Innovation and Collaboration Hub @ the National Maritime Systems Centre

Full Business Case

31st January 2017

QinetiQ Reference: QINETIQ/MARITIME/BP1602812/1.0-Redacted

Redacted version for public release

Record of Changes

Version	Date	Reason for Change
DRAFT 1.0	23/12/2016	Initial DRAFT Release for comment
	15/01/2017	Working draft to address feedback
1.0	31/01/2017	Initial Release

QinetiQ Reference: QINETIQ/MARITIME/BP1602812/1.0

Executive Summary

This Full Business Case Application is a request for investment from the Local Growth Fund to leverage QinetiQ plans to redevelop Portsdown Technology Park (PTP). The Investment will establish an Innovation and Collaboration Hub (ICH) as part of the National Maritime Systems Centre (NMSC) being created through the redevelopment. The ICH will increase capacity for growth, lower barriers to entry and offer opportunity for Small and Medium Size Enterprises (SMEs) and foster greater collaboration and innovation across the UK maritime mission systems enterprise. Aligning public sector investment with QinetiQ's own plans will maximise the commercial and construction efficiencies of the overall NMSC scheme accelerating and enhancing its benefits.

In response to significant market changes and opportunities, QinetiQ is executing its vision to re-develop and reposition Portsdown Technology Park (PTP) site as a National Maritime Systems Centre. Leveraging a UK defence need for the site which extends 50 years into the future, this vision will establish a 21st century systems engineering centre to deliver greater efficiency, capability and capacity to meet the challenges of complex maritime systems development and delivery for UK and International clients.

The addition of a Innovation and Collaboration Hub as part of the scheme will support innovation, industrial collaboration, lower barriers to entry for Small and Medium sized Enterprises and broadens the site's utility to include exports and support to other government departments and blue light services.

The first step in delivering this vision is already underway. Following a long term commitment from the UK Ministry of Defence (MOD) to continue using PTP as the UK's focus for the design, integration, test, evaluation and front line support of the complex software intensive systems that deliver the Royal Navy's warship fighting capability, QinetiQ has committed significant Private Venture (PV) investment to redevelop part of the site. This investment directly supports QinetiQ's business strategy and delivery of our commitments to MOD. It represents a significant step towards realising the NMSC but will fall short of creating the necessary capacity to realise the innovation and collaboration space envisaged in the full vision. The addition of a publically funded enterprise resource in the form of the proposed ICH will address this shortfall.

Figure 1: QinetiQ plans to build a National Maritime Systems Centre creating a high leverage opportunity for public sector investment

QinetiQ is addressing its future business challenges and an aspiration to become a 'World Class' corporation through a number of initiatives including:

- Improving its estates and facilities to create more modern working environments;
- Attracting the best and brightest local talented people and expertise (research scientists, technologists, academicians and engineers);
- Harnessing improvements in technology;
- Re-designing the customer experience and developing new ways of working in order to meet the challenges of providing maritime defence and security excellence.

Brigading these initiatives around a PTP focus led to the creation of the NMSC vision. This aims to:

- **Secure** and safeguard existing and create new, hi-tech, highly skilled engineering, science and technology jobs;
- **Amplify** the existing centre of gravity around maritime and marine capabilities that will contribute to a compelling employment proposition retaining and attracting the best talent in an increasingly competitive employment market;
- **Deliver** a step change in the Solent Region's ability to export to the world's marine and maritime defence markets with a range of capabilities unparalleled in the UK, and arguably in Europe.

National Maritime Systems Centre Scheme

	Innovation and Collaboration Hub	QinetiQ's Current Plan
Size / Capacity	New build extension: 2000 sq m. Capacity ~100 people depending on tenants requirements for office, trials or laboratory space.	New build: 5000 sq m, mixed office, trials and laboratory space. Capacity ~190 people. Wide site legacy accommodation, mixed office, trials and laboratory space. Capacity ~ 90 people.
Description	Additional configurable office and laboratory pace available to defence and security companies seeking expand or relocate in the Solent Region.	Collaborative office space shared with BAE Systems and MOD Office Trials and Integration Facilities Trials & Operations Control Centre Dedicated QinetiQ office space and laboratories
	Shared classrooms, auditorium, first aid facilities, staff restaurant, stores, workshops	

Figure 2: Public sector funding will increase scheme capacity and deliver the full NMSC vision

Through the inclusion of the ICH, the scheme will deliver a collaboratively funded Solent Region enterprise resource that includes facilities and suitably qualified and experienced personnel able to support and exploit synergies across parallel activities including:

- MOD research, acquisition and support programmes in the Maritime Mission Systems domain including unmanned/autonomous systems, joint force and international coalition capabilities;
- Maritime Mission Systems and Intelligent Systems export opportunities through the Defence Growth Partnership (DGP) Centre for Maritime Intelligent Systems (CMIS);
- Systems integration, test and evaluation activities for other government departments and blue light organisations, for example the Maritime & Coastguard Agency or the Civil Aviation Authority;
- Maritime defence and security research, innovation and collaboration.

The scheme will also create a focal point for attracting, retaining and developing critical skills within the industry through QinetiQ's membership of the 5% Club[1], close links with key academic institutions in both Higher and Further Education and the establishment of Systems Engineering Academy. The Academy will build on specialist courses already supplied by QinetiQ to MOD and the defence industry.

The scheme's contribution to the objectives and priorities set out in the Solent LEP Strategic Economic Plan as shown in Figure 3 and Figure 4.

