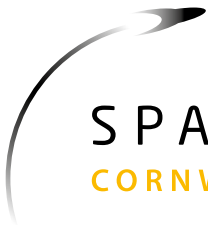




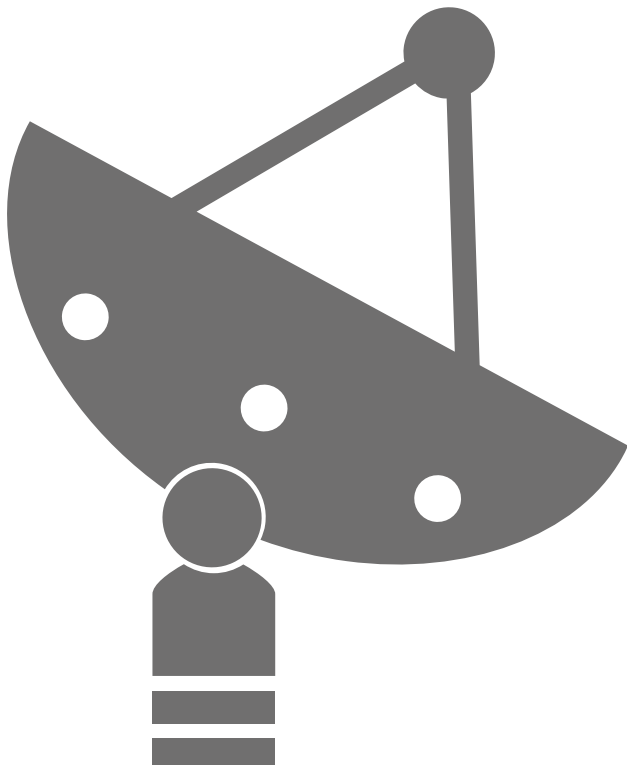
SPACEPORT CORNWALL

Joint response from Cornwall
and Isles of Scilly Local Enterprise
Partnership, Cornwall Council
and Cornwall Airport Limited
to the Department for Transport
Consultation Paper



SPACEPORT
CORNWALL

SUPPORTING COMMERCIAL
SPACEPLANE
OPERATIONS
IN THE UK



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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.

WE ARE THE
MOST
MODERN AIRPORT
IN THE UK

Yes.

The principal of the Spaceport being located on a regulated Airport is essential for the safe operation of any aircraft - whether that be a conventional passenger aircraft or a space vehicle.

It is important that consideration is given, not only to the fact that the Airport is regulated, but also that the correct infrastructure and its licence obligations are also in place and being satisfied. A Spaceport bidder must show demonstrable evidence that safe systems are in operation and that the reliability of equipment and enhanced systems in use at these Airports are fit for purpose.

Airports are infrastructure and asset hungry: having the right runway, taxiway and apron configurations supported both by building infrastructure and operating equipment such as NAVAIDS, RFFS Appliances etc. will be essential. It is essential to ensure that these are on a CAA licensed or EASA certified aerodrome. Consideration of the Regulatory Audit regime should be given to demonstrate that all sites meet their licensing obligations.



The use of an airport with an existing licence

We urge caution in considering unlicensed airfields bearing in mind the proposal for the delivery of the Spaceport by 2018. The timeframe for such airports to become 'licensed' is considerable. Experience in the UK shows that taking an airfield from the planning stage to the licence being approved can take as long as six years.

Newquay Cornwall Airport went through a successful transition from a military to civil operation in 2008. The process started when the airport was an 'active' air base with a civil passenger enclave (terminal, apron and car parks). This £80m investment by Cornwall Council (CC) and other local partners took just over two years to complete. It required a considerable capital programme which included a civil passenger terminal extension, apron improvements and extension, car parks, new navigation aids, radar system, new air traffic control tower, fire station and runway improvements and resurfacing.

Robin Hood Airport Doncaster Sheffield (formerly RAF Finningley) took over five years to complete their transition, from the initial planning application being submitted (1999) to first operations as a CAA licensed airport commencing in 2005.

Due to these experiences of licensing a new airport (time, cost and risk), we would recommend that the selected Spaceport should already have the highest level of licensing to ensure delivery within the proposed timeframe. A minimum of an existing EASA-certificated aerodrome or an existing UK CAA-licensed aerodrome should only be considered.

Newquay Cornwall Airport

(a fully licensed CAA aerodrome) is the most modern airport in the UK. It offers a very low-risk solution to UK Government in this regard.



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?

The Consultation considers that a Spaceport should be at an existing 'licensed' facility where the level of activity of air traffic movements (ATMs) is low.

We do not agree that ATMs should be considered as a potential constraint to Spaceport activity and growth. Any airport must prove that it has sufficient capacity to accommodate all operations safely. What is important is that those sites should be able to demonstrate that spaceplane operations can be **safely** integrated into day to day activities. The fundamental premise of airport operations is that they are done in a safe manner. It should be down to the airport operator to demonstrate how the ground operations and the integration into the air traffic service network will be managed in a safe way. The number of ATMs becomes irrelevant if the safe operation of the Spaceport can be demonstrated.

Newquay Cornwall Airport is able to provide data on its plan for integrating Spaceport operations with other ATMs. This will be clearly evidenced in our eventual bid. We have recently commissioned an airport capacity study which details passenger growth. This study evidences that we can continue to accommodate spaceplane operations even when Newquay Cornwall Airport's passenger operations expand to c450,000 passengers by 2030.

An additional benefit of locating the Spaceport on an operational commercial airport is the route network and connectivity that will be available to operators and consumers. Providing direct access to key regional cities, in particular London, will be an essential part of the package that a Spaceport will offer. Establishing a London route could be a challenge where this does not already exist.

Q3



Do you agree that Greenfield sites should not be considered?

We agree with the Consultation that Greenfield sites should not be considered unless brownfield sites are found not to be appropriate. Greenfield options in the UK would not provide advantages and provide significant programme disadvantage.

We suggest that the Spaceport policy should follow the National Planning Policy Framework March 2012 (Department for Communities and Local Government). One of its 12 Core planning principles (which underpin both plan-making and decision-taking) is to: 'encourage the effective use of land by reusing land that has been previously developed (brownfield land), provided that it is not of high environmental value'.

In our view, only sites that have been previously developed, defined as: 'land which is or was occupied by a permanent structure, including the curtilage of the developed land and any associated fixed surface infrastructure', should be considered as a Spaceport.

Additionally, the current programme for the delivery of a Spaceport does not allow time for a new, undeveloped, site to be progressed.

Existing operational licensed airports, like Newquay Cornwall Airport, will have significant evidence and data on environmental impact of operations and new developments. A proposal like a Spaceport will benefit from this baseline and, although some aspects may need additional impact work, a high bar will already have been set in relation to the evidence baseline. For example, Newquay Cornwall Airport has a detailed suite of environmental evidence including: Biodiversity Action Plan, Historic Environmental Assessment, Business Park Environmental Impact Assessment, Surface Access Strategy (draft in consultation) and an Airport Masterplan (draft in consultation).



