BRAINSTORM

www.brainstorm3d.com

contact@brainstorm3d.com

@brainstorm3d

brainstorm3d

ASTON

DESIGNERS' CHOICE FOR REAL-TIME 2D / 3D MOTION GRAPHICS

Aston is a comprehensive graphics creation system built to be the centre of any design department and from there, through to CG and playout, fulfilling all the requirements of services providers, broadcasters and design houses.

With the development of the Aston family of products, Brainstorm takes full advantage of all the power of its world-renown eStudio render engine which is the core within Aston, enabling it to provide the latest in high-end, visually stunning and ultra-fast real-time graphics.

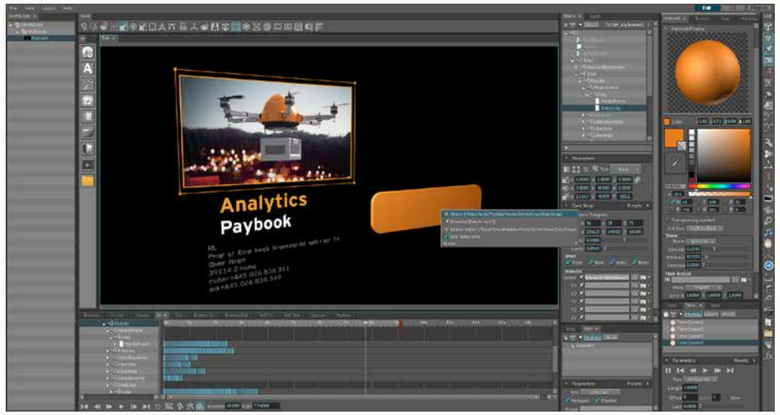
With such a powerful and flexible toolset, designers are able to create and build highly sophisticated graphics with unmatchable speed, thanks to Aston's ample capabilities combined with its intuitive and easy-to-use user interface.

Aston is Brainstorm's 2D/3D motion graphics creation solution, CG and playout. It features advanced tools and object properties such as high-end 2D and 3D textures and materials, shaders, bump mapping, advanced 3D shadows or PBR rendering, to name just a few.

From stills, lower-thirds or OTS to full screen graphics and animations, virtually any kind of 2D or 3D graphic can be accomplished with Aston. With Aston, Brainstorm has merged 20 years of development of real-time 3D graphics with the legendary Aston heritage, creating a product that is used around the world in a variety of broadcast environments where it proves its robustness every day. Aston is perfecly suited for today's demanding broadcast design, where the pressure is constant to quickly deliver high-quality graphics that enhance any channel's content.

FLEXIBLE AND SCALABLE

Aston transcends the boundaries of CG, expanding its capabilities to become the heart of graphics departments, boosting the creativity and throughput of designers with its speed and vast feature set. All the power of Brainstorm real-time graphics render engine is embedded within Aston, which allows operators to create, manipulate, animate and perform last-minute changes to any kind of text, data or video graphics, even during on-air operations. Aston enables the design team to change in real-time any of the attributes on the template, and see the results immediately, making the improvement process easier, faster and more efficient.



ADVANCED USER INTERFACE

Aston has been created from the ground up to be extremely user friendly, so designers can concentrate on creation rather than on pure operation. The knowledge gained from working closely with its wide user base has enabled Brainstorm to build a next-generation GUI that enhances the user experience and facilitates the design process. The basic tools are always present, but as the design grows the required tools become automatically visible. Also, objects always display all their properties, so designers have all the information at hand, anytime.

This allows operators to use their creative talents to maximum effect and rapidly produce stunning results for program output.

FAST, INTUITIVE CREATION

Brainstorm supports a wide variety of objects and primitives, from simple spheres to intricate curves or arrows, which also allow for multiple properties. Practically all the parameters (geometry, size, appearance, materials...) of the wide variety of objects and primitives supported by Aston are editable.