Figure 3: The National Maritime Systems Centre maps closely to the objectives set out in the Solent LEP Strategic Economic Plan

[1] http://www.5percentclub.org.uk/

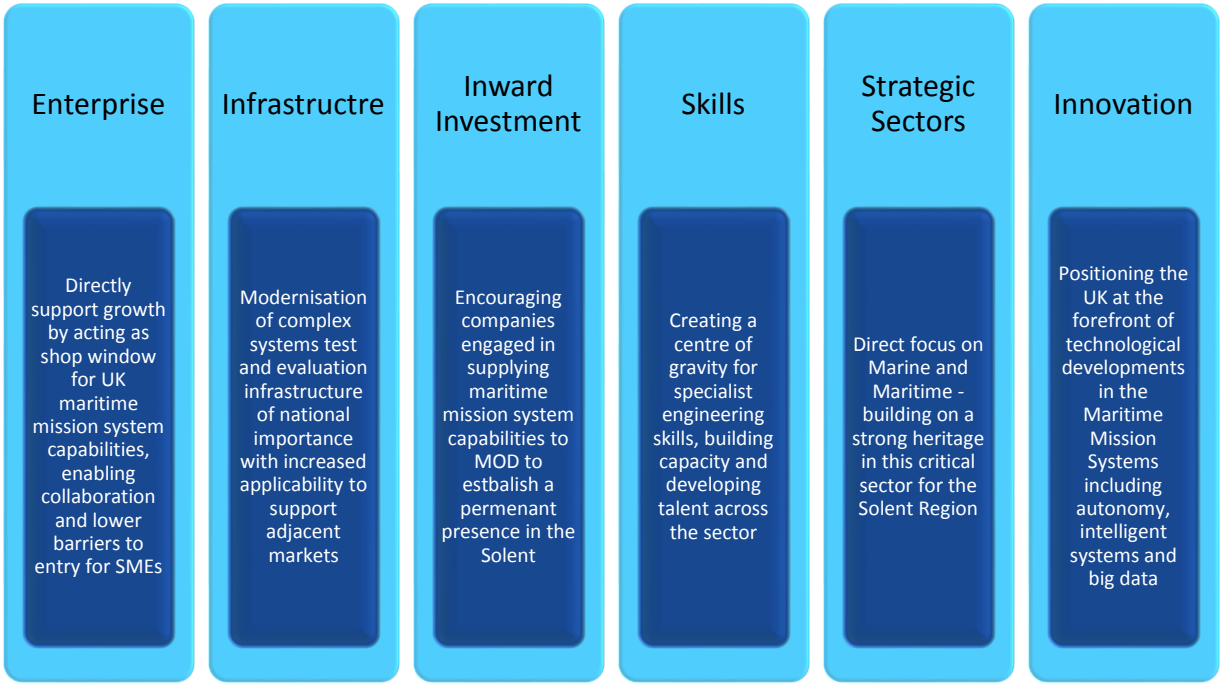

Figure 4: Public Sector funding of the ICH within the NMSC will strengthen the scheme's contribution to the priorities set out in the Solent LEP Strategic Economic Plan

A Strong Strategic and Economic Case

Strong strategic and economic cases underpin the rationale for public sector investment to deliver the ICH aspect of the scheme. PTP is already a significant asset within the Marine and Maritime sector, which itself has been identified as vitally important to the Solent Region. MOD's long term commitment to the site and QinetiQ's subsequent planned PV investment to deliver the 'QinetiQ Current Plan' means that the return on investment for public sector funds will be highly geared. Overall the scheme has excellent strategic fit with a direct linkage or contribution to:

- HMG's productivity agenda;
- The Solent Strategic Economic Plan and Solent Transformation;
- HMG's Strategic Defence & Security Review 2015;
- UK defence market and the National Shipbuilding Strategy.

Full realisation of the NMSC vision will help secure and safeguard the 280 high productivity jobs already at PTP and has the potential to create up to 100 additional similar roles though the ICH. These jobs typically have a GVA of [[redacted]][2] compared with a Solent Region average of [£48,000][3] per filled job[4]. The scheme will also drive greater alignment with related activities in the area including: the Solent Marine and Maritime Initiative, Portsmouth University Technical College and the South Coast Marine Cluster.

[2] Based on a simple average revenue per employed person for QinetiQ south coast operations in 2016

[3] Taken from ONS sub regional productivity figures published in GVA for LEPS

[4] Further discussion may be required to validate the basis of this comparison and the ensure GVA is being applied and calculated consistently

Strategic Options

QinetiQ identified four strategic options for the implementation of the NMSC vision that were assessed against for their fit with QinetiQ's business need and their potential wider economic benefit. A summary of the options and assessment criteria is show in Figure 5. Options 1 and 2 form the "Do Nothing" Options for the Solent LEP as they require no public sector investment. If no public sector investment is forthcoming Option 2 will be QinetiQ's fall-back position and the ICH will be removed from the current plans for the NMSC scheme.

Option 1, has been discounted on the basis that the existing facilities at PTP are housed in aged infrastructure that will constrain QinetiQ's future growth aspirations and prevent execution of the company's strategy (see Section 2.3). QinetiQ is now committed to the re-development of PTP and therefore Option represents the baseline position.

