



Response to Spaceport Consultation

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Introduction

HE Space is a privately owned SME, currently employing over 160 people. The Company has grown steadily during the past few years, as clients within the space domain trust HE Space with more projects to manage and contribute to. HE Space has offices close to its main customers in Noordwijk (NL), Bremen (D), Darmstadt (D), Munich (D) and Houston (USA). In June 2014 we established a presence in the UK which has continued to grow, particularly at Harwell. We are Preferred Supplier to the European Space Agency in 23 technology areas and Master Supplier to Airbus.

HE Space was created by two veterans of the Apollo Space Programme in the USA. Our core business over the last 30 years has been support to ESA's Human Space Flight Directorate making us experts in the recruitment and supply of highly specialized engineers. A former HE Space Employee has been selected as an ESA Astronaut (Andreas Mogensen) demonstrating our ability to provide the very best staff to human space flight roles.

HE Space recognizes the excellent opportunities presented by the UK Space sector and has developed a business strategy that identifies the UK as a key area for growth in the next 5 years. Our global networks and heritage make us an ideal partner for the commercial spaceflight sector as they seek to develop knowledge and expertise in spaceplane development and operations.

This report provides HE Space's response to the spaceport consultation. The content of this document has been reviewed by HE Space's Management Team and is considered to accurately represent the views of the business as a whole.

CAA's high level recommendation

Question 1

Q1. Do you agree with the CAA's high-level recommendation that, if a decision were taken to proceed, sub-orbital operations should preferably commence, either on a permanent or a temporary basis, from one (or more) of the following:

- an existing EASA-certificated aerodrome;
- an existing UK CAA-licensed aerodrome; and/or
- an existing UK military aerodrome, subject to approval from the MOD.

Response

Yes we agree.

Maximum reuse of existing infrastructure should be made to help keep total cost of creation of the spaceport down and to ensure that the available funding is used in the most efficient manner, creating new infrastructure and support services.

Question 2

Q2. Do you agree that in order to make maximum use of existing infrastructure, the location should preferably still be active but at a low level of aircraft movements and should have existing and appropriate ground infrastructure/facilities and service provision?

Response

We agree that existing and appropriate ground facilities and services would be preferable. However an active site is not as important assuming that the site has only become inactive recently (perhaps 12 to 18 months) and existing infrastructure has not fallen into disrepair. It seems unlikely that the spaceport would retain a normal aviation service thus any users and businesses would need to relocate. Selection of an already vacant site would perhaps simplify the planning and consultation process.

Question 3

Q.3 Do you agree that greenfield sites should not be considered?

Response

We do not believe this is straight forward. The UK's population is growing. The country is already challenged to provide the necessary accommodation and amenities to the growing population and therefore it seems inevitable that some relaxation of planning laws around greenfield sites or perhaps some changes to the classification of the sites will be made to support the creation of new towns or residential developments.

We would agree that use of greenfield sites for a spaceport would need to be done with caution but if we consider some areas of Central and North Scotland, we may find areas of land that are sufficiently distant from population centres to meet the CAA safety criteria but that are also easier to access than some of the proposed locations.

CAA's criteria

Question 4

Q4. Do you agree with CAA's analysis identifying the criteria to be considered in identifying a permanent location for a UK spaceport? If not, please explain why.

Response

HE Space agrees with the analysis.

Question 5

Q5. Do you think there are any other criteria that should also be taken into consideration? If so, please explain why.

Response

We suggest that access to international airports and main trunk roads should be considered and given a high weighting.

As a recruitment and manpower company HE Space has substantial experience in attempting to recruit staff for space companies. This includes recruitment in the UK to Harwell in Oxfordshire and to Goonhilly in Cornwall, both locations that are not well known to people outside the UK. There has been significant difficulties in attracting the highly skilled and experienced staff to Goonhilly in particular and therefore we believe that when considering the location of the spaceport it is vitally important that accessibility of the site is given a high weighting.

The selected location, although perhaps several hours from the large urban centres of the UK, must be accessible via straight forward travel routes. For example motorway driving, direct train links or express bus services.

When considering the shortlisted locations only 2 of them could be considered locations with good access. HE Space suggests these are:

- Glasgow Prestwick Airport
- RAF Leuchars

Both of these locations are less than 2 hours from Edinburgh and Glasgow International Airports via good quality 'A' Roads. Prestwick has a train station and direct access from Edinburgh and Glasgow as does Leuchars. Both Edinburgh and Glasgow Airports have a wide variety of flights from both Europe and the wider world providing excellent access for visitors from around the globe.

It is suggested that the UK currently does not have sufficient skill base to provide all the staff and expertise to the spaceport. Given that the USA is currently leading the development space planes, it could be expected that a number of USA nationals would need to be hired to help get the spaceport started. Thereafter it may also be expected that a number of EU nationals from the well-developed space sectors in The Netherlands, France and Germany may also seek some of the new vacancies. A spaceport that is easily accessible from areas outside the UK and also provides good quality housing and schooling within a reasonable distance (2 to 3 hours) will make recruitment of the right candidates much more straightforward and in our opinion make the spaceport more attractive to potential end users.

Question 6

Q6. Do you agree that these are relevant criteria? What weight should be attached to them?

Response

HE Space agrees with the selected criteria. We propose the following weighting to each criteria.

- Essential Operating Criteria → 30%
- Safety Factors → 20%
- Meteorological Considerations → 10%
- Environmental Concerns → 10%
- Economic Issues → 10%
- Transportation Access to Site → 20%

Question 7

Q7. If more than one location closely meet the essential operating criteria, safety, meteorological, environmental and economic criteria, do you agree that we should also consider factors around the contribution to local and national growth? If so, what weight should be given to these factors?

Response

HE Space agrees that local and national growth should be considered as an additional criteria.

HE Space would suggest that it is important to deliver economic benefit and growth away from the South Coast of the UK. Effort is already being made to develop space expertise with the Satellite Applications Catapult creating regional centres of excellence in the North of the country and HE Space believes these efforts should continue with selection of the location for the spaceport. The creation of a spaceport and the development of the wider space sector has

applications across multiple sectors, including Health, Education and environmental monitoring. Considering the long term future of the space sector, it is important that the benefits are felt by the majority of the population rather than in a concentrated area.

The space industry is a highly technical sector which requires both technician and engineer grade employees in addition to business support staff. When considering the location of the spaceport HE Space would suggest that an area that is currently not well developed in terms of modern engineering is considered. The creation of the spaceport will create a central hub for both education and training thus selecting an area where there is already a concentration of highly skilled people or specialist colleges and universities would seem to be a missed opportunity to support a less developed part of the United Kingdom.

We would suggest a weighting similar to that allocated for environmental concerns.

A Coastal Location?

Question 8

Q8. Do you agree with the CAA's analysis and strong recommendation that until there is a better understanding of sub-orbital spaceplane safety performance, spaceplane operations should only take place in areas of low population density and the resulting view that only a coastal location is suitable to protect the uninvolved general public?

Response

HE Space agrees with the use of a coastal location, not only for the safety factors but also the environmental factors. Although consultation with local residents and businesses around the proposed location is out of the scope of this consultation, it is important to recognise that there will likely be significant objections from some sources due to perceived safety and pollution factors. The selection of a coastal location will help mitigate the concerns of local people and therefore it is felt that the CAA's recommendation is considered valid. Again HE Space takes this opportunity to reiterate its belief that although the potential locations are inevitably somewhat remote, the transport links to the location must be considered of significant importance.