Aston includes a wide variety of primitives: basic primitives (sphere, cone, cube...), curves, data bars, particles systems and much more, all with multiple parameters. Object parameters such as geometry, size, appearance, materials, and many more, are fully editable and animatable.

Moreover, objects can be adhered together, grouped and work as a unit when required. Specialised objects such as data bars feature multiple editable attributes (borders, corners...) and are easily linkable to external data.

VERSATILE TYPOGRAPHY

Aston features unlimited flexible, vector-based 2D fonts with advanced features like autogrow and autofill. Font attributes like size, kerning, tracking, width, plus body, borders, outline, shadow, and many more are independently tweakable and can be edited at anytime.

In addition, Aston supports advanced real-time 3D Fonts with extremely precise rendering quality and extensive features and parameters with real-time render and operation, such as:

- Photorealistic PBR materials.
- Independent sides.
- Lighting.
- Curve definition.
- Textures.
- Reflections.
- Advanced bevels and materials.

Aston supports multiple alphabets and font sets such as Latin, Cyrillic, Japanese, Chinese, Arabic or Thai.

NEXT GENERATION CG

Aston takes character generation to a new level, merging the best traditional methods with the latest techniques to match today's requirements. Aston's CG mode provides both the page-based workflow familiar to many designers, as well as the possibility of working with templates. Formatting can be implemented on the template and the changes to the text can still be done on each page. Modifications made to a template will be shown on every page of the project.

Text and 3D objects can be linked to move, resize and grow together, allowing for advanced transition effects without scripting.

Designers can select from a variety of choices, from static to animated texts like tickers, straps, etc. Text boxes also feature multiple behaviour modes, including autogrow, autofill or crop, while unlimited animation presets can be applied to any text. Even when in CG mode, Aston texts work in the 3D space, allowing for distinct, innovative creative effects. Designers can easily change between edit and playout mode, updating any template or individual graphic as required, even on the very last minute.

Text boxes can be automatically adjusted as more text is typed. This allows the text to maintain its design attributes and parameters regardless its length and opens the door for interesting creative effects. On the other hand, Text boxes can also maintain their size regardless the

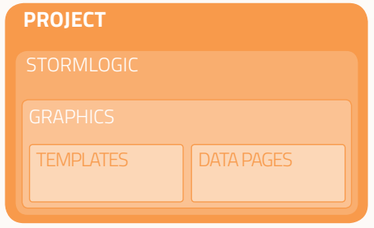
amount of text they contain, which will be automatically resized as it is typed.

On top of all the above, any text can be converted into forms for easier template creation. This allows for creating purpose-built text input boxes to simplify text editing in complex templates having multiple text elements.

MODULAR GRAPHIC CREATION

Aston graphics are not isolated elements but are created as a part of a larger project. All Aston graphics consist on a template (the empty container prior to be filled with data or texts) and the data which fill in the information on such template. Each graphic can interact with any other by using a logic structure called StormLogic. The project contains the graphics and the StormLogic that drives the interactions between them.

Aston can have as many projects as required, and as many versions of each Project as required. The StormLogic structure is efficient in the way that each project holds its required metadata, while the assets which are common to all versions are stored separately. This saves significant disk space and speeds up operation and network requirements when projects need to be moved, stored or shared.



SMARTTEMPLATES: MODULAR GRAPHIC CREATION

Aston's graphics are based on SmartTemplates that vastly outperform the traditional page-based creation. Graphics, of course, can be animated, allowing their internal elements to interact, being built on screen or use a particular behaviour to display the data as required.

SmartTemplates can feature unlimited animations, and as complex as required, which can be triggered at any time. SmartTemplates also allow their elements to change dynamically as data changes, as they can automatically look up data and redraw graphics accordingly. Data can be edited manually or linked to databases, spreadsheets or real-time feeds for automatic retrieval, and scripting can be included, if required.