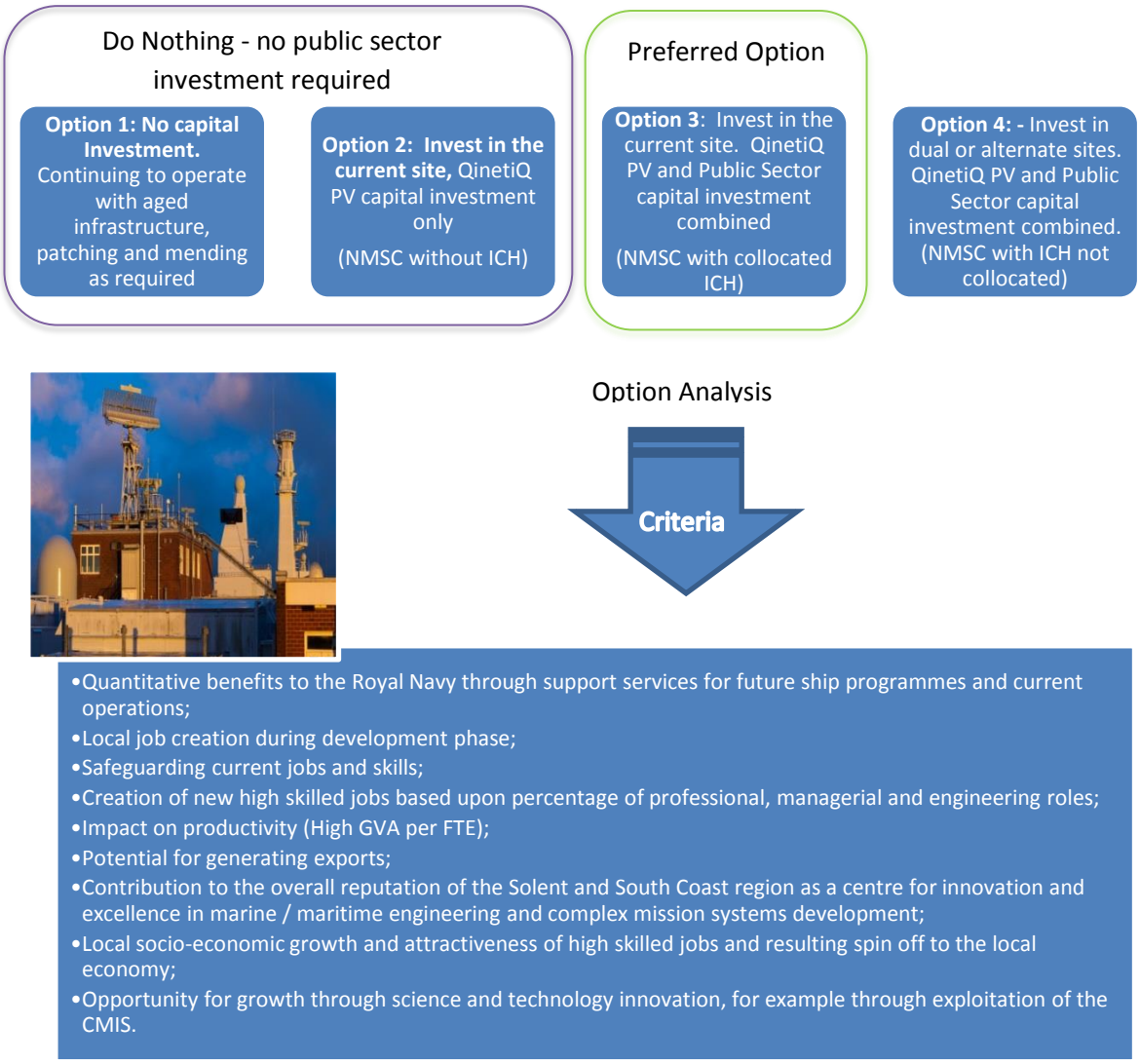

Figure 5: Options were assessed for their economic impact with option 3 delivering optimum benefit

Option 4, investment in a dual site, such as a separate test site and the existing site, is not preferred due to the potential productivity impact and higher implementation and operating costs. The scheme's success is also dependant on the creation of a compelling proposition for prospective tenants and a need to generate synergies with existing activity at the site to bring

about innovation and collaboration. PTP's location and topography make it uniquely suitable for the work that is conducted there and therefore any dual site strategy is likely to weaken the proposition for prospective tenants and undermine the success of the scheme.

The preferred option is therefore Option 3 "Invest in the current site, QinetiQ PV and Public Sector capital investment combined". Coalescing facilities around a single site infrastructure **reduces the need for duplication of costly facilities across the enterprise and lowers barriers to entry for SMEs**. Through leveraging committed investment by QinetiQ this preferred option offers:

- Greater efficiencies in the construction and operation of the scheme;
- Improved capabilities;
- Enhanced capacity for collaboration and Innovation.

The investment in the current site within the Solent Region leverages existing utilities and skills investment, gives the company future expandability options and will maximise productivity in the long term. From an operational and commercial development point of view the timings of the investment are optimal, as they aid customer engagement and completion of a key investment during the development programme.

Option 3 is expected to unlock the following economic impacts:

- During the construction stage there will be a large supply chain employed and used at PTP almost all of which is sourced within the local area. The sector is characterised by high levels of fragmentation. Analysis carried out for the Department for Business Innovation and Skills(BIS)by EC Harris (2013)15 has shown that for a 'typical' large building project – that is, in the £15 - £20 million range - the main contractor may be directly managing around 50 sub-contracts of which a large proportion are small. The wider supply chain impact of this scheme will support significant amounts of local jobs;
- The wider supply chain impact of operating this scheme will support and enable the local economy, generating over £[redacted][5] of economic value between 2018-2023;
- The scheme will help secure and safeguard circa 280 existing jobs and could also potentially generate up to 100 new jobs through encouraging new business growth in the area including but not limited to direct job creation by QinetiQ. Direct job creation by QinetiQ is estimated generate around £[redacted][6] of economic value between 2018-2023, with highly skilled jobs generating high GVA per job ratio;
- The company expects to leverage a large value of its corporate upstream sustainability and environmental savings of new build and new technology against the running costs of the existing facility. QinetiQ aspires to become a low carbon economy company which places environmental sustainability and corporate social responsibility issues at the heart of its core business strategy. The savings in CO_2 emissions, preferred supply chain and building materials to be used and construction process to be adopted will also have a material environmental and development value.

5 Based on operating cost supply chain spend of [redacted]M per annum with Solent based companies

6 Based on the impact on revenue of QinetiQ head count growth of [redacted]% per annum

A Viable and Deliverable Scheme

The proposed public sector investment will build upon the solid foundation of QinetiQ's current plan which is founded on a need to modernise PTP and deliver QinetiQ's commitments to MOD. Aligning the investment in a single site, single construction programme will maximise commercial, construction and operational efficiencies associated with the creation of the ICH.