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.

The CAA's approach is logical. It includes all the aspects that any proposal for a new Airport facility would have to cover. Therefore, this is a sound methodology for a Spaceport.

The reports do have a number of fundamental weaknesses that need to be addressed and we recommend are considered in more detail:

1. Airspace changes

The report has a good analysis of the changes required to segregated airspace. However, we feel this needs more detail and policy needs to be developed with airports and operators. Airspace change is critical for the safe operations of spaceplanes. If this cannot be achieved, this might render a Spaceport undeliverable.

The DfT has recently stated: 'it is the Government's policy that no new segregated airspace will be permitted in the UK'. However, the consultation proposes that potential airspace changes can be considered and are covered in some detail. The consultation also proposes the utilisation of segregated airspace and existing danger areas. We agree that these changes in airspace need to happen.

Spaceports cannot function without new segregated airspace being created. We seek reassurance that policy, post consultation, will allow flexibility and permit airspace changes. The cooperation of the MoD for the use of military danger areas is vital.

2. Consistent Spaceport criteria

The consultation makes a number of assumptions about the requirements that spaceplanes have for a Spaceport. These, we assume, have come from direct discussions between the CAA, the space sector and potential operators. However, some of these requirements are not consistent. An example of this is the runway length criteria, which has been set at 3,000m in the consultation documents (the language is also inconsistent in the report - minimum of..., in excess of..., of at least...). However, in briefings with the DfT, we understand that some potential Spaceport operators have stated that they require 3,500m of usable runway length i.e. Take off Run Available.

We comment as follows:

- Newquay Cornwall Airport has a runway length of 2744m (9,003ft) x 45m.

- In consultation with the DfT, operators have indicated that they require 10,500ft (3,200m)

- The indication from the CAA/DfT is that the required runway length is for Take Off Run Available (TORA). This needs clarification.

- We understand some operators have stated that they require 3,500m of usable runway length (TORA).

- Any runway extension and 'extent' of the land required has to consider the full protection of the runway strip and the Runway End Safety Area in accordance with CAP168.

- Newquay Cornwall Airport's airfield is not a balanced field length. Given the physical environment around the Airport we would consider the most cost effective solution to extended runway three-zero towards the sea given the physical obstacles and the land topography to our east.

Specific, measureable, achievable, realistic and timely criteria/ targets will be required in order to proceed effectively. We request that at bid stage, clear criteria are provided for assessment of the eventual bids. These will assist with the design work required as well as a fair evaluation process allowing the comparison of 'like with like'.

3. Evidence base for conclusions

There is little evidence or base data provided and the report is expected to be taken at 'face value'. Any data or evidence of likely demand and timing of growth would be appreciated. As we start to plan a potential bid, and assess risks around possible demand, this information could be provided in confidence to shortlisted sites. This would be very useful datum and could avoid duplicated effort from bidders.

We consider all of these factors can be resolved with full cooperation between the consultation partners in particular MoD, CAA and DfT. We look forward to working with the project partners to resolve these issues.

We require further clarification on:

1. Airspace changes
2. Delivery - in particular infrastructure delivery
3. Public safety - uninvolved public
4. Noise from specific systems

Q5



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

We feel that the criteria suggested are very relevant and the key points have been clearly identified within the comprehensive reports. The consultation also seeks views on the added value of a number of economic issues. We have considered these in detail, and have ranked them in order of importance:

1. Deliverability.
2. Promotion of high level skills and supporting the development of the pool of local skills.
3. Synergy or support to existing economic usage of the Spaceport location.
4. Innovation and advancement of science, technology and engineering.
5. Growth of the space or aerospace sector including
 - a. stimulating jobs in the wider supply chain
 - b. supporting existing space sector clusters
 - c. jobs related to spaceplane operations
6. Spin-off benefits such as tourism or other sectors such as marine, renewable energy and food and drink.

We consider all the above as important additional factors that need to be assessed. You will note we have adjusted the headings to reflect how we would perceive these areas can add value.

We have attached as a separate document an initial capability statement for Newquay Cornwall Airport in relation to these added value factors.

1. Deliverability

We consider a detailed assessment of delivery capability vital. All bidding airports should provide a detailed explanation of deliverability which should consider the following:

-
1. Planning consents and other development frameworks including status of Airport Masterplans.
 2. Credible inward investment location.
 3. Land ownership and land acquisition strategy.
 4. Environmental and other development constraints.
 5. Funding strategy.
 6. Viability assessments.
 7. Delivery capability.
 8. Experience of the project partners in the delivery of major infrastructure.
 9. State Aid compliance.
 10. Airport Operator: ownership and remit.
-

A funding strategy and market assessment will be critical for the phasing plan for the infrastructure. The higher the risk attached to growth projections, the more difficulty there will be in raising the capital required to progress the Spaceport infrastructure. Indications of the level of Government financial support to assist with the riskier, early phases would be appreciated. The maturity of the market for spaceplane operations will be directly linked to how much enabling infrastructure can be delivered on a 'build it and they will come' speculative basis.

Cornwall has an excellent track record of major capital project delivery. From this experience - from concept through to implementation - we question the proposed programme for both the bid development and eventual Spaceport delivery phases. Considerable technical feasibility and early design work is required within a very short period - all at considerable risk.

Although we are confident of meeting these deadlines, it would be our preference for some flexibility or a slight change in the process:

- a. An extended bid programme by a couple of months.
- b. Another selection process stage with a Spaceport capability assessment with further down-selection of one or two 'preferred' sites.

If the deadlines remain unchanged it is critical that:

- a. There are very strict and consistent performance criteria to prevent any ambiguity or lengthy requests for information or clarity.
- b. Rapid announcement of bid criteria post consultation.

2. Promotion of high level skills and supporting the development of the pool of local skills

It will be critical for Spaceport bidders to outline how they will work with both national and local providers within both Further Education and Higher Education to maximise the impact from the UK Spaceport. We suggest that a Spaceport skills strategy is vital and should include:

1. Links to Universities with a clear research and innovation agenda in science and engineering.
2. A plan to support higher level skills.
3. Evidence of supply and demand for skills both in the aerospace and space sector.
4. Supporting strategies
5. A clear vision and delivery plan for supporting the promotion of high level skills.
6. Evidence that the local skills programme supports the space and aerospace sectors.
7. A clear delivery plan that seeks to fill the skills gap faced in the aerospace and advanced engineering markets.
8. Details as to how young people will be inspired to enter the industry linked to the Spaceport 'Visitor Centre'.



3. Synergy or support to existing economic usage of the Spaceport location



The Spaceport has potential to add value to existing economic activity. We feel that synergies with this activity must be considered at the next stage.

Links to both local and national regeneration and economic initiatives will add value and allow investment and job creation to be accelerated.

