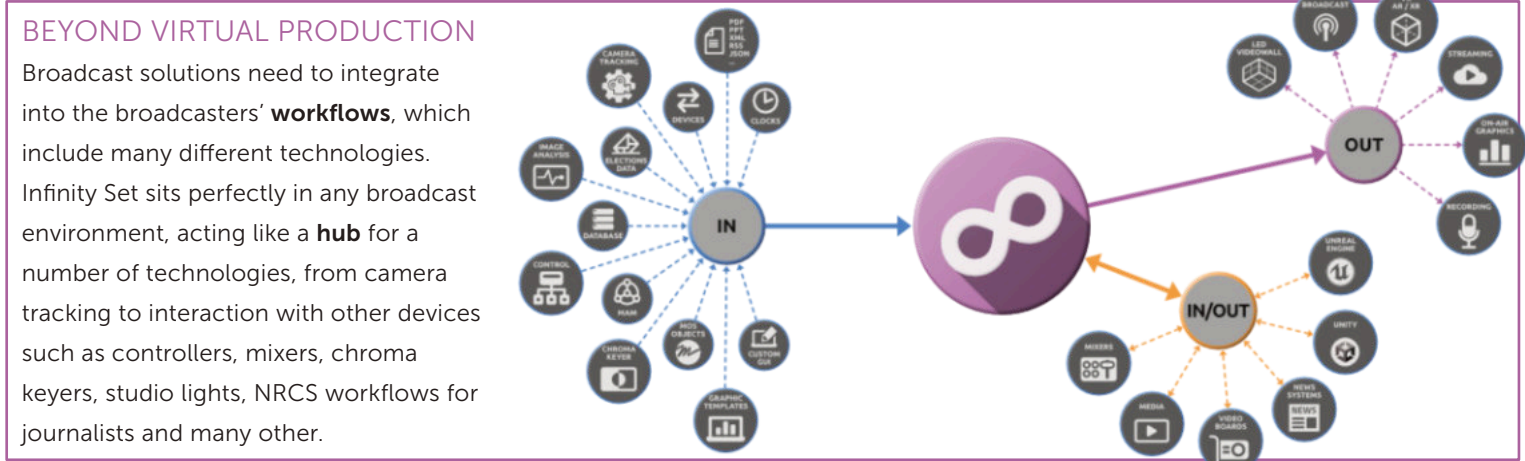
Fully compatible with **Unreal Engine**, its unique Unreal Control module can manage UE's blueprints, objects and properties directly from InfinitySet's interface. On top of that, InfinitySet opens the door to **data management**, playout workflows, virtual camera detach, multiple simultaneous renders and much more.

VIRTUAL PRODUCTION, SIMPLER

As **LED-based Virtual Production** and XR are increasingly common, Brainstorm has developed new features that allow 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** in LED walls, **XR Set extensions, multi-camera** setups such as **Ghostframe** and much more. **Tone mapping** and **real-time 3D LUTs** allow for 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.



REAL-TIME POSTPRODUCTION

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 can be repeated take after take, until it is perfect? That is the beauty of virtual production, and InfinitySet is the tool of choice regardless we need to use 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, camera movements, 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 if post-

production, grading or additional VFX are required for finishing.

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 gaming



engines like **Unreal Engine**, providing photorealistic scenes in any resolution.

PBR AND HDR

InfinitySet fully supports **PBR shaders** as materials, which can also be imported from external shader editing software like Substance and other material editors.

HDR allows for rendering **wide-gamut pictures**. InfinitySet can render 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

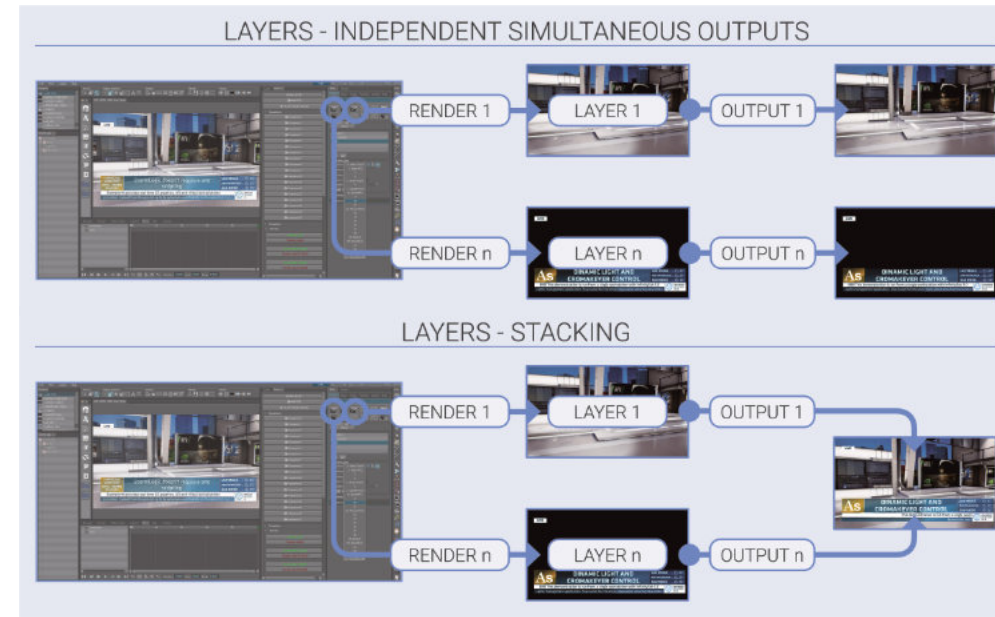
InfinitySet takes full advantage of the latest hardware developments found in the latest NVIDIA GPU technology. With this technology InfinitySet can deliver real-time ray tracing, which provides a much more accurate rendering, especially with complex light conditions.



