UK Space Agency

(http://www.ukspaceagency.bis.gov.uk/Default.aspx)
On 23 March 2010, the Science Minister, Lord Drayson announced the launch of a new executive agency to replace the British National Space Centre and to bring all UK civil space activities under one single management. The UK Space Agency replaced the BNSC on 1 April 2010.

1. ESA at Harwell

Following negotiations between ESA, the UK Department of Business, Innovation and Skills and the British National Space Centre, a new ESA facility at Harwell (Oxfordshire) was formally opened at a London event on 22 July 2009. The facility will initially comprise a small number of staff to be located in existing buildings. The ESA facility will focus on three areas: 'integrated applications', which is the combined use of different space and terrestrial technologies, data and infrastructures to create new everyday applications; climate change modelling that uses data from space; and developing technologies such as novel power sources and innovative robotics which could be used to explore the Moon and Mars. The facility is called the European Robotics and Climate Change Centre.

2. ISIC

A new £40m International Space Innovation Centre (ISIC) at Harwell is at the heart of Government plans to support Britain's growing space sector. The centre, to be sited with the European Space Agency facility opened last July, will provide a central hub for British space activity and ensure the UK maintains its world-leading space capability. Funded through public and industry investment, the ISIC will establish centres of excellence in the UK to:

- exploit the data generated by Earth Observation satellites;
- use space data to understand and counter climate change; and
- advise on the security and resilience of space systems and services.

3. Manned Space Flight

The Space Innovation and Growth Strategy (IGS) is a joint government, industry and academia initiative that defines a 20-year vision and strategy for the future growth of the space industry in the UK (http://www.spaceigs.co.uk/).

The good news is that the Space IGS Executive Summary and Recommendations (http://www.spaceigs.co.uk/documents/index/index/cPath/14_24/) specifically encourage activities related to manned space flight *"…the UK should participate in both the human and robotic elements of the Global Exploration Strategy as individual programmes become defined and also wider EU exploration initiatives…"*.

4. Space:UK

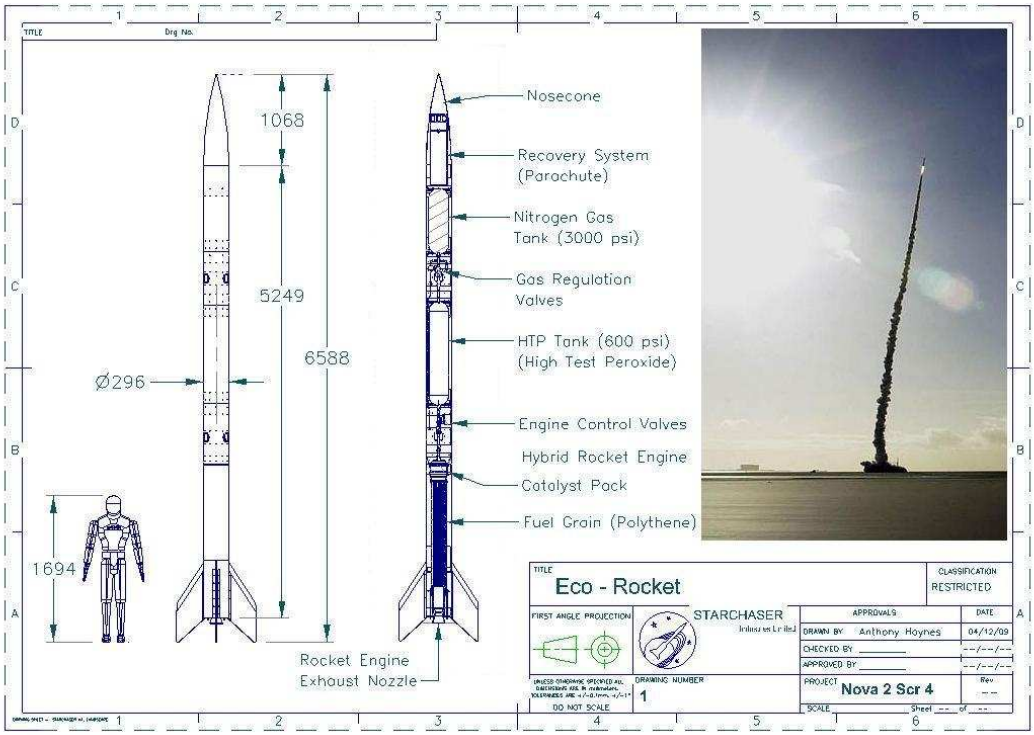
Issue 29 of **space:uk**, BNSC's quarterly publication with the latest news in UK space science, technology and exploration is out now. A copy can be downloaded from the web.