Customizable buttons, drop downs, sliders and all sort of editors can be created inside the GUI to control objects and animations while on-air. This feature is a consequence of Aston's ability to create custom interfaces, which can be created for the specific requirements

of a given program such as quiz shows, sports applications, etc.

On top of that, objects can interact with other objects within the template of screen. And as a graphic can be made out of other graphics, the final structure is contained in a project, which holds all the graphics, templates, data pages and the StormLogic which defines the templates' interaction.

STORMLOGIC: SCALABLE ANIMATION LOGIC

To add flexibility to graphics creation and playout, Brainstorm developed StormLogic, an approach to intuitive template interaction with an advanced object-based animation. It is a tree structure of templates, and groups of templates, that defines the logic between them. The object structure of the StormLogic defines the animation logic and hierarchy, and all the templates contained within it will follow those rules.

CHOOSE YOUR FLAVOUR: 2D / 3D

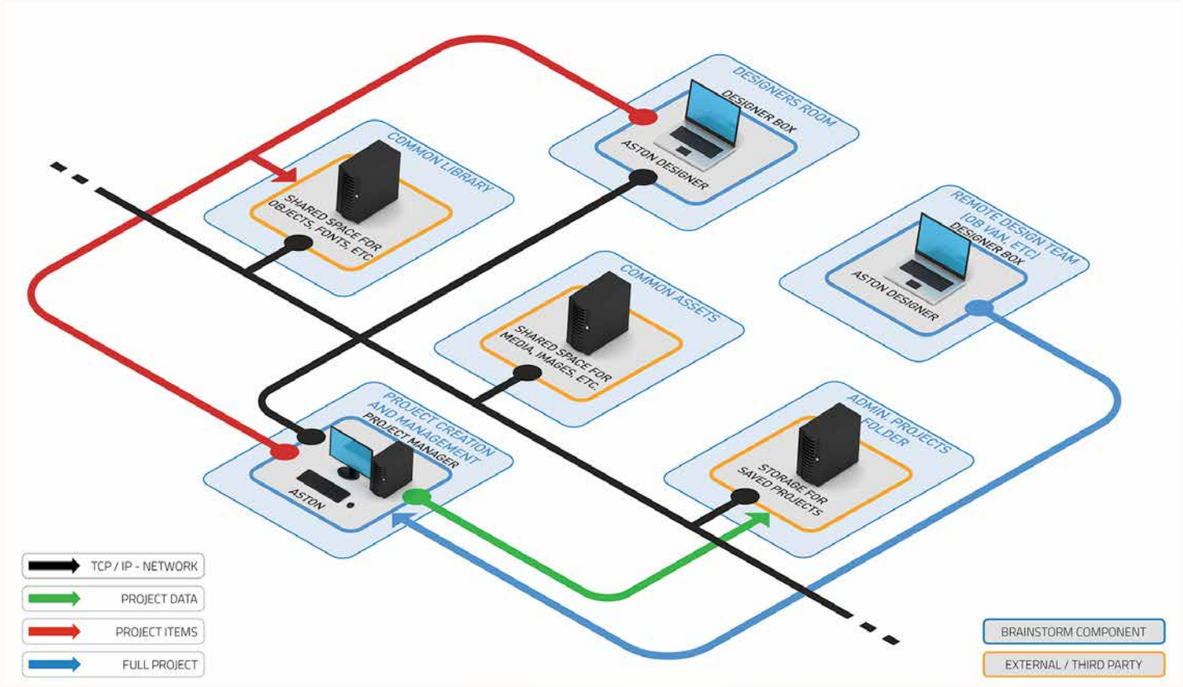
Trends and looks are changing continuously in the dynamic area of broadcast design, and designers compete to better impact audiences by creating more attractive pieces. Delivering advanced tools to allow designers unleashing their creativity is the core of Aston, and Brainstorm reinforces this by providing the right tools for each job.

When the most sophisticated tools for 3D graphics are required, Aston provides them all; but for applications which do not require such advanced 3D environments, or for designers used to 2D environments, Aston2D is the right choice.