It would make sense when considering the location of the Spaceport to contemplate locating it:

- a.** In a European Regional Development Fund priority area and in particular an area categorised as a 'less developed region'. The highest level of ERDF support would be made available to support infrastructure investment and skills.
- b.** On an existing UK Enterprise Zone as the site would benefit from a range of investment incentives, Superfast broadband, regulation and planning and development freedoms.

Aerohub (a UK Enterprise Zone based at Newquay Cornwall Airport) and Newquay Cornwall Airport provide a unique opportunity for specialisation not only in niche direct aerospace (and space) activity, but particularly in unmanned aerial systems and autonomous systems and robotics. The challenge is to attract significant inward investment capable of delivering highly skilled, well paid jobs.

The following case study highlights the Enterprise Zone:

Case Study



'Aerohub' is Cornwall's Enterprise Zone (EZ). It is an exciting project to grow Newquay Cornwall Airport into a nationally important asset. The EZ is essentially about supporting the Airport in attracting aerospace and related business that will grow and secure long term investment and jobs. This will hopefully reduce, over time, the support that Cornwall Council currently provides to the operation of the airport. Aerohub is the only aerospace focused EZ on an operational airport in the UK so has a unique offer to the aerospace industry and companies looking for a well-connected site with room for development.

There are 170 jobs at the airport through 11 businesses that are not related to passenger operations. The EZ is generating £48m GVA pa. Companies like Apple Aviation, AgustaWestland, Patriot Aerospace, Bloodhound SSC (the project to break the land speed record) and CIS now call the Enterprise Zone 'home'. They all depend on the Airport and the connectivity it provides. Really good progress is being made on the project and the investment by the Council and other partners is now delivering true economic benefits. A convincing example of this is that the average wage within these companies is almost double that of the Cornwall average. New jobs generated by the Enterprise Zone and the airport could reach 1,100 by 2030.

Aerohub and the Airport is a major differentiator to the offer and along with the EZ brand creates a unique site for inward investment that simply doesn't exist elsewhere in Cornwall. A significant milestone was securing £6.1m of funding (ERDF & HCA) for the delivery of a major business park development within the Enterprise Zone. This has the ability to accommodate over 1,500 new jobs and could deliver a unique offer to accommodate space sector investment and jobs.

4. Innovation and advancement of science, technology and engineering

We feel this section should cover a wider remit within the Spaceport - supporting innovation in science, technology and engineering in line with the Government policy of making a long-term commitment to invest in science and research infrastructure. This should align with the forthcoming Science and Innovation strategy being launched at the Autumn Statement in 2014.

This must be seen as a key delivery theme for a Spaceport and relates closely to Government policy to help the UK's high-tech industries thrive. Key strands of activity that would deliver advancement of science and innovation at a Spaceport would be:

- a. Create a research environment and link this to high level skills development.
- b. A local partner investment strategy to support science, technology and engineering.
- c. Provide an investment environment and portfolio that targets new growth opportunities in this area.
- d. Identify competitive advantage where the area has physical, knowledge and enterprise assets (aerospace and space) as a target for potential investment, which in turn may be a catalyst for science and innovation.
- e. Investing in innovation and R&D to enable business growth into global market opportunities (development of new products, processes and services).
- f. Aligning inward investment activity to target science, technology and engineering.

At bid stage we suggest that bidders outline how their location can deliver these strands to support this initiative.



5. Growth of the space or aerospace sector including

- a.** stimulating jobs in the wider supply chain
- b.** supporting existing space sector clusters
- c.** jobs related to spaceplane operations

We feel that locations should be required to demonstrate a strategy to maximise the economic benefits of the Spaceport to the UK by making a commitment to create a cluster of relevant businesses, academic and research expertise to drive innovation in the sector, not just locally but within the UK.

The following are criteria to be assessed:

-
- a. The economic criteria should consider value for money i.e. the extent to which the economic benefits can be secured by utilising and building on existing local assets to accommodate new or expanding businesses.
-
- b. Providing complementary services and research platforms through other local facilities and assets.
-
- c. Supporting economic & investment strategies that will support the Spaceport's initial development and long term growth.
-
- d. A position close to key markets, industry clusters and supply chain networks both in Space and the closely aligned aerospace sector.
-
- e. How the Spaceport will serve existing Space clusters, innovation centres and Catapult centres.
-



6. Spin-off benefits such as tourism or other sectors such as marine, renewable energy and food and drink

Tourism:

In order to attract space experience consumers, the Spaceport will have to have access to a high value, high quality tourism infrastructure. This will have to serve the high net worth individuals who will use the Spaceport and potential high end CEOs etc. of operators.

Within the bid criteria we suggest that details of the type, bed space availability and quality of nearby hotel accommodation and associated facilities such as restaurants should be provided.

If this is not available immediately, a plan to provide it in the future should be outlined.

General tourism benefits:

The Spaceport will be a tourism draw. A visitor attraction should be an essential part of the Spaceport offer and complement the area's existing tourist economy.

An extended local population during holiday season will provide a significant audience to the Spaceport and provide a huge opportunity for education and skills development. A Spaceport in a remote location, with poor access, will not be able to provide this and the benefit will be lost.



Q6



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

Yes, we do agree and we agree that the fundamental criteria that must be delivered to a minimum set standard are:

1. Runway length
2. Availability of segregated airspace
3. Low local population density
4. Use of an existing licensed or certified aerodrome

Clearly operational capability is vital and a number of selected sites might meet the minimum criteria set for Spaceport operations. Therefore, they cannot be the only factors that are considered.

We also agree with the consultation that these need to be coupled with the secondary criteria as follows:

1. Local weather
2. Environmental issues
3. Site accessibility
4. Economic benefit

The added value growth which the Spaceport will bring to the UK as a whole and the benefits to the Spaceport location will be a very important criterion and should be weighted appropriately.

If an airport does not meet these base criteria (minimum standards to be set) then it should not qualify for a Spaceport - this is an absolute assessment.

If two or more airports meet the primary and secondary criteria, then other factors should be considered to differentiate the candidates. Other critical market and economic factors which could also be considered are:

- Potential for skills development
- Location and connectivity
- Delivery potential
- Site constraints (planning and environment)

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?

The Spaceport will bring growth to the UK as a whole, and significantly to the location where the activity will be based. We feel this is a very important factor and that significant weight should be given to it, including how the Spaceport will positively impact existing supply chains both in the Space industry and other related industries such as aerospace and marine.

The final choice for the site must assess the scale of the potential change and benefit that it will bring to the local and regional economies. Weighting economic factors heavily (growth potential, skills development, quality jobs etc.) will help in making the right choice and, in turn, delivering real change. The Spaceport has huge potential to readdress economic imbalances.

The award of 'Spaceport UK' must be a catalyst for growth in regional and local economies. The location must be a credible location to attract Foreign Direct Investment. Therefore, economic impact and inward investment potential must be weighted heavily in any final evaluation of the sites.

The successful Spaceport will have a unique set of attributes that provides an attractive site for global investment within a region set for economic change, providing the UK with the best chance to make Spaceport UK a success.

