Written Evidence Submitted by Reaction Engines
(SPA0098)

I wanted to thank you and the Science and Technology Committee for visiting the Harwell Space Cluster recently and hearing from the innovative community in Oxfordshire including our Company, Reaction Engines.

The discussions we had around the cluster model and space sector skills, as well as UK Launch, were enjoyable, and I thought I would take the opportunity to write to you to outline the work we are doing to support your inquiry into UK Space Strategy and UK Satellite Infrastructure.

UK's Space Ambition

As a proud UK Company with the vision to develop ground-breaking technologies to unlock the future of space access, elevating life on earth, it is positive to see the Nation taking an ambitious and forward-thinking approach to its role within the space ecosystem. Space does not just provide an ever-growing industrial base for the UK, it highlights the strengths of the UK as a Science Superpower, unlocking new skills and inspiring our workforce and future generations of engineers, scientists, and innovators.

At Reaction Engines, we are looking to strengthen the UK's position within a Future Space Economy by equipping it with a unique propulsion capability, through our SABRE technology programme. This remarkable effort will bring about the realisation of reusable space planes providing horizontally-launched, every day, sustainable operations to space.

The National Space Strategy

We, like many others in the sector, welcomed the Government's high level of interest and ambition for the space industry, both nationally and internationally as outlined in the National Space Strategy.

There are several areas within the strategy that we strategically align with and consider to be of high importance: tackling climate change, improving public services with space technology, unleashing innovation, establishing global leadership in space sustainability, and upskilling and inspiring the UK.

Reaction Engines also believes strongly that progressive space access, beyond small satellite launch, will enable the UK to play a more significant role in developing an innovative and transformative space economy

for the long term. Building on the first exciting steps being taken by Virgin Orbit and others, including a first UK launch over the summer, we hope this future opportunity will become an increasing focus.

International collaboration is also important, and it is encouraging that the Space Strategy aims to amplify UK strengths, whilst fostering international collaboration with partners and allies. Successful collaboration requires joined up coordination between UK Government and UK industry to deliver an effective proposition in the international arena, and we would welcome an opportunity to discuss our own experience in this area.

Skills and STEM

The ambition for the UK to be a leader in Space technology will involve further strengthening of the UK STEM skills base and efforts to engage and inspire future scientists and engineers into the space sector, something that featured strongly in our Harwell discussion. From our perspective there have been improvements in uptake, helped by a growing global space interest, but much more can be done through public and private sector strategic collaboration to improve access and appeal of the sector.

At Reaction Engines we are continuing to see growth and have a commitment to invest in our people, nurturing skills of high value to the sector at all levels in the organisation, as well as supporting our popular apprenticeship and graduate programmes (for which we receive over one hundred applications for every place). We understand the importance of accessing talent from every corner of the UK, with a strong focus on diversity and inclusion, and we are currently engaging with over ten tertiary education establishments across the country. We are also connected to academic institutions internationally to learn best practice from other nations with a strong STEM skills base.

Finally, Reaction Engines' space technology has direct relevance to the Net Zero imperative and is increasingly being applied to sustainable technology solutions for aviation, energy, and electric vehicles. This is a good example of investment in the space sector catalysing opportunities in related sectors. The UK Government's support of our business has been a tremendous enabler, and we hope to continue to work closely with key stakeholders including UKSA, BEIS and MoD.

I hope this note has provided helpful background regarding our position on some of the areas in scope of your inquiry, and as a follow-up on our Harwell meeting. I would be more than happy to discuss further with the Committee and would also like to extend an invitation for you to visit our Company HQ at Culham Science Centre in Oxfordshire to continue this conversation, to see our innovative technology and meet our brilliant people.

Mark Thomas
Chief Executive Officer

(February 2022)