Aston 2D does not reduce Aston's versatility and functionality, as it provides all the power and capabilities of the Aston but in a two-dimensional world, in a more affordable format.

With Aston2D, designers have access to all the power of Aston's creation and animation toolset, including SmartTemplates and StormLogic for unlimited animations and intuitive template interaction, and delivering advanced object creation, but excluding specific 3D tools such as lights, extrusion or 3D object properties. Designers do not have to worry about lights and environments, which simplifies and speeds up 2D graphics creation and animation.

ASTON COLLABORATIVE WORKFLOW



StormLogic allows building complex animations and interactions between elements with no need of scripting or complex animation matrixes.

StormLogic resides on the render system, a complex graphics project can be created in a collaborative manner, using different workstations and designers, and finally compiling all the templates on the render system, placing them inside the StormLogic structure. StormLogic allows designers to cut or alter projects dynamically, or interpolate between different actions on the fly, even while on-air.

DATA-DRIVEN GRAPHICS

For applications like Elections, Sports or Entertainment, data driven graphics are essential to display large amount of data in a visually attractive manner. Displaying complex data is extremely easy with Aston. Data can be easily linked to template forms, and can be inoput manually or automatically from external sources such as databases, spreadsheets, RSS feeds, etc., and allowing for unlimited input sources per production and data cross-references.

COLLABORATIVE WORKFLOW

Aston can seamlessly integrate into collaborative workflow environments, allowing for multiple inputs and from designers and other team members typically involved in the creation, composition and/or playout of sophisticated graphics projects. In this way, Aston allows for sharing objects, libraries, presets, compositions or complete projects so they are available to any user on the network.

Leading designers or art directors create pieces and concepts that the rest of the team then use to create all the versions needed, while real-time graphic solutions assure the on-time delivery of any piece. These solutions should facilitate the creative process by allowing designers to share elements and explore different alternatives or styles simultaneously. Intensive usage of network solutions, common libraries and shared media also enhances the collaborative process. These different objects will be finally compiled on the render system as a template, placing them inside the StormLogic structure.

The intelligent way StormLogic manages the different templates allows for modifying or updating any object within the project while it maintains its animation logic unchanged, regardless its complexity and number of elements. As a result, Aston projects provide unmatched flexibility and can be created and managed in a modular approach. At the end of the day, broadcast graphics depend on the designers' creativity and the flexibility the graphics solutions provide. With this in mind, Brainstorm's has always committed to provide the fastest and most flexible and powerful toolset to permit designers to achieve what they have just imagined.

AUGMENTED REALITY

Augmented Reality requires the interaction between sets, talents and virtual objects, often created out of external data sources. These in-context data driven objects allow for visually engaging and better explained representations of the data.

Aston graphics and projects, including its animation logic and structure, seamlessly integrate with InfinitySet, enhancing the creation, management and use of graphics content for Augmented and Mixed Reality, which can also be enhanced by using such in-context data driven graphics.

BEYOND BROADCAST

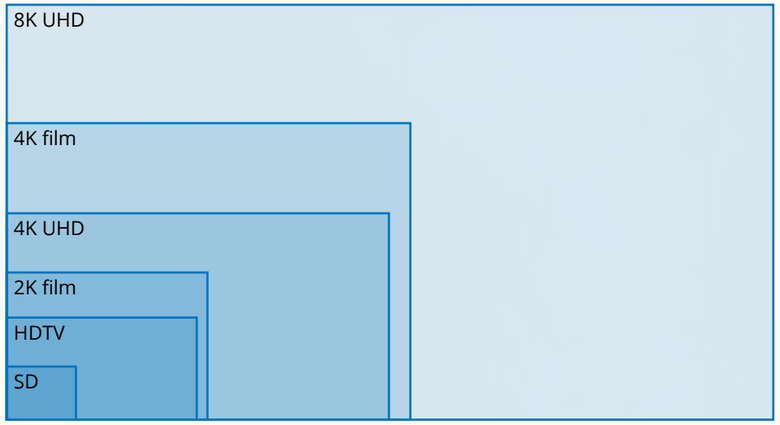
Aston is resolution independent and works with any HDTV flavour, 4K or even higher resolutions for larger screens or videowalls. Aston is the perfect tool for creating large, animated graphics content to fill in screens of any size, format and aspect ratio, in real-time.