We consider these factors should be weighted out of 100% as follows:

- | |
|---|
| 1. Deliverability - 25% |
| 2. Synergy or support to existing economic usage of the Spaceport location - 20% |
| 3. Promotion of high level skills and supporting the development of the pool of local skills - 15% |
| 4. Spin-off benefits such as tourism or other sectors such as marine, renewable energy and food and drink - 15% |
| 5. Innovation and advancement of science, technology and engineering - 15% |
| 6. Growth of the space or aerospace sector including - 10% |
| a. Stimulating jobs in the wider supply chain |
| b. Supporting existing space sector clusters |
| c. Jobs related to spaceplane operations |

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?

The consideration of airports in a coastal location and in an area of low population density for a Spaceport is sound.

A coastal location is likely to offer a low population catchment and this will mean the safety aspects and risk of spaceplane operations will be easier to mitigate.

In terms of associated airspace, the requirement for segregated airspace and the use of danger areas to achieve the objective will be best served from a coastal location.

Access to segregated airspace and danger areas from inland airports is going to be much more difficult, given the interfaces with other airports which have controlled airspace either in their Aerodrome Traffic Zone or in close proximity. The management of airspace in such areas with an overlay of segregated airspace would be highly complex in nature and probably not practical.

Around the UK, there are a number of danger areas off the coast. Coastal airports will therefore be able to access these rapidly. For example, danger area D064 (off the coast of Newquay Cornwall Airport) is just 12 miles distant and is quickly and easily accessible from the Airport. The use of such a danger area (subject to agreement with MoD) and other segregated airspace will be vital to ensure the delivery of the airspace required for a Spaceport.

The lack of availability of the technical data from the space vehicle operators does somewhat restrict the options available. The primary requirement of safety is currently only met by places where a Spaceport is located by the coast.

We would like to question some of the data provided within the technical report under

Appendix 9B with respect to population densities. When comparing with our knowledge base, some of the data does not seem to give an accurate picture of the number of uninvolved public likely to be impacted by Spaceport operations. Two that stand out are Stansted and Lossiemouth - the figures indicate very few people resident within one nautical mile of the airport. We consider this very low. However, we accept this may depend on the data point from which the measurements were taken. We would like to understand the basis for this data. A consistent, detailed, and perhaps more representative data set would be helpful to inform the next stage of development.



Q9



What are your views on the CAA's shortlist of eight potential sites?

As one of the shortlisted Airports, it is not appropriate for us to make any specific comment on the details of the suitability of the other sites. However, we do believe that the CAA has put together a strong and comprehensive list, based on some key initial criteria.

Newquay Cornwall Airport is a very convincing candidate for becoming the UK Spaceport as we would provide a very cost effective solution for UK Government. We look forward to proving that Newquay Cornwall Airport should be the location of choice.

Of particular note is our existing airport infrastructure. Cornwall Council and other local partners have committed significant investment to Newquay Cornwall Airport's infrastructure over the last 7-8 years ensuring that it has state-of-the-art facilities with the latest technologies for accommodating various aerospace activities. Please refer to our accompanying capability statement (Appendix A).



Conclusion



Cornwall truly welcomes the inclusion of Newquay Cornwall Airport on the Spaceport shortlist. We consider the work done to date by the project partners: UK Space Agency, DfT, CAA and MoD as comprehensive with a good evidence base although some areas require further clarification as we have detailed. We concur with the conclusions and the methodology used to create a shortlist of sites for spaceplane operations.

The development work required in order for the UK to have its own operational Spaceport is extensive. We relish the challenge of working with the project partners to ensure that the end goal is achieved. Cornwall's track record of major project delivery should convince the Government of our commitment and ability to complete ambitious projects.

With a complete set of consistent criteria, we anticipate an exciting selection process, contested by strong bidders. We require further clarification on:

1. Airspace changes
2. Delivery - in particular infrastructure delivery
3. Public safety - uninformed public
4. Noise from specific systems

With a complete set of consistent criteria, we anticipate an exciting selection process, contested by strong bidders.

We are very keen to develop a detailed bid to become the UK Spaceport.

As part of that process, we look forward to the opportunity to demonstrate to you that Newquay Cornwall Airport offers the most credible, deliverable option to become the UK Spaceport for the following reasons:

1. Newquay Cornwall Airport offers a high value but cost effective solution.
2. There is key added value to our bid - Cornwall's high value tourism infrastructure is tried and tested, industry support will be forthcoming and we are located within a vast aerospace cluster with its associated supply chain.
3. We can offer links to other initiatives and existing Space infrastructure such as Goonhilly Earth Station, a site rich in skills and heritage. We are now recognised as a European leader for our innovative, collaborative approach to higher education.
4. Our track record of major project delivery means we will present a technically robust, credible and deliverable proposal.

Cornwall can provide a physical, institutional, research, business and financial environment that will be a catalyst for the growth of the Space industry in the UK.

We are the best place, with the greatest people and the only real option for the UK to achieve the ambition of a successful Spaceport in the UK.

We are the best place, with the greatest people and the only real option for the UK to achieve the ambition of a successful Spaceport in the UK.

Appendix A

Newquay Cornwall Airport Capability Statement.

1. Deliverability

Cornwall has an excellent track record of major capital project delivery. The main delivery partner, Cornwall Council, also has an excellent track record and is ideally placed to lead on the build of a Spaceport in Cornwall



Cornwall’s project delivery portfolio includes:

- | | |
|----|---|
| a. | The Eden Project |
| b. | Combined Universities in Cornwall |
| c. | Peninsula Medical School |
| d. | Newquay Cornwall Airport transition project |
| e. | The National Maritime Museum Cornwall, Falmouth |
| f. | The regeneration of Camborne Pool & Redruth |
| g. | The Pool, Tremough and Health and Wellbeing Innovation Centres: |
| h. | Hayle Harbour Regeneration |

As outlined, we have recently taken Newquay Cornwall Airport from a military to civil operation through a major transition project. This £80m investment by Cornwall Council and other local partners took just over 2 years to complete. This included a considerable capital programme to include a civil passenger terminal extension, apron improvements and extension, car parks, new navigation aids, radar system, new air traffic control tower, fire station a runway improvements and resurfacing. We are now the most modern airport in the UK.

Newquay Cornwall Airport now has the following:

Appendix A

Newquay Cornwall Airport Capability Statement.

1. *Continued*

Runway Length

Newquay's runway length is significant, at 2,744m. A short runway extension will be required to fully meet the criteria for a Spaceport and can be accommodated (subject to due diligence and design) from 2,744m (9,003ft) to 3,200m (10,500ft) a 450m extension.

Further clarity on runway length required is critical to ensure eventual Spaceport bids are consistent.

We comment as follows:

Newquay Cornwall Airport has a runway length of 2744m (9,003ft) x 45m.

In consultation with the DfT, operators have indicated that they require 10,500ft (3,200m)

The indication from the CAA/DfT is that the required runway length is for Take Off Run Available (TORA). This needs clarification.

