



## Dynamic Environment

Steve Moles reports on how Edinburgh's Dynamic Earth attraction teamed up with Barco to lead the way in interactive 'edutainment'

UK - Opened since July '99, Edinburgh's Dynamic Earth (DE) centre has gained a justified reputation for combining the excitement of a visitor attraction with an 'edutainment' venture. The addition of corporate functions makes this a busy and successful venue: "We're open all year," began Douglas Walker, the centre's commercial director, "seven days a week, apart from the end of October through to March, when we close Monday/Tuesday." Not a bad bit of utilisation for this market.

Despite its short history, the DE has recently revamped one of its major pieces of content, taking the Future Dome - a planetarium space buried in the heart of the building - from static displays illuminated by slide projection, into a multimedia experience that combines 360° motion projection with spatial surround sound, true interactive audience participation, and motion seating control that reconfigures the audience during the variable presentation. "We believe we're the first in the world to combine these three elements," said Walker.

A bit of history is required to put this revamp in perspective: "The old system was presented from a flat floor using a number of slide projectors," explained Walker. "We wanted to make it more dynamic - pardon the pun; we wanted moving images and the ability to involve the audience directly. The idea for what we have now, came from here - we wanted something themed on the issue of climate change."

The DE team is to be applauded for envisaging a visitor experience of such all-embracing scope. Check this: the Future Dome now contains three seating pods of 24 chairs; each chair has a tilting back to make viewing of the panoramic ceiling projection both easy and comfortable. Each seating pod can rotate independently of the others so at various moments - and depending on the decisions of the audience - the three pods face each other, face out to the walls, or all conform to an 'end on' presentation where they all face the same direction.

Depending on audience decision? I hear you ask: yes, the viewer is directed by a virtual tour guide projected on the ceiling, to decide either/or to a variety of paired options, e.g. shall we continue to burn fossil fuel, or develop renewable energy?

The voted outcomes aren't bland either: through the device of DBC news broadcasts (a faux TV News channel projected on the ceiling) reports point to the possible future outcome of taking the renewable

energy option - prolonged power cuts, high energy consumption taxes, and three-hour limits on heat and light each night.

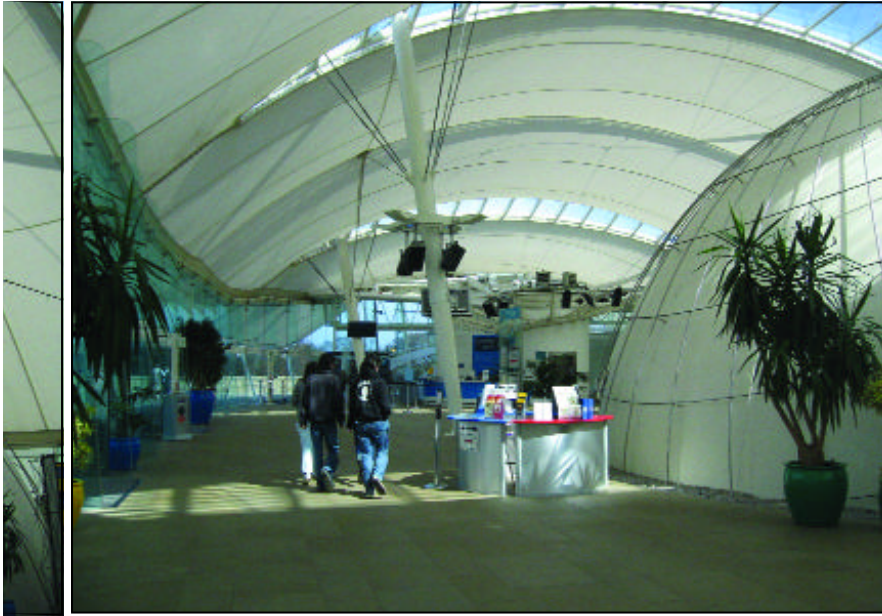
Through choices and 'news' reported outcomes the audience is projected through three 25-year spans 75 years hence, at each juncture influencing the development of the earth and local society. It's great fun and most instructive; the young kids in the show I experienced called out "that's good" when the News reported that 84% of us agreed on the final decision. The concept might sound simple, now you've heard it, but how was it realised?