By using the PSD, AE and AI exporter plugins, Aston can include graphics created with such tools as compositions, with total control of objects and layers, which also enhances its collaborative workflow approach. In addition, Aston can be integrated in MOS-compatible environments, and also supports seamless integration with a wide range of 3D formats such as .fbx, .dae, .obj and .3ds, to name just a few.

INTERACTIVITY

Aston can connect with external systems and devices using several industry-standard connections or via network, allowing for enhanced interconnectivity to trigger actions as required.

Because of this, Aston can expand

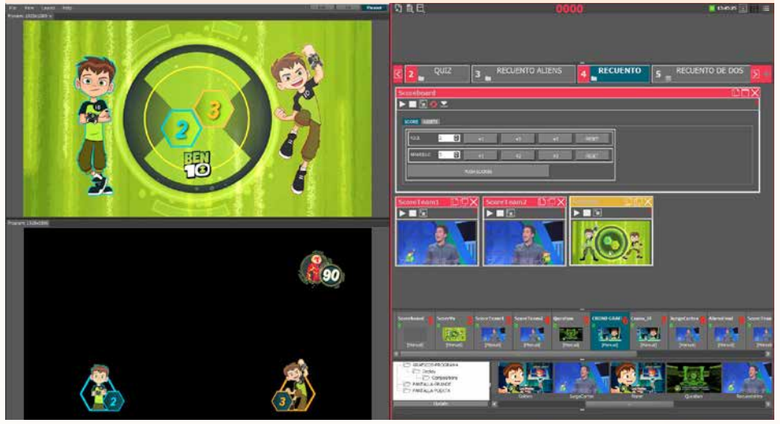


ONDEMAND, GAP AND BI-DIRECTIONAL PROTOCOLS

OnDemand is brainstorm's control software, a multi-layer, multi-render Graphics control system. By using brainstorm's own GAP (Graphics Automation Protocol), OnDemand can control multiple layers within the same engine, and also multiple render engines at the same time, making it extremely flexible in highly demanding environments where different content have to be controlled simultaneously, such as videowalls, news, etc.

OnDemand addresses one of the biggest problems when driving multiple layers and engines at a time, which is, for the operator, not being sure of what is going to happen right after sending a graphic to on-air, as some graphics may collide with others because of their nature or position. With StormLogic, GAP and OnDemand this is this issue is solved when designing the interaction logic, avoiding mistakes while in operation.

For any graphic taken on-air from OnDemand or any third-party control device, StormLogic decides how this graphic interacts with existing graphics on program or even remove any/all graphics if required. Then through GAP, Aston informs OnDemand and all connected devices of the graphic status. So, operators do not need to worry about existing graphics in program, only about the graphics they want to display.



its reach beyond pure graphics, becoming a perfectly suited system for entertainment applications, capable of controlling external actions in live or live-to-tape operation. Such ability to control actions is also not only applicable to Aston features, but can also lead to control external devices by using industry-standard protocols and connections such as GPI or DMX.

THE ASTON FAMILY

Aston is not just a product but a whole family of 2D and 3D modules (Designer, Player, CG and Snap Render) covering from creation to playout. These modules can be combined in different bundles and with different feature sets to match the specific requirements of the clients.

Aston is delivered as a complete, turnkey system ready to use, fully and immediately integrable in any broadcaster's workflow, as a standalone system, or in complex environments. Using standard broadcast plus complete IT connectivity, it is prepared to work at its best since day one.