We understand some operators have stated that they require 3,500m of usable runway length (TORA).

Any runway extension and 'extent' of the land required has to consider the full protection of the runway strip and the Runway End Safety Area in accordance with CAP168.

Newquay Cornwall Airport's airfield is not a balanced field length. Given the physical environment around the Airport we would consider the most cost effective solution to extended runway three-zero towards the sea given the physical obstacles and the land topography to our east.

The instrument approaches and ground lighting fully meet CATIII operations.



Appendix A

Newquay Cornwall Airport Capability Statement.

1. *Continued*

Nav Aids

There are extensive aids to navigation at Newquay Cornwall Airport, in particular its primary/secondary radar system is one of the most advanced systems currently in operation in the UK. The system has the capability to support spacecraft activities up to the highest levels with coordination with the management of the existing upper air currently delivered at Swanick.

Fire Service

Newquay Cornwall Airport's fire station opened in 2009 and the procurement of three, brand new, Rosenbauer appliances makes our fire service one of the most modern at any UK airport. Our fire appliances are the choice of most UK Airports and have the capability to provide the requisite fire category for a Spaceport. We provide CAT 6 fire cover and CAT 8 is available.



Instrument Landing System

Whilst it is considered in the consultation that operations would not be under Instrument Flight Rules (IFR), no doubt spacecraft in the future will require IFR capabilities. Newquay Cornwall Airport would be able to support such activity at no additional cost as we have both CAT III ILS and AGL.

Development Land

The land availability for the construction of a space terminal and associated facilities i.e. Space Village is significant and could be accommodated within one discreet strategic area of the Airport. There are over 650 acres of land within the Aerohub Enterprise Zone that could be utilised for development associated with the Spaceport. All that land is within a Local Development Zone so offers a "planning free" environment ready for immediate investment and development.

348 HECTARES
OF DEVELOPMENT
LAND

Uninvolved Public

The consultation has already identified the environment around Newquay Cornwall Airport has a low population density. Given the requirement for a runway extension and the likelihood the extension would be in the direction of the sea, it would be likely that areas affected by space operations would be reduced as will any affected population.



Appendix A

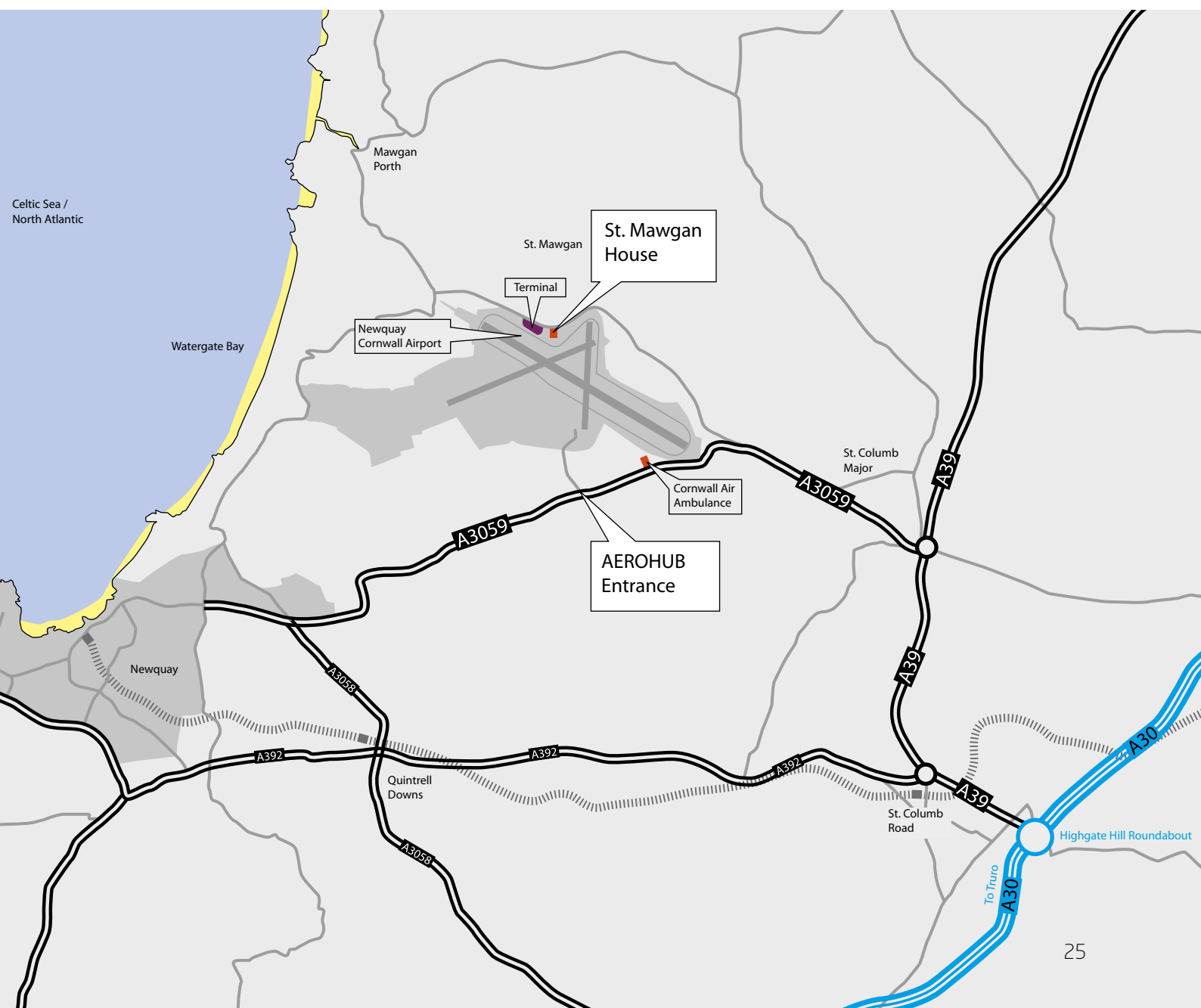
Newquay Cornwall Airport Capability Statement.

1. *Continued*

Access

Air Connectivity: As a fully operational commercial airport, Newquay Cornwall Airport has an existing passenger route network and connectivity that will be available to operators and consumers. This network provides access to key London Gatwick and key regional cities such as Manchester, Belfast City, Birmingham International, Edinburgh, Dusseldorf, Liverpool, London Southend & Newcastle

Road: Newquay Cornwall Airport has good road access. We have a new £3m southern access road giving excellent access to our airport and the facility is now only 5 minutes drive from the main A30 truck road giving access to the M5 at Exeter 1 hour away. The M4 at Bristol is 2 ½ hours away.



Appendix A

Newquay Cornwall Airport Capability Statement.