"We approached three different companies," continued Walker. "In truth, two of them didn't really appreciate what it was we were trying to achieve, but Barco indicated they wanted to be involved and they introduced the services of another Belgian company, Alterface. They took the brief and stuck with it."

Considering your earlier comments, that's quite a complex and complete brief, not so normal? "No, but you can tell their level of commitment from the fact they added the idea of the rotational platforms for the seating. Alterface specialise in interactivity and imagination and the engineering to go with it. We started in late '04, the project took roughly a year to bring to fruition." Pretty fast, considering? "We went through a fair bit of the refining of ideas, developing the science of the story, working to make it credible. We wanted it to communicate fun, but in a thought-provoking way. Barco and Alterface came together, and put in a lot of work before we'd even secured a commitment for funding."

Barco conceived using six SIM Plus5 projectors, as explained by Bob Harris, part of the Barco team working for their project manager Frederik Vervenne. "The SIM stands for Simulator, as in flight simulator. This made it an ideal choice for a Planetarium with variable content; SIM is very bright, yet produces excellent blacks - essential for planetariums. Secondly, each projector has onboard software, Warp Effect, which can alter any shape within the projector - especially good when projector placement isn't ideal and would normally produce pincushion distortion. All six projectors also talk to each other, automatically balancing for light output as the bulbs age, and reports when the output from the 3000 hours lamps is no longer acceptable." There are a few other features, but these are the most crucial.

DE eventually applied to the Rediscover Fund, an amalgam of Millennium Commission, Wellcome Trust and the Wolfson Foundation. "Their remit is to invest in science and communication projects; we've applied for four grants from them in total, and secured three."



Right, Dynamic Earth's commercial director, Douglas Walker.



So from a funding point of view, you had to enter into the process in a detailed way before monies were secured? "Yes, and that required a detailed commitment from Barco and Alterface as well. The application process is a hefty undertaking and quite a rigorous judgement process, so the application has to be well detailed. From that viewpoint all concerned have to make a lot of commitment to the funding even before it's considered."

That said, presumably once funding is approved you're more or less ready to go? "Yes, we closed Future Dome in October of last year, and opened on time for the Easter break, and on schedule"

For a complex system it's been a remarkably smooth installation, just some of the tilting seat backs have failed, but otherwise the process has been successful, and full audience capacity will be restored in time. "We can present 96 different outcomes, depending on how the audience votes," concluded Walker as the presentation ended. "Everything is choices, and everything has consequences, often those consequences are outside direct implications of what the audience chooses. It's quite normal to find our audiences discussing the choices they made after they emerge."

That, presumably, is the precise aim of the Rediscover Fund? "Exactly." And where did all the alternative scenarios come from? "Filmed and animated by Alterface, the ideas were developed by Dr Stewart Munroe in-house, plus myself, and our scientific advisory board - a group of committed scientists from such places as our own local university in Edinburgh. Alterface wrote the script with us, and made or sourced all images."

The Future Dome is well conceived, and it doesn't require a great leap of faith to see that the presentational vehicle that DE has developed with Barco and Alterface could be exploited to make high-impact presentations on other topics. "We are already in discussions with other planetariums around the world," continued Walker, "the Hayden in New York, for example, to share their show with our audiences here. Of course, we'd do that outside of the existing show times, presenting it as a special in the evenings."

Does that mean there's a loose community of planetariums around the world that all talk to each other? "Absolutely." The potentials look endless.

>>> [www.barco.com](http://www.barco.com)

**WHITE LIGHT**

**robert juliat**

For more information contact  
 the Sales Department  
 White Light Limited  
 20 Merton Industrial Park  
 Jubilee Way, Wimbledon,  
 London SW19 3WL  
 Tel: 020 8254 4840  
 Fax: 020 8254 4841  
 Sales@WhiteLight.Ltd.uk

Everything you'll ever  
 need under one roof