The QinetiQ management team are ambitious and passionate about our vision to create a world class NMSC creating high value jobs and inward investment in the Solent Region for the long term. The investment case underpinning QinetiQ's current plan went through a great deal of scrutiny and was approved by the QinetiQ Board in July 2015. The case was re-visited several times against the backdrop of on ongoing negotiations with MOD during 2016 and remained convincing. The expected operating savings that the new building will deliver have been incorporated PTP's underpinning contract with MOD and therefore the project is critical to the company's success. It will be managed under the full guidance of QinetiQ's main Board, led by CEO Steve Wadey, who together have over 200 years combined senior management experience.

Figure 6: A similar project QinetiQ has recently completed in Aberporth

QinetiQ has an excellent track record and experience of procuring and programme managing of complex capital projects that support its core business. QinetiQ will use its existing project governance and risk management processes to deliver the project. The company holds ISO 9001, 14001, and 15001 certification and manages to those standards.

Planning Consent for QinetiQ's current plan was granted by Portsmouth City Council on 9th June 2016. The additional 2000 square metres proposed for the ICH will be subject to an amendment to the approved plans which is currently being prepared. Informal discussions on the extended building have already taken place with Local Authority and the local community and have been favourably received.

Pre-application advice from Portsmouth City Council requested the inclusion of a traffic management plan, which has been completed and indication of how the sky line would be affected. The full design and access statement has been completed showing the skyline would not be affected as the extension will follow the same profile as the main building. The pre-

application will be submitted on 30th January 2017 and the pre-app presentation meeting will be held week commencing 13th February 2017.

To the achieve the commercial, construction and operating efficiencies proposed for the ICH, the design and build schedule must align with QinetiQ's current plan. This gives rise to the following key project milestones outlined in Table 1:

Milestone	Planned Completion Date
Outline Design	End March 2017
Planning Application (amendment to current approved plans)	End of March 2017
Local Growth Deal Grant Approval (conditional on Planning Consent)	End of April 2017
Planning consent (amendment to current approved plans)	End June 2017
Detailed Design (NMSC including ICH)	End October 2017
Works Start on Site	End November 2017
Build Complete	End February 2019
Fit out and commission	End April 2019
All works complete	End May 2019

Table 1: A challenging but achievable schedule

The design of the new building has been created by WYG and Architects Scott Brownrigg who have also contributed to estimating its costs using industry standard approaches. The new building footprint covers approximately 50% of the overall building stock of the site and maximises the natural topography of the land.

Figure 7: View from Southwick Road

The need for a new modern building, predicated on the basis that the current estate at PTP is no longer capable of providing modern and flexible agile working environment necessary to meet QinetiQ's business growth strategy, also presents the opportunity to enhance the scheme and create a commercially attractive proposition for tenants to come and work alongside QinetiQ and the site's existing tenants.

In identifying tenants, QinetiQ is looking for synergies with the existing activity at PTP, who fit the necessary criteria for working on regulated UK defence site and will generate collaboration and innovation opportunities. This will be of mutual benefit and in addition the site will offer modern cost effective corporate accommodation to occupiers with access to unique facilities, expertise and customers including the Royal Navy. The QinetiQ Group Commercial Property team have a commercial property marketing campaign in place for promoting PTP as a modern Technology Business Park and business enterprise destination. This campaign is being led by our local Commercial Property and Letting Agents, Holloway Iliffe and Mitchell Chartered Surveyors.

QinetiQ is already in dialogue with a number of interested global and local corporate occupiers/tenants who are keen to co-locate and collaborate with QinetiQ in the new proposed world class facilities at PTP.

> *"Having looked broadly across the local business sectors it is clear that any technology park / facility that is geared to growing businesses and nurturing them into fully fledged operations in their own right needs to have significant infrastructure in place, and it is clear that Portsdown Technology Park will have a new state of the art facilities that businesses will be very interested in such as great security, good parking and some on site facilities if they can be shared, such as gym, canteen."*
>
> Tom Holloway BA Hons MRICS
> HOLLOWAY ILIFFE & MITCHELL LIMITED

It is the creation of the innovation and collaboration space delivered through the ICH coupled with a commercially attractive proposition for tenants to relocate and work at PTP that **significantly enhances the benefit of the NMSC scheme for the Solent Region**. The delivery of these benefits will be ensured through the execution of a Benefits Management Plan utilising the Managing Successful Programmes (MSP)® methodology.

Financially, the NMSC scheme offers greater than 2:1 gearing on QinetiQ's committed investment with a contribution of £[redacted] requested from the Local Growth Fund. Table 2 shows the estimated project costs and demonstrates the linkage between the scheme costs and both QinetiQ and growth deal investment. These estimated costs have been put together by the cost consultant on the project based on Joint Service Publication (JSP) 315 scales and schedule of rates for the proposed footprint and size, they are not based on contractor quotes. These will be determined following the tender action.

	FY 17	FY18	FY19	FY20	Total
Total Cost of Construction	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Funded by:					
QinetiQ Funding	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
LEP Funding	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Table 2: Investment phasing is matched to project outlay

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1. Purpose of this Document

This document is the Full Business Case in support of a proposed extension to the National Maritime System Centre (NMSC) at Portsdown Technology Park (PTP) to create an Innovation and Collaboration Hub (ICH). It sets out a strong business case for investment funding to support the delivery and acceleration of QinetiQ and the LEP's commercial and sustainable business growth plans within the Solent Local Economy. It summarises the proposed scheme, the Private Venture (PV) investment already committed by QinetiQ and a robust rationale for public sector investment.

This case outlines the context, both national and local, against which the proposal has been planned and details the key drivers for change and therefore the objectives and benefits that the proposal will deliver. It confirms the affordability of the proposal for the development both in capital and revenue terms.