THE ASTON MODULES

DESIGNER

Provides design, animation and page-based CG creation, plus a preview SDI output with watermark (requires the Player module to remove the watermark).

PLAYER

Provides SDI and HD-SDI playout capabilities and video I/O to the Design module. It allows external control of the playout by 3rd party applications such as OnDemand.

CG

Adds a familiar CG environment featuring a dedicated player interface and GUI with page-based layouts and allowing external control of the playout by 3rd party applications. It can also include an optional external keyboard.

SNAP RENDER

Allows the quick generation of movies or still images based on editable templates. This is especially useful in Newsroom environments.

ASTON SUITE

ASTON CG

DESIGNER | PLAYER | CG

ON**DEMAND**

ASTON RANGE - FEATURES COMPARISON

● Aston
○ Aston2D

DESIGN, CREATION AND EFFECTS

● ○	4K and higher resolution graphics
●	Object-based 3D graphics creation
● ○	Object-based 2D graphics creation
● ○	2D materials
●	3D materials
●	Shader-based materials
●	Photorealistic PBR materials
● ○	Editable Bezier 2D curves
●	Editable Bezier 3D curves
● ○	Unlimited, any-resolution movies within projects
●	Real time 3D projected shadows
● ○	Object clonning
● ○	Advanced texture adjustements
● ○	Advanced gradient control
● ○	3D texture editing
● ○	Advanced intelligent group/object distribution
● ○	Advanced object layering
● ○	Advanced interaction between objects
● ○	SmartTemplate creation and management
● ○	Dynamically defined Grids
● ○	Interactive editor-to-editor connections (BIND)
●	Impostor (2D painting over 3D objects)
●	3D Primitives (surface, bar, pie)
●	Advanced 3D primitives (extruded, torus, ring)
●	Built-in particle effects
● ○	Built-in libraries (fonts, materials, textures...)
●	Import of 3D objects and textures from third-party 3D software packages
● ○	Custom interface creation

CHARACTER GENERATION

●	PBR materials for onts
● ○	Support for multiple alphabets and font sets
● ○	Vector-based 2D Fonts
●	Real-time 3D Fonts
● ○	Unlimited font atributes
● ○	Shader-based fonts
● ○	Text on a Path
● ○	Advanced text creation (roll, sequence, counter, ticker...)
● ○	Advanced text effects
● ○	Behaviour modes (autogrow, autofill...)
● ○	Unlimited text animation presets
● ○	Interactive forms creation
● ○	Font Fix - Replacement of characters by images
● ○	CG Mode

ANIMATION

● ○	Bezier-based timelines
● ○	Custom timelines
● ○	Advanced timeline animations (in/out, self...)
● ○	Timers and counters for non-timelined events
● ○	Full Brainstorm's StormLogic
● ○	External data link (database, spreadsheet, XML...)
● ○	Pivots
● ○	Scripting capabilities (Python)
● ○	Render to movie
● ○	Enhanced collaborative workflow - objects and projects

OPTIONS

● ○	Dedicated external Aston Keyboard
● ○	PSD, AE and AI Importer plugins
●	3DMax Importer plugin - imports scenes and animations

Based on Aston, Brainstorm has developed applications for specific purposes, such as social media publishing, specialised weather graphics and visual description of sports strategy.

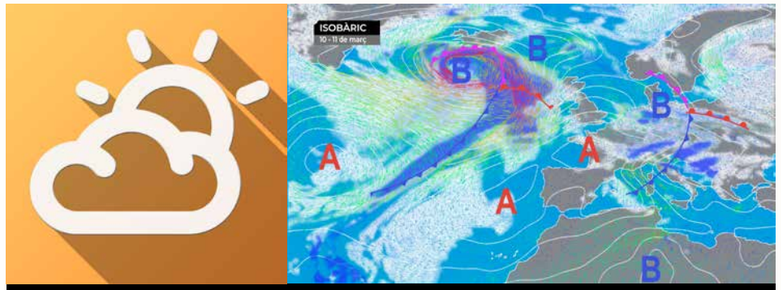
TACTICA
VISUALIZING SPORTS TACTICS WITH AR