UK Astronaut

Major Tim Peake has become the first Briton to be selected by the European Space Agency (ESA) to take part in manned space flight. He began 18 months of intensive training in September 2009 and becomes the first British astronaut since Helen Sharman visited the MIR space station aboard Soyuz TM-12 in 1991

Space Tourism

1. Starchaser Industries



Statement from Steve Bennett, CEO Starchaser Industries (Received: 13/4/2010) (http://www.starchaser.co.uk)

"1) Space Tourism Vehicle Development

Phase two testing of Starchaser's Eco-Friendly hybrid rocket engine project has been completed. The engine performed flawlessly over two campaigns of 12 tests where the full thrust of 1000 kgf has been exceeded. The nominal burn time for each test was 8 seconds. Fuels tested were;

1) High Density Polythene HDPE (white)
2) High Density Polythene HDPE (black)
3) Polypropylene
4) Acrylic / Perspex
5) HTPB / Recycled Car Tyre mix (30%)
6) HTPB / Aluminium mix (10%)
7) HTPB (original fuel for comparison)
8) Ultra High Molecular Weight Polythene (UHMWPE)

Exhaust gasses from all the above were captured and transferred to an independent laboratory for analysis.

Phase three testing involves the installation of the engine into a rocket airframe (image appended) for flight tests later this summer. Once proven the Eco-rocket will be developed further for use with the full sized Nova 2 rocket as a Launch Escape System.

2) Educational Outreach Programme

Starchaser has seen a 28% increase in the number of schools visited over the last 12 months as part of its educational outreach and enrichment programme. Starchaser's space4schools programme offers a range of shows, workshops and presentations that promote Science Technology Engineering and Maths (STEM) subjects in schools. These activities support the national curriculum at all Key Stages and aim to enthuse and inspire school children to consider higher education and careers in science and engineering.

Starchaser is on target for visiting more than 200 schools in the 2009 /10 period and will directly engage with about 150,000 children.

In March, Starchaser landed a NESTA (National Endowment for Science, Technology and the Arts) contract to deliver a range of rocket building workshops to children in schools as part of NESTA's ***idiscover*** *programme."*

Please note that Starchaser has issued an **INVITATION TO STARCHASER ROCKET LAUNCH EVENT.** A limited number of tickets are on sale for £50 (per ticket). The proceeds will help to offset the eco-rocket launch costs (see website for details).

2. SKYLON - Reaction Engines Ltd

(http://www.reactionengines.co.uk)

Though the SKYLON has primarily been designed to launch satellites, consideration has been given to its passenger carrying capabilities. SKYLON is basically a hypersonic aircraft with hybrid engines, changing their mode of operation as the vehicle leaves the atmosphere. On return, because it is an aircraft, it has a cross range capability and ends its flights by landing conventionally on a runway. The SKYLON payload bay is 12.7m long, 4.6m wide and 4.6m high. During normal satellite delivery operations, the bay would carry an interchangeable payload container. When used for passenger transport, an alternative pressurised, self-contained module could readily be fitted between flights. This module would provide a breathable atmosphere and additional life support for 30 or 40 passengers. Under the floor of the cabin, part of the space is needed for life support equipment, with the rest available for passenger baggage and cargo.