National Space Centre

Chas Bishop, Chief Executive, National Space Centre

Seafood Splatter

Lunching in Boosters Restaurant at the base of the open plan Rocket Tower, the Blue Streak and Thor Able rockets watching on as I chatted to guests from Barclays Bank, something fizzed past my right ear and splotted onto the floor next to my right shoe. Looking down I saw a squid. Looking up I saw two small faces disappearing from view, 150 feet up on the top deck.

There is the vaguest chance that the Rocket Tower Two were measuring the acceleration of an object in freefall. There is a greater chance that one of them had found what Mum had bought from the Tesco fish counter sitting in the fridge and had put it in his pocket for an opportune moment of mischief. Three idiots in suits 150 feet below? Don't tell me you wouldn't be tempted.

The National Space Centre has welcomed 50,000 children in school groups each year since its launch to the public in June 2001; 1.4m visitors in total during this time. Its purpose is to inspire all visitors to learn more about space, but particularly young people to get excited about science and engineering using the subject of space. The Nicholas Grimshaw building is stunning. The Haley Sharpe exhibition provides a wonderful mix of interactive displays, artefacts and shows that raise a smile, or sometimes a frown, and keep the imagination firing. Even the hand basins in the toilets are impressively hi-tech with soap, water and hot air from overhead all triggered in sequence by the sensing of movement. I once watched in horror as a twelve year old boy threw up into one. He knew he was going to be sick. He didn't expect the accompanying shampoo and set.

Trading sewage for space

The disused Abbey Meadows sewage works was an imaginative site for the visionaries from the University of Leicester who in 1994 had the idea for a world class visitor attraction,

education and research facility. Recognised around the globe as experts in space science, earth observation and planetary exploration, their concerns then were the same as our concerns today: that too few children were continuing with scientific studies and choosing the course and career options that would set them on the path to becoming the scientists and engineers of the future.

The coincidence of a good idea, a subject of great public interest, the quest for urban regeneration and funding from the Millennium Commission delivered the ingredients necessary to get the project under way. Leicester Regeneration Company has since exploited the National Space Centre's presence as a catalyst for the development of the Leicester Science Park on the derelict land surrounding it. Clearance works are complete and works above ground are due to start in spring 2007.

From Asteroids to Beagle 2

Six years after launch in 2001, the National Space Centre is a mature business that provides an exciting day out, supports formal education and helps celebrate the achievements of the UK and European space communities within the context of global space activity.

Government was an early client, recognising the opportunity to use the National Space Centre as a medium for giving public information about the threat posed by asteroids. The Near Earth Object Information Centre was established in 2003. The Centre makes Government (and the public) aware of asteroids that are identified as a potential threat and briefs it on progress as calculations are made. Kevin Yates, the Space Centre's own expert, speaks for his kind when stating that "a major meteorite strike will happen; it is simply a matter of when".

Also in 2003 came Beagle 2 and the opportunity for Lander Operations to be placed at the heart of the visitor attraction: the first time that the public has been able to watch a mission in progress in this way anywhere in the world. Of course we know the story and the reaction from a public delighted by an eccentric pioneering spirit but so often resigned to heroic failure. The sense of theatre in the final weeks of the journey from Earth to Mars was terrific. Future opportunities to put high profile space missions in the public domain in this way must be exploited.

Since Beagle 2, the Space Research Facility has been hooked up "live" to the SWIFT satellite, intercepting

gamma ray bursts from the biggest explosions that take place in the Universe and telling visitors instantly where and how long ago they happened (up to 13 billion years ago in some cases), and is now preparing for another assault on Mars. A team from Astrium is developing its prototype rover for a mission to the Red Planet in 2013 and needs somewhere to put it through its paces. Where better to absorb a school child in the thought that one day they could be working on a space mission? Should they instead become a research engineer, a mechanic or scientist in any walk of life, then fine. Lose a budding scientist to media studies? That would be a shame.

Education by stealth

A new hi-tech Media Centre will open in October 2007, coinciding with the 50th anniversary of the Sputnik mission in 1957. Development of this facility coincides with new education programme development for a 14-19 year old audience for the first time, complementing the established programmes delivered to 8-14 year olds.

The beauty of a science centre is that the teaching is done not in a classroom but in a themed environment in which the child is invited to become immersed in a workshop or in role play that doesn't feel like school at all. The question, "what have you learned today?" does not receive an immediate answer, but is met with a deluge once the penny drops that saving a space mission from certain disaster involved maths, chemistry and physics as well as teamwork and communication skills that might not have come previously to the surface. Charles Clarke visited whilst Secretary of State for Education and asked a tiny young girl in Mission Control if he could borrow her headset to congratulate her astronaut class mates, orbiting Earth in their space station, on surviving a radiation leak. "No", she said firmly, "that's my job".

New developments will strengthen the National Space Centre's role as a support service for formal education. A day's visit is proven beneficial (two studies by the University of Leicester's School of Education give the facts) but an extended relationship, in the format of longer term study support or a Space School for children showing a spark of interest, will be more so. A 2007 study by Leicester City Council demonstrates quantitatively that children doing space-related study support for a term show a greater improvement in attainment than a control group that don't.

Should the National Space Centre prove capable of influencing children's choice of course and career options, and helping increase uptake of science and engineering in formal education and on apprenticeship schemes, then its worth as a centre of excellence for the use of space in science education can be proved. Funding from the Particle Physics & Astronomy Research Council and East Midlands Development Agency covers early development costs. About £225,000 per annum is needed from 2008 onward to continue programme development and delivery thereafter.

The Future of UK Space

We await the Science & Technology Committee's report on UK Space Policy with great interest. The review comes at a time when NASA is talking of a Moonbase and a manned mission to Mars; when the Chinese, Indian and Russian space agencies continue to break new ground and when Europe is leading the world in the development of Galileo: a Global Navigation Satellite System that will out-perform GPS by a significant margin. The UK has fingers in many of these pies and continues to contribute its enormous intellect across many disciplines. It is driven by an industry that contributes over £4.8bn to the UK economy and employs over 16,000 highly skilled people (2004/5 figures).

The East Midlands is capable of leading the way in exploiting these exciting developments for the benefit of education and the promotion of science in society. The University of Nottingham is the leading research centre in the UK for advanced applications of GPS technology and a major player in Galileo. The University of Leicester has internationally recognised programmes in space science, earth observation and planetary science. Together with local industry partners such as Infoterra and the regional Science Learning Centre, the National Space Centre is at the heart of a cluster of science education capabilities and a powerful resource for providing space in science education for the scientists, engineers, technologists and science-trained managers of the future.