Strategy is essential for team sports, no matter if they are football, soccer, basket, or any other. By using a touch screen of any size, Tactica allows to represent in Augmented Reality the team's positions and movements around the field, so their strategy can be easily explained using interactive graphics,

Tactica is a software designed to easily explain the tactical positions and team strategy in a variety of sports. Tactica is easily managed using a touchscreen monitor, in a visually attractive Augmented Reality environment, where the touch screen allows for interactively displaying strategies and game analysis, using dedicated graphics.

All that is required is a tracked camera, a computer with the Tactica software and a touch screen. The screen simulates a CAVE environment, so it seems that the field and the players are placed in a box below the surface. Then, the touch screen allows to change the positions of the players with total interactivity and ease. The system comes with several pre-configured field positions.

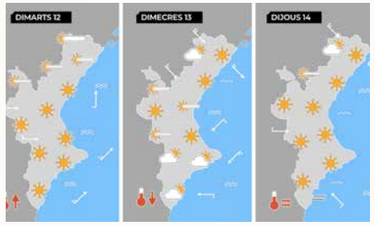
As the camera moves, it provides the tracking data to the computer, which then renders the final image. The computer provides the content to the touch screen via a standard HDMI connection, so the camera view then shows the AR content with full perspective matching and continuity, providing an attractive output.



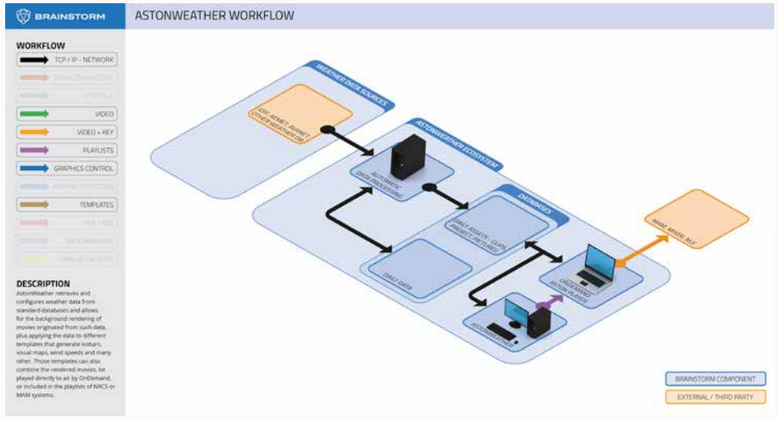
ASTONWEATHER
WEATHER GRAPHICS MADE SIMPLE

AstonWeather is an open, flexible and fully customizable application, developed to provide weather information fast and easily, while matching any design requirements. It can connect to different weather databases, generating movies out of the data retrieved, and apply them to, or integrated with, the available templates, which can also be be geolocalized.

AstonWeather retrieves and configures weather data from standard databases and allows for the background rendering of movies originated from such data, plus applying the data to different templates that generate isobars, visual maps, wind speeds and many other. Those templates can combine the rendered movies, be played directly to air, or be included in the playlists of NRCS or MAM systems.



AstonWeather takes advantage of Aston's unique capabilities for creating data-driven graphics and applies them to the Weather forecast. Using data coming from official weather sources, AstonWeather can apply them to many different templates, from isobars to forecasts, visual maps, wind speeds, temperatures and many other, displaying the result in real-time.



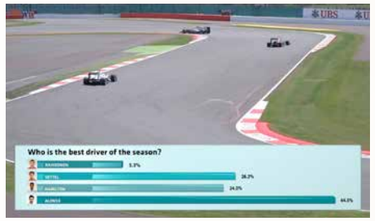
ONMEDIA
VISUALLY ENGAGING SOCIAL TV GRAPHICS

OnMedia is an end-to-end, cloud-based solution to create visually engaging Social TV content based on social media feeds. While television has always been considered a social media, the arrival of internet social media platforms allowed for a deeper interaction between broadcasters and their viewers, who talk freely on the internet about programs and constantly drive opinions about what they are watching on the TV, creating a sort of interactivity because of the conversations.