Importantly, this case demonstrates the essential role that Solent LEP funding will play in accelerating this innovative and transformational project that is ready to proceed immediately with Solent LEP investment.

This Full Business Case has been prepared using the agreed standard and format for business cases using the Five Case Model in line with the HM Treasury Green Book, which comprises the following key components:

- The **strategic case** section. This sets out the strategic context and the case for change, together with the supporting investment objectives for the scheme and how they contribute to the Solent LEP plan;
- The **economic case** section. This demonstrates that the organisation has selected the choice for investment which best meets the existing and future needs of the service and optimises value for money;
- The **commercial case** section. This outlines the content and structure of the proposed project;
- The **financial case** section. This confirms funding arrangements and affordability and explains any impact on the balance sheet of the organisation;
- The **management case** section. This demonstrates that the scheme is achievable.

2. The Strategic Case

The Marine and Maritime sector is vitally important to the Solent Region and arguably one of its unique assets. The Transform Solent Marine and Maritime Supplement Report[7] identified the Marine and Maritime sector is one of the largest and most productive in the Solent, contributing 20.5% of the region's GVA and 5% of the region's private sector jobs.

In addition to highlighting the importance of the Marine and Maritime sector to the Solent Region, the Transform Solent Marine and Maritime Supplement Report identified that with investment, leadership and a region-wide plan, there is an opportunity to take advantage of a range of growth opportunities, to expand the region's market share and contribute to the UK's export-led recovery. The report proposed an over-arching aim of positioning the Solent as a globally recognised marine and maritime centre of excellence through the development of six themes:

- Leadership;
- Developing our Ports;
- Marine Manufacturing;
- Technology and Innovation;
- Skills;
- Brand Solent.

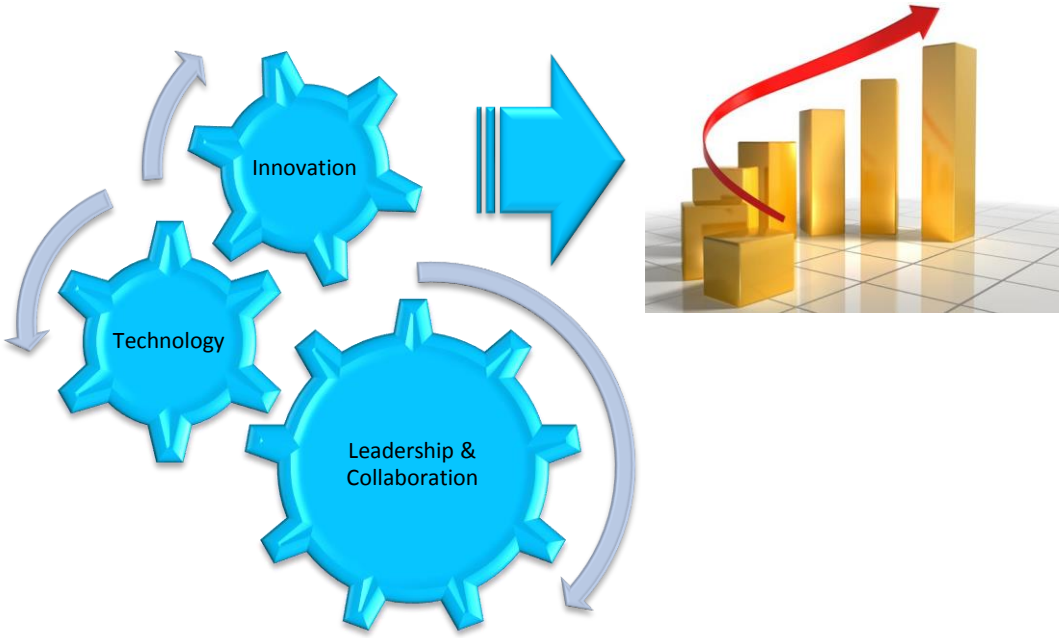

Figure 8: Leveraging National Maritime Systems Centre skills, leadership, and innovation to achieve growth

The application of the Leadership, Technology and Innovation, Skills, and Brand Solent themes in particular, together with QinetiQ PV investment in PTP, has the potential to significantly enhance comparative advantage for the Solent Region through the NMSC scheme.

[7] https://www.gov.uk/government/publications/transforming-solent

2.1 Strategic Context

2.1.1 HMG's Productivity Agenda and Solent Transformation

> *".....we have substantial and credible assets on which to build in raising growth and productivity, namely: our research, our talent, our business base. It is the interaction of these assets combined with the economic infrastructure that will allow us to raise our game."*
>
> Gary Jefferies, Chairman - Solent LEP

The Chancellor's Budget 2015 combined with the publication of the HMG's productivity plan, Fixing the Foundations, sets out a clear plan of action to raise the nation's productivity. In response, the Solent LEP has identified[8] a need to:

- Invest in our economic infrastructure;
- Develop the skills that our economy needs to succeed;
- Ensure that ideas and knowledge are at the forefront of our approach, supporting our businesses to innovate, export and grow; and
- Build on our sectoral strengths and recognise our comparative advantage.

> *"The extraordinary maritime heritage of the Solent Region is founded on its geographic advantages and centuries of success in traditional maritime skills.*
>
> *Continuing that success in an increasingly competitive global market needs leadership, a new culture of working together across the Solent, investment, innovation, and to nurture the skills and talents required to embrace new technologies."*
>
> Rear Admiral Rob Stevens, CB

The recent activities in creating the South Coast Marine Cluster have extended the range of the region to include significant capabilities throughout the UK South Coast area. As a member of the Cluster, QinetiQ is working closely with a range of academic, council and other organisations to develop the area on an international basis, the focus next year on the "Year of Autonomy", building on our capabilities in unmanned vessels and system integration. Increasingly the area is seen as a major centre for innovation, with strong partnerships and collaborations being built, for example the work undertaken between Southampton University (Southampton Marine and Maritime Institute), Lloyds Register and QinetiQ in jointly producing the Global Marine Technology Trends 2030 Report[9] which has been recognised internationally as setting out a technology vision for the sector.