1. *Continued*

Other factors on delivery:

-
- a. Ownership of site: The whole airport site owned freehold by Cornwall Council. This allows rapid decision making and project delivery.
 - b. Airport operator: Cornwall Airport Ltd (CAL) the airport operator is wholly owned by CC allowing flexibility to change operations of the airport.
 - c. Planning: All 650 acres of the Enterprise Zone is covered by two comprehensive Local Development orders giving the site "Planning free" status. Much of the Spaceport's delivery will be covered by these orders and will not need planning. The Spaceport terminal and comparatively small runway extension will need planning but we are confident that, with the right consultation, this could be secured.
-



Cornwall has the systems and structures in place to immediately transition from a bid stage to delivery of the physical project. We give our assurance that if we bid for the UK Spaceport we will offer a technically robust, credible and deliverable proposal to UK Government.

Appendix A - Newquay Cornwall Airport Capability Statement.

2. Promotion of high level skills and supporting the development of the pool of local skills.

We will work with both national and local providers within both Further Education and Higher Education to maximise the impact from the UK Spaceport.

In particular, we will work with Falmouth University, which is a major creative hub located in the centre of Cornwall, an inspirational place with a long history of creative and cultural innovation that's now home to one of the largest creative industries clusters in the UK. The University's research and innovation agenda is managed through the Academy for Innovation & Research (AIR), having a particular focus on Digital Economy and Sustainable Design. The University is highly committed to playing its part in 'growing' Cornwall and regard the county's success as intrinsically linked to its own.

The Falmouth University partners deliver world-class research in a number of the key markets identified in the Space Innovation & Growth Strategy 2014-2030. The Penryn campus, provides superb modern facilities for the research community, students and a growing number of businesses. The partnership brings together the science, engineering, design, communications and digital content expertise providing the centre with access to a diverse research and business community.

The University has recently recorded one of the biggest rises in The Times and The Sunday Times Good University Guide 2015 league table; jumping 26 places to 51 in the UK, fourth in the South West and third among modern universities (those created since 1992). Falmouth made its debut in the main table last year, having achieved University status in December 2012.

The location of the Spaceport at Newquay Cornwall Airport offers huge potential for supporting higher level skills and Newquay Cornwall Airport has a clear evidence based plan for skills on our site.

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Evidence Base

Two pieces of work were commissioned to provide supporting evidence to our skills strategy:

1. Skills Action Plan for Newquay Cornwall Airport, Pye Tait Consulting, April 2013

2. Space Skills Action Plan: 2013-2022, Pye Tait Consulting and Scott Space, Dec 2013

These reports highlighted:

Progression routes are such that young people can move relatively easily to higher level course and opportunities not only through Cornwall's own network of colleges and universities but also through other colleges and universities in the south west and the rest of the UK;

There is a proven and serious shortage of engineering specialists across UK industry and certainly with the aerospace sector (especially its supply chain); and,

There is proven and serious shortage of aerospace and advanced engineering technicians and engineers worldwide (forming a potential market for any new or innovative solutions in Cornwall).

Establishing a stable and long-term mechanism by which the space sector can be grown.

The need to link the sector's overall development closely to STEM development at all levels and - in particular - to link it strongly to developments in related sectors such as aerospace, marine, high-tech electronics, and advanced engineering, and to the enhancement of IAG understanding and capability.

Appendix A

Newquay Cornwall Airport Capability Statement.

2. Continued

Local Skills Strategy



C&IOS LEP Employment and Skills Strategy 2012 - 2020

Strategic Objective Two: Improve skills and boost employment in growing global markets: The Employment and Skills Board will shape and direct the workplace skills offer (low, mid and higher level skills) to employers. This will ensure that the rate and volume of jobs growth - particularly in the key sectors - is supported by an effective and responsive skills base. They will do this by developing a mechanism for employers to influence directly what is delivered. Activity will include developing targeted skills programmes for locality based initiatives such as the Newquay Aerohub Enterprise Zone.

The proposal for a Spaceport therefore fits with this Skills Strategy by being a targeted skills programme for the Space and Aerospace sectors.

Cornwall Institute for Advanced Technologies (CIAT)

The embryonic educational institution on Aerohub has been given the aspirational title 'Cornwall Institute for Advanced Technologies' which cements in everyone's mind the determination of the County to develop a visionary solution to the skills gap faced in the aerospace and advanced engineering markets.

The CIAT will inspire young people through the creation of an industry sponsored 'Visitor Centre', which will show case Advanced Engineering Technologies with an interactive and hands-on experience.

The vision for the Cornwall Institute for Advanced Technologies is:

To create an educational facility that bridges the current skills gap between the UK and Germany for level 3 to level 5 employees, thus enabling companies to improve competitiveness and meet the anticipated growth in demand from the Aerospace and Advanced Engineering markets. This facility will underpin not only the Cornish economy by supporting the growth of an advanced manufacturing base, but will complement and support the UK's wider aerospace and advanced engineering strategy, both in the South West and nationally.

It is hoped that CIAT will be in place by 2018 directly in line with the planned Spaceport delivery programme.

Appendix A

Newquay Cornwall Airport Capability Statement.

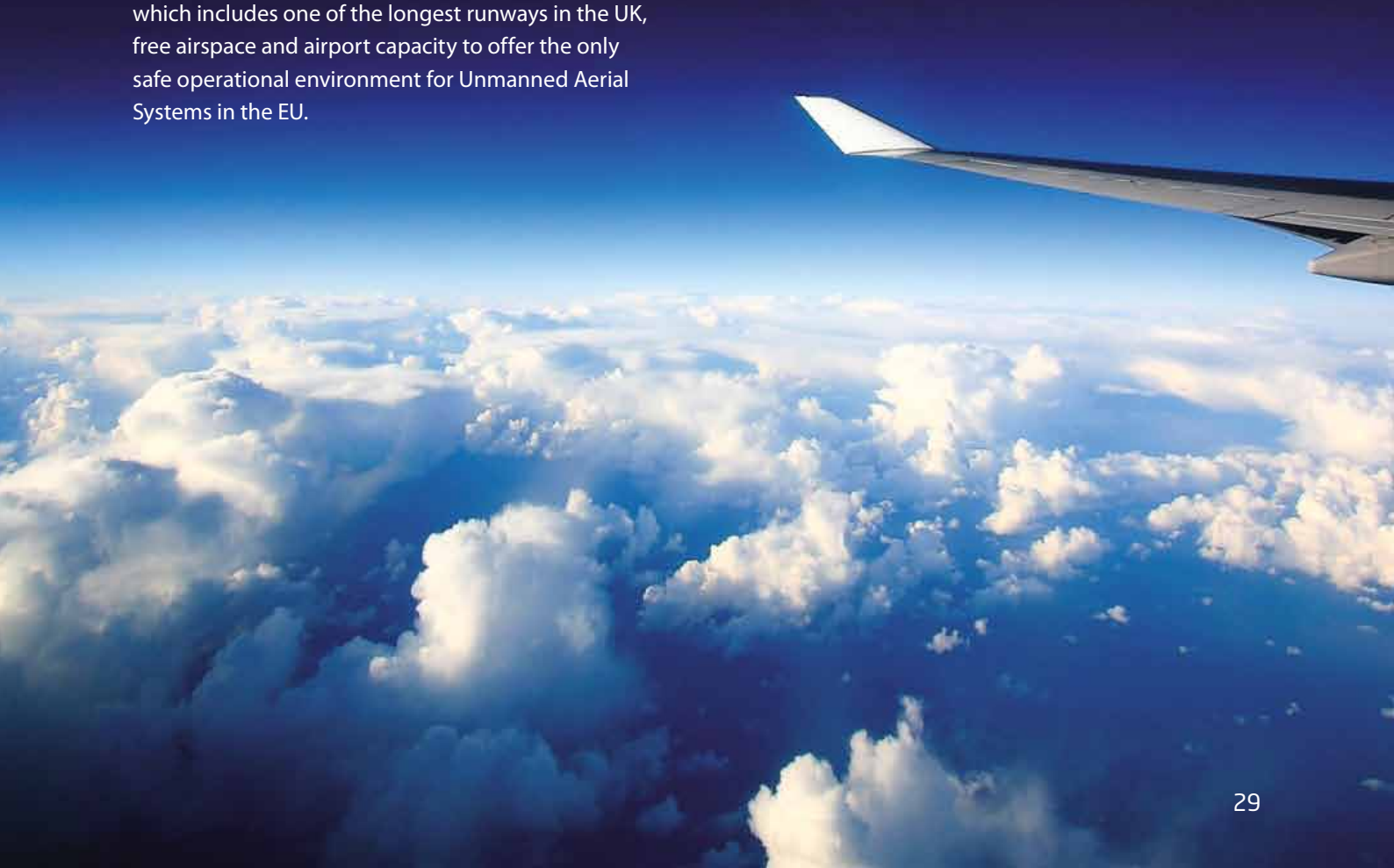
3. Synergy or support to existing economic usage of the Spaceport location.