Shows are now proud of becoming trending topics, and broadcasters can take advantage of the social listening tools to improve their audience data, enhance their content in real-time and vastly improve audience engagement by providing visually advanced imagery to display social content.

OnMedia is an integrated, stand-alone, modular application which makes it easy to search, filter, publish, playout and engage with content from the audience. Integrates editorial systems for aggregating and moderating live social content with real-time 2D and 3D graphics capabilities to present such data in the most attractive manner, and enhancing the information displayed, all in a single workstation.

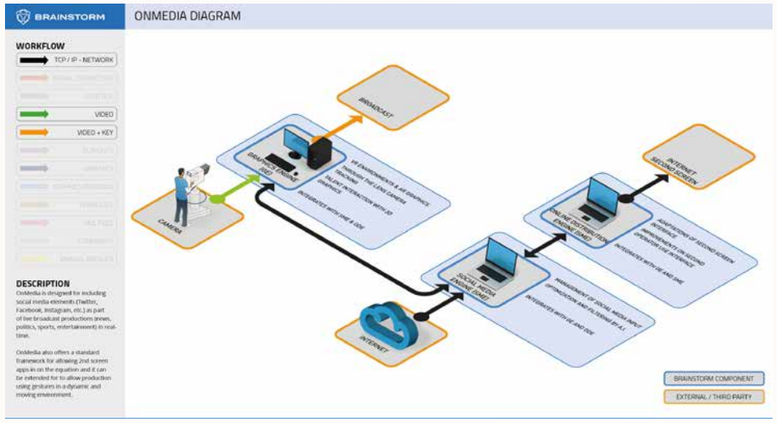
On top of that, OnMedia is a flexible, scalable and cost effective solution which can adapt to complexity and needs of each broadcaster. OnMedia allows end-to-end social content management, customization, and publishing to both TV graphics and second screen environments. OnMedia goes far beyond the requirement for displaying live social data in dynamic TV formats, and has been developed to help broadcasters to enhance their



content to drive higher audience ratings and foster loyalty from their audiences, providing a unique, end-to-end solution for social graphics management.

VISUALLY ENGAGING SOCIAL TV

The social engine of never.no gathers the information across the network (feeds, hashtags, polls, etc), generates the structured information out of selected criteria (kind of information, geolocalization...) and then makes this information available for Aston, which then delivers a proper visualization of the data. This takes advantage of Brainstorm's experience in delivering real-time data-driven graphics.



INTEGRATED TECHNOLOGY

OnMedia integrates both never-no's and Brainstorm technologies, delivering all the power of its 3D Graphics Engine to display the information gathered and structured previously from the internet. The Social Media Engine can select the information, edit the graphics template, publish it and send the graphics to any broadcaster's workflow, or play them out to air directly. This allows broadcasters to deliver structured social media information to air independently from other graphics applications, with the ability to select which information is to be displayed and decide to show it on the main screen or to second screen or mobile applications.

SCALABILITY

The scalability of OnMedia means it can be adapted to the needs of local and regional TV stations, national broadcasters and production houses. The out-of-the-box solution is a powerful component of the production workflow which avoids expensive use of other resources.

KEY FEATURES

- State of the art, integrated 2D and 3D graphics system with social publishing capabilities.
- Manage user-generated content from a range of social media sources such as Facebook, Twitter or Instagram.
- Easily deploy 3D enhanced social media graphics in AR/VR environments.
- Select, customise, preview and trigger graphical templates within the interface.
- Scalable, modular solutions to adapt to any broadcaster.
- Live polling.
- Second screen solution completely integrated with the social media engine.
- Compatible with Analytics and social monitoring applications.