LAYERS

InfinitySet Layers allow for creating **simultaneous multiple renders** using a single workstation. Using Layers, InfinitySet can now deliver several video outputs from a single instance or combine several crosspoints in a **single video output** (Stack).

The **Stack** feature also allows the compositing of a single output by **combining different renders**. The canvas can be of any size (depending on the hardware and outputs) and aspect ratio, so users can compose **any type of output** for filling in large LED walls, real or virtual, even with independent Aston graphics.



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, and other benefits on performance-sensitive XR environments.

On top of that, 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.

INFINITYSET ONDEMAND

InfinitySet OnDemand is an independent, **HTML5-based application** designed to control the playout mode of one or several InfinitySets at once.

Developed with flexibility in mind, it can sit on the InfinitySet workstation or alternatively in a remote computer, separated from the workstations, allowing for the **remote control** of virtual sets, camera presets,

actions, transitions, keying or graphics directly from its own GUI. The Web Control interface can be accessed using a standard **web browser**, and provides as such an easy-to-use interface, not only from desktop computers, but also from a **tablet**.



MIXER CROSSPOINT

The new Mixer Crosspoint effectively **builds a software mixer on each crosspoint** in InfinitySet, allowing for having a preview and program mode inside each crosspoint. This means that any input can be assigned to any output and be triggered at any time, even using an intuitive drag-and-drop operation.

PRESENTATION MODULE

This module builds into InfinitySet an **additional interface**, based on Edison, which simplifies the **setup and display** of the different **assets** that integrate a presentation or show: slides, pictures, movies, PDF or PPT presentations, 3D objects and many more, including Aston projects and forms. This module also allows to **directly control InfinitySet** by using a clicker or similar device to trigger the different slides, actions or objects, providing **total control of the show**.

TRACKFREE™

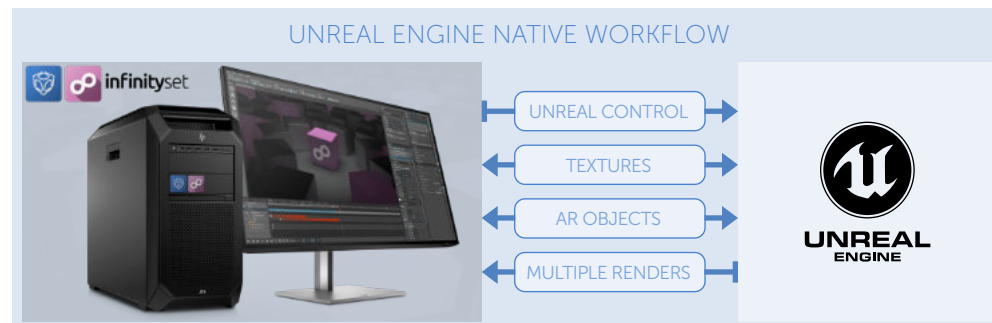
TrackFree™ is a **patented** camera-tracking independent technology that provides just what its name claims: the total **freedom** for operators to use any tracking system, trackless or fixed cameras, or a **combination** of these at the same time. TrackFree™ provides features such as:

- TeleTransporter
- 3D Presenter
- Real Set Virtualization
- Virtual shadows and selective defocus
- Virtual Camera detaching
- MagicWindows
- Dynamic Light Control
- Differential Key and UE Keyer



UNREAL ENGINE

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, including data management, playout workflows, virtual camera detach, multiple simultaneous renders and much more, all these added benefits of using the Brainstorm environment. InfinitySet can use Brainstorm's own eStudio render engine, Unreal Engine as the only render engine or combine both. Users decide which render engine to use at anytime!



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.

AR OBJECTS WITH UNREAL

InfinitySet can **integrate UE objects** directly, pixel and color accurate, within the Brainstorm environment and vice-versa, so any object created in UE can be exposed like any other object, perfectly integrated. This feature also allows for the AR objects to **reflect the environment** while maintaining their properties (reflectivity, lighting, refractions...), allowing for the seamless integration of all the components of 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.