Newquay Cornwall Airport was designated a UK Enterprise Zone in 2011. We are the only Enterprise Zone in the UK with land on an operation civilian airport. This Spaceport will offer great synergy and support to the EZ initiative and provides an unchallenged offer to space growth on a new Spaceport site.

The airport hosts the National Aeronautical Centre (NAC), a joint venture between West Wales Airport and Newquay Cornwall Airport. In Cornwall, the NAC will exploit the unique environment on offer at Newquay Cornwall Airport and the Enterprise Zone which includes one of the longest runways in the UK, free airspace and airport capacity to offer the only safe operational environment for Unmanned Aerial Systems in the EU.

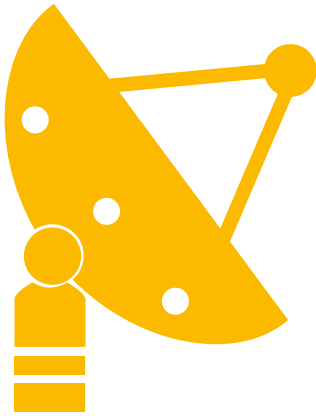
Cornwall and Devon are home to a community of businesses already active in the space sector, including:

- | | |
|----|-----------------------------|
| a. | Engineered Arts |
| b. | Flann Microwave Components |
| c. | Fugro Seacore Ltd |
| d. | Avanti Communications |
| e. | Flux Engineering Ltd |
| f. | Goonhilly Earth Station Ltd |
| g. | Cortex (South West)Ltd |
| h. | Laser Industries |
| i. | Pixalytics Ltd |
| j. | Hirst Magnetic Instruments |
| k. | BT Superfast Cornwall Labs |



Appendix A

Newquay Cornwall Airport Capability Statement.



3. *Continued*

Goonhilly Satellite Earth Station

Goonhilly Satellite Earth Station is located on the Lizard Peninsular in Cornwall, UK. Goonhilly is a fully operational satellite communications teleport. The station carries business internet data, and also is used as a command and control centre gateway for controlling various satellites.

Another project that we are hosting at Newquay Cornwall Airport offers another potential link to the Spaceport is Bloodhound SSC.



Bloodhound SSC

Bloodhound SSC is a unique rocket and jet powered vehicle capable of achieving 1,000mph. The Project has been designed to inspire young people to pursue careers in science, technology, engineering and mathematics.

Aerohub @ Newquay Cornwall Airport will play host to The BLOODHOUND Project for the UK testing phase of their World Land Speed Record car. BLOODHOUND SSC provides a key link to the space industry as the project will be using a rocket in its bid to drive beyond 1,000mph (1,610km/h). Norwegian company Nammo, will supply “hybrid” motors and technical support to the World Land Speed Record attempt.



The Superfast Cornwall Programme

Cornwall has the most comprehensive rural fibre broadband network in the Country. The Superfast Cornwall programme, which is the partnership between the European Union, BT, Cornwall Council and Cornwall Development Company, has rolled out fibre broadband to 85% of premises, and expects to reach 95% coverage by the end of 2014. The broad network underpins research, business growth and innovation. In addition significant expertise in Cornwall which has come together to deliver the European funded investment in Cornwall’s digital infrastructure provides an ideal resource to explore and develop the future potential of Space based broadband technology.



RAF St Mawgan - Military base

Newquay Cornwall Airport is directly adjacent to, Royal Air Force St Mawgan, a joint services military training base. This facility provides a unique neighbour offering security, collaboration opportunities, operator assistance and technology security. RAF St Mawgan is the only RAF Station west of Oxfordshire and, as such, it is the hub of Royal Air Force activity in the South West.

Appendix A

Newquay Cornwall Airport Capability Statement.

4. Innovation and advancement of science, technology and engineering.

The EU Structural and Investment Fund Strategy (EUSIF) for C&IoS has an investment portfolio worth some £520m before match funding. A key part of this is investment into Smart Specialisations.

Smart Specialisation is an internationally recognised approach to addressing new growth opportunities. It is based on regions identifying a limited number of priorities for investment where they have an identified competitive advantage based on where they have physical, knowledge and enterprise assets.

Focus is on investing in innovation and R&D in the identified areas of strength to enable business growth into global market opportunities (development of new products, processes and services).

Aerospace and space assets have been identified as a target for potential avenue for this investment and is able to access an investment fund of £60m within Smart Specialism alone. There is also recognition that in C&IoS that the ambition would be to be a part of a supply chain to a global market. If the Spaceport came to Cornwall then this funding would be a significant boost to the growth of the sector and to promote science and innovation.



Appendix A

Newquay Cornwall Airport Capability Statement.

5. Growth of the space or aerospace sector including

- a.** Stimulating jobs in the wider supply chain
- b.** Supporting existing space sector clusters
- c.** Jobs related to spaceplane operations

We outline below the strategic fit & investment strategies that will support the Spaceport if it is based in Cornwall:

The Cornwall & Isles of Scilly Strategic Economic Plan (SEP)

The SEP is the C&IoS economic growth plan, with a £1billion investment strategy to 2020. We believe this level of investment can deliver an additional £338m GVA p.a. by 2020 (an additional growth rate of 5% above forecast trends), and make a significant contribution to UK's performance and profile in emerging industries, new technologies and global markets. A key aim of the SEP is to provide a 'proving ground' for a number of key Government priorities and innovations - notably Enterprise Zones and the aerospace and space strategies.

