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Ben 10 Challenge
CHASING ALIENS WITH ASTON AND ONDEMAND

Ben 10 is an animated series produced by Cartoon Network, about the adventures of Ben Tennyson, a 10 year–old boy who finds a device called Omnitrix, which allows him to transform into a variety of alien creatures.

This Emmy Award-winning series has several television and movie spin-offs, the most recent in 2016. As it became a successful franchise, Ben 10 has developed further with merchandising and mobile apps. In 2017 Cartoon Network decided to produce a television contest based on the franchise, to be broadcasted in Spain, Germany, UK, Italy, France, Poland, Turkey and the UAE.

The Ben 10 Challenge required a huge set with two stages and public, plus a gigantic 16-meter wide video wall for continuously showing in-context graphics related to the games. The Challenge was based on a series of quizzes and interactive games, based on the series' plot, to be performed by the teams formed by parents and sons. This required a strict control and graphics' playout management, as graphics featured the questions, answer's options, in-out animations, correct and wrong answers, winned prizes, and so on.

One of the objectives for the Ben 10 Challenge was to create a show attractive enough both to the attending public and the audience at home. The production company relied on Brainstorm's Production Services team to create all the graphic scenography, which used Aston, Brainstorm's graphics creation system, both for the content creation and its playout during the

Challenge. These graphics, along with the attrezzo and lighting, pretended to recreate the different "Worlds" where the games were taking place. The worlds were reflected in the video wall, which combined several HD signals which were played out directly from the Aston.

The set up consisted on three Aston systems and one OnDemand playout system. The Astons sent the graphics directly to the video wall, the opening screen and the mixer's DSK, while OnDemand played out the graphics to air while managing the live operation. All systems were connected to Production Control via an HD-SDI connection, sending the graphics signal as video+key.

Aston provided the graphics, with the animations and interaction logic, plus the ultra-high definition output for the video wall. To simplify the live operation, the Brainstorm team created a purpose-built, customized interface, so while in operation only the required buttons and commands were visible, which significantly simplified live operation, and avoiding operation error. Live operation was critical because, even athe show was finally recorded, it was produced as a live-to-tape operation to prevent the production to interfere in the development of the games, so the contestants were not affected by interruptions and maintained the expected flow and development of a live show.

One of the games of the Challenge required the kids to "hunt" or "chase" aliens in an Augmented Reality environment, in real-time. This challenge required the integration with a Neuron motion capture system, which provided the spatial data and co-ordinates in real-time to the Aston, allowing the system to know whenever an alien was "captured" and so generating in real-time the required graphics for the large videowall.

For the final show, the production team built a giant sphere where the players had to rearrange a sequence of aliens in the correct order. This required an additional Aston, remotely controlled via GPI, which received a signal that confirmed whether the contestant created the sequence correctly, which made the system to generate and trigger the required graphics.