Many traditional maritime skills are indeed centuries old. However, increasingly, competitive advantage for maritime operators, whether operating in defence, security or commercial sectors, is derived from complex systems technologies. Whilst the development and application of these particular technologies to the Maritime Sector can only be measured in decades, through the

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[8] http://solentlep.org.uk/uploads/documents/Solent_LEP_Productivity_and_Growth_Supplement_WEB_VERSION.pdf

[9] (ISBN:978-0-9933720-0-1 (print), QinetiQ, University of Southampton and Lloyds Register, October 2015) https://www.qinetiq.com/services-products/maritime/research-systems/pages/gmtt2030.aspx

work undertaken at PTP, the Solent Region can claim an equally impressive legacy in these high-tech skills.

2.1.2 Developments in the UK Maritime Defence Market

Complex Mission Systems (CMS)[10] provide the warfighting capability for naval warships. The systems are highly integrated enabling the Royal Navy to operate as world power around the globe. These CMS are evolutionary and are constantly undergoing development and enhancement to meet emerging defence needs requiring a highly skilled workforce to develop, test and evaluate their operational capability under a wide range of potential warfare scenarios.

Current and near future warships including the Type 23 Frigate, the world leading Type 45 Destroyer and the nearing completion Queen Elizabeth Class Aircraft Carriers all rely on these CMS to enable their operation. Future programmes including the Type 26 Global Combat Ship and the Type 31 General Purpose Frigate will require developments of the CMS throughout their life, creating a long term (out until at least 2050) strategic need for a CMS engineering facility capable of developing the systems and exploiting emergent technologies such as intelligent systems throughout the life of the vessels.

The Royal Navy Shipbuilding Programme is illustrated Figure 10:

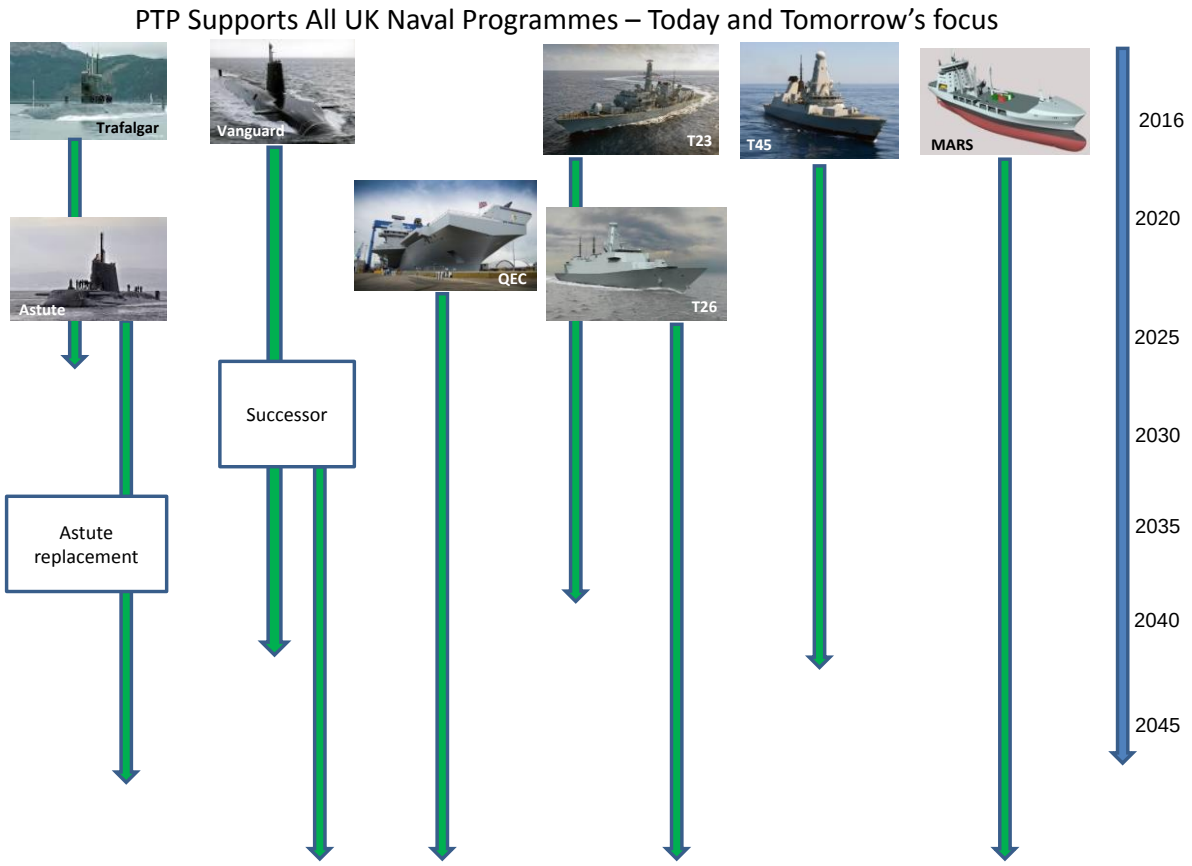


Figure 9: A long term strategic need for a complex mission systems engineering facility

[10] Persistent Surveillance, Situational Awareness, and autonomous systems rely on sophisticated sensing, information and communication technologies integrated to provide reliable capability

The recently published independent report[11] to inform the UK National Shipbuilding Strategy made a number of recommendations that amplify the above needs:

- The need to invest to deliver higher productivity in the UK Shipbuilding Industry;
- The need to develop a production friendly design for the General Purpose Frigate (the Type 31e) that is globally competitive;
- A single long term (30 year) Master plan for ship building;
- The setting up of "Virtual Innovation Centres";
- The need to create and sustain highly skilled jobs including technician and graduate recruitment.

UK Defence has seen major political uncertainty, austerity and emergent threats whilst striving to maintain UK foreign policy and prosperity objectives. QinetiQ believe that the UK market will continue to be characterised by:

- Significant levels of change alongside international collaboration;
- A focus on accelerating innovation to deliver technology advantage over agile and sophisticated adversaries; and
- Increased pressure on single source margins.

Sir John Parker's independent review to inform the National Shipbuilding Strategy reinforces an already strong case for complex systems engineering facility to support current and future Royal Navy platforms out to 2050 and beyond. This long term requirement provides a solid foundation from which PTP's capabilities can be enhanced to better address changing market conditions.

2.1.3 Evolving and Expanding Export Markets

Under the Defence Growth Partnership (DGP), the development of the Centre for Maritime Intelligent Systems (CMIS) is seen as a critical component in developing capabilities to support these broad strategic objectives and recommendations, delivering advanced technologies into existing and planned warship mission systems. Examples include the adoption of Unmanned Systems as demonstrated in the recent Unmanned Warrior 2016 Exercise conducted in October 2016, Figure 11 highlights some of the technology used at Unmanned Warrior 2016.

Market Research conducted by Renaissance Strategic Advisors on behalf of the DGP (Project GIULIA) at the end of 2015 estimated that the Total Worldwide Market for Complex and Autonomous Mission Systems to be in the order of £42.4Billion. These figures include additional opportunities to supply CMS into other related sectors such as coastal defence and Port Security.

[11] An independent report to inform the UK National Shipbuilding Strategy, Sir John Parker, 29th November 2016, https://www.gov.uk/government/publications/uk-national-shipbuilding-strategy-an-independent-report

Figure 10: The range of autonomous vehicles being trialled and the operators 'in action' during Unmanned Warrior 2016 highlight the capabilities that the UK industry has to offer both the Royal Navy and export customers

Alongside the development of CMS for existing and planned warships, the Ministry of Defence (MOD) and UK Complex Mission System suppliers are investing heavily in Research and Development (R&D) of future capabilities and solutions. Collaborative Programmes funded by Defence Science & Technology Laboratories (Dstl) include Maritime Autonomous PLatform Exploitation (MAPLE), Autonomy Command Exploitation and Realisation (ACER), and Open Architecture Combat Systems (OACS) average a MOD S&T investment of between £[redacted] and £[redacted] per annum.

In the International Market, affordability is impacting developed nations resulting in an increased appetite for collaboration. We see increased government support for UK industry aimed at wealth creation, through support for exports and the UK Space strategy. We will continue to see increasing concerns about the maintenance of skills and capabilities across the Defence Enterprise.

Portsdown Technology Park has capabilities that are becoming increasingly pertinent as UK and export markets evolve. Through the National Maritime Systems Centre, an increased focus on innovation and collaboration will enable the UK to better meet the challenges and opportunities the future brings

2.2 Organisational Overview and Existing Arrangements

2.2.1 QinetiQ at PTP

PTP provides high productivity employment for around 280 engineers, scientists, project managers and support staff across a range of organisations including QinetiQ, BAE Systems and the MOD. Many defence suppliers use the site on an itinerant basis as their products move through the lifecycle from R&D and in to service with the Royal Navy.

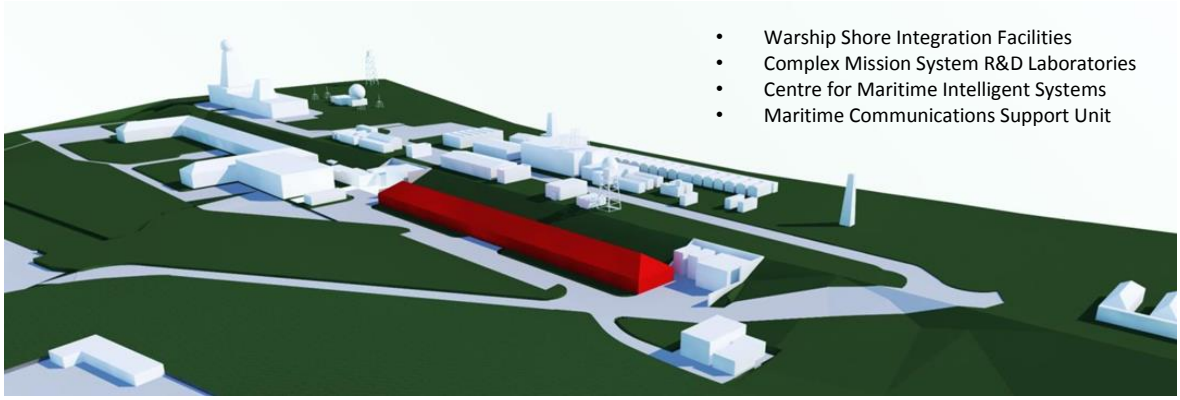


Figure 11: Portsdown Technology Park has an impressive range of facilities that are critical to UK defence but could be better harnessed to support export growth

Both QinetiQ and BAE Systems provide integration support to the MOD under a joint long term programme that enables the cost effective and safe introduction of new combat system equipment to the fleet while also ensuring in-service equipment is optimised ready for front line action. The delivery team for this programme, along with customer representatives, are temporarily housed in a large portacabin onsite and will move into the new facility ('QinetiQ Current Plan') when ready.

The future programme for integration support is aligned to the HMG's strategy for defence equipment as defined in publications such as the Strategic Defence and Security Review. This document sets out the strategy for Joint Force 2025 to provide the ability to fight in the information age and a greater ability to undertake the most difficult operations. Pertinent to PTP are significant integration programmes relating to Carrier Strike, Type 26 Frigate, General Purpose Flexible Frigate, Mine-Countermeasures vessels, Fleet Solid Support Logistics vessels, the addition of ballistic missile defence capability for the current Type 45 Destroyers, Hunter Killer Submarines (Astute class) and the Continuous At Sea Deterrence (Successor).

Case Study - Joint and collaborative working

PTP hosts the most complete land-based representation of operation combat system equipment for the Royal Navy providing integration and performance enhancement services to both in-service and future warships. In addition, PTP contains in-service and state of the art network and communications equipment for both warships and submarines. The facility is operated by QinetiQ and BAE Systems making use of local companies for ongoing maintenance of specialist equipment, for example from STS Defence based in Gosport and industrial equipment, for example air conditioning.

As part of the integration support service, BAE Systems operate the Maritime Integration Support Centre at PTP. This facility directly supports the Type 45 Destroyer and Queen Elizabeth Carrier combat systems housed in a striking ship-like structure.

QinetiQ also delivers a variety of combat system, communication system and information system services to the MOD including innovative research, concept development, technology demonstration, system solutions and 24 hour 7 days a week technical support for communications systems to the front line.

PTP encourages new combat systems equipment to be tested and integrated early in the lifecycle. The QinetiQ team support original equipment manufacturers to make use of the facility which is

set up to protect intellectual property from a commercial perspective through the use of controlled access to various parts of the facility. Examples of support at PTP provided to equipment manufactures includes the integration of new cryptographic systems by Ultra Electronics and the early integration testing of a new solid state navigation radar for Kelvin Hughes.

SA IFT on board a work boat

Case Study[12]– Innovative concept demonstrated in the Solent

Demonstration of new capability to defeat the small boat threat to the Royal Navy.

Under Dstl research funding, the QinetiQ team delivered a containerised solution (SA ITF) designed to improve situational awareness and force protection against small boat threats. The prototype system was demonstrated in The Solent in a cost effective manner using a work boat provided by Williams Shipping, based in Southampton.

PTP is unique in its connectivity to the wider enterprise making it an obvious hub for information-based system technology. An example of this is how the site was used to support the major Unmanned Warrior trials in Scotland in October 2016[13]. PTP played host to over 80 VIPs to brief them on the trials and benefits of using unmanned vehicles to deliver technology advantage and hence enhanced capability for the Royal Navy.

Figure 12: Collaboration in action. PTP's unique connectivity enables live link-ups to the trials sites in Scotland during Unmanned Warrior 2016

[12] http://www.janes.com/article/54466/improving-ship-self-defence-dsei15-d3

[13] http://www.mirror.co.uk/news/uk-news/defiant-britain-use-fleet-robot-9054275

Case Study – Royal Navy's "Water Robot Wars" underway

PTP played host to 4 key events during the MOD's Unmanned Warrior trials in October 2016 in Scotland which saw over 50 unmanned vehicles deployed for numerous missions in the largest showcase of its kind. PTP provided live links to the trials teams in Scotland to brief VIP visitors on the South Coast and also demonstrate some of the cutting edge technology being used from ATLAS ELEKTRONIK UK, BAE Systems, Blue Bear, SeeByte, Roke Manor Research, Thales, Leonardo, ESRI, Ultra Electronic, ASV Global, Boeing, and QinetiQ. Captain Sharon Malkin Royal Navy, Assistant Chief Of Staff Innovation discussed what had been achieved and how this cutting edge technology could be used in a Forces TV interview[14].

QinetiQ has built links with both Portsmouth University and the University of Southampton and supported staff undertaking PhDs at each looking at communication and information systems. These links create opportunities for further work, an example being a recent seminar on the Internet Of Things where QinetiQ drew in wider expertise from across the company to explore opportunities for a future research framework for Cyber Security. In addition, QinetiQ is supporting Portsmouth University by mentoring students undertaking MSc projects. This involves one to one sessions with the students to support them on technical projects. One example of this concerned the use of a mobile LIDAR system[15], provided by QinetiQ, to provide mapping of the maritime environment by autonomous systems.

In addition, there is a QinetiQ team providing maritime test and evaluation solutions for the MOD for on-going test, evaluation and assurance of warships and submarines at dedicated ranges across the country.

Range terminal at BUTEC

Case study – Test and Evaluation Range Services

A QinetiQ team at PTP is providing the project management and engineering leadership for a major upgrade of the Raasay range in Scotland. QinetiQ is responsible for all aspects of the design and construction of the systems themselves, having made a value for money case to the MOD. This multi-million pound project will deliver more effective test and evaluation for the MOD and enables analysis to be undertaken without the need to travel to Scotland.

2.2.2 Other Users of the Site

The Royal Navy also operates the Maritime C4ISR Support Unit (MCSU) at PTP at MOD owned site immediately adjacent to PTP. This unit provides a one stop shop to cater for the Fleet's computing and technology needs[16] and provides 24/7/365 support to all Naval units. It delivers the supporting information resources and information systems equipment and reference data for the cradle to grave. QinetiQ has an excellent working relationship with MCSU and opportunities exist in the future to extend the relationship based on the MOD's aim to deliver next generation

[14] http://forces.tv/93018122

[15] Light Detection And Ranging (LIDAR) is a surveying method that measures distance to a target by illuminating that target with a laser light

[16] http://www.royalnavy.mod.uk/news-and-latest-activity/news/2013/may/13/130513-new-it-facility

IT services to the front line. QinetiQ and the MCSU share facilities and infrastructure at the PTP site.

Also based at PTP, QinetiQ is one of the founding investors in the CMIS which is part of the DGP[17]. This is a unique initiative for specialists from across the UK – including government, academia and industry – to share cutting-edge expertise and knowledge to develop novel solutions to a range of maritime operational challenges[18].