The Strategic Economic Plan for C & IoS has three strategic priorities and a number of key interventions:

Strategic Priority 1

Future Economy Investment Area 1 (Smart Specialisation)

...exploit new and emerging markets with an identified competitive advantage. We will utilise research, development and innovation as a recognised driver of growth.

... opportunities must be exploited, and new ones created, if we are to transform our economy.

Effective innovation is built around targeted investment in priority growth opportunities.

£1billion

INVESTMENT STRATEGY
TO 2020

POSSIBLE DELIVERY

£338m

GVA P.A.



**A key intervention
under 'Future Economy'
is Newquay Cornwall
Airport, Aerohub
& Goonhilly.**

This is based on identifying a limited number of priorities for investment which have a competitive advantage due to physical, knowledge and enterprise assets. This links well to the national agenda, with UK Government requesting a framework for innovation that focuses investment in areas where there are competitive advantages for a region in the global market, aligned with the UK Industrial Strategy that identifies a number of key sectors for investment to raise global competitiveness.

Appendix A

Newquay Cornwall Airport Capability Statement.

5. *Continued*

Objectives

To address historic poor performance in Research, Development and Innovation (RD&I) through targeted investments that capitalise on our strengths and unique characteristics to exploit new and emerging markets and sectors in which we have a competitive advantage.

Cornwall & Isles of Scilly ERDF Strategic Investment Fund

The key financial opportunity for the space industry to grow is the EU Structural and Investment Fund Strategy (EUSIF) for C&IoS (2014 to 2020), which has an investment portfolio worth some £520m before match funding.

Space Industry

We offer a very efficient and convenient location for industry growth from both space and related aerospace activity. In terms of location, Cornwall offers an unrivalled position close to key markets, industry clusters and supply chain networks both in Space and the closely aligned aerospace sector.

West of England supply chain and existing aerospace sector

In 2010, the aerospace industry generated over £20bn worth of revenue in the UK, employing just under 100,000 people. The South West is one of the most important aerospace regions in the UK, supporting 59,000 FTE employees (direct and indirect), with 14 of the 15 largest global aerospace firms operational in the region. With long-established prime OEMs (such as Airbus, Rolls Royce, BAE Systems, Boeing and AgustaWestland) based in the region there is a substantial supply chain feeding current and future development programmes in both civil and defence sectors, with spin-off activities in associated fields such as marine industries and advanced engineering. Cornwall already hosts several of the world's largest aerospace companies, including AgustaWestland, Pall Aeropower, Lockheed Martin and Serco Aerospace. Having the UK's Spaceport in the centre of one of the largest aerospace clusters will have huge potential for the embryonic space plane industry.

Regional Southern England

Newquay is well placed to service the Space Cluster at Harwell which is built around Harwell Oxford Science & Innovation Campus. The core organisations at Harwell include the UK European Space Agency (ESA) Centre, the ESA Business Incubation Centre Harwell, the Satellite Applications Catapult, and RAL (Rutherford Appleton Laboratory) Space, together with a growing number of new organisations locating on to the Campus. The Space Cluster is a key asset in helping Space companies, and those that use Space capabilities, to grow and reach their maximum potential and is the focus for a joined up National approach for growth in the Space sector.

We are just over 200 miles or 4 hours' drive from Harwell and we expect significant support from this cluster for the Spaceport to be located at Newquay Cornwall Airport.



*Aerospace industry contributes
£24 billion to the UK economy every year*

Appendix A

Newquay Cornwall Airport Capability Statement.

6. Spin-off benefits such as tourism or other sectors such as marine, renewable energy and food and drink.

Cornwall benefits from an existing, very high value tourism infrastructure. This is “ready made” to serve the high net worth individuals who will use the Spaceport and potential high end CEOs etc. from operators.



Much of this offer is on the doorstep of our site and includes world class facilities such as:

1. Restaurants

(all within 10 miles of Newquay Cornwall Airport)

- a. Rick Stein Padstow
- b. Nathan Outlaw and his 2 Michelin Restaurants
- c. Paul Ainsworth (No 6 Padstow) also Michelin Star
- d. Jamie Oliver Fifteen Cornwall at Watergate Bay
- e. James Nathan winner of MasterChef at The Green Room at Retallack Resort

2. Hotels serving Newquay Cornwall Airport:

As evidence of this high quality offer, in the Sunday Times Ultimate 100 British Hotels - 14 Sept 2014, 7 of these hotels were classified in the ultimate 100 hotels in Britain and all obtained top 3 places. 3 of these hotels are within 5 miles of Newquay Cornwall Airport. All of these hotels are within 30-40 minutes drive. The awards were as follows:

Seaside:

- 1st Idle Rocks St Mawes
- 2nd Watergate Bay, Newquay

Spa:

- 2nd The Scarlet, Newquay

Family:

- 2nd Bedruthan Steps, Newquay
- 3rd St Moritz, Trebetherick, Wadebridge

3. High end self-catering

- a. Perfect Stay - Exclusive very high end “Grand Design” style houses used by A and B list celebrities
- b. Beach Retreats at Watergate
- c. Retallack Resort-with flow rider surf simulator

All the above facilities exist now, providing an instant offer that would appeal to the highest of standards that will be demanded by operators or customers of the Spaceport. Cornwall has no initial need to develop or invest in this high value tourism infrastructure to serve a Spaceport, an offer a major city would be proud of. This further reinforces our value for money that Cornwall offers to UK Government.

Appendix A

Newquay Cornwall Airport Capability Statement.

6. *Continued*

General tourism benefits

Cornwall consistently tops travel award charts and regularly scoops top accolades. It has held the title of 'Best UK Holiday County or Region' for the 5th year running in the British Travel Awards. The total domestic tourism for Cornwall totals 4,245,000 trips, 21,702,000 nights worth £1,122m.

The Spaceport in Cornwall will complement the region's existing first rate tourist economy sitting alongside other world leading attractions in the vicinity such as: Extreme Academy at Watergate, The Eden Project, Tate St Ives, St Michaels Mount, Minack Theatre, The National Maritime Museum Falmouth, and Classic Airforce Retro pleasure flights, Lost Gardens of Heligan, Lanhydrock House and Garden.

The extended population during holiday season provides a significant audience to the Spaceport.

The Scarlet



A graphic showing a stylized map of Europe with Cornwall highlighted in yellow. A large, semi-transparent cone of light originates from Cornwall and points upwards into space, where a satellite is visible. The background is a dark space filled with stars. A curved line, possibly representing a rocket's path, arches over the top left.

SPACEPORT CORNWALL

Thank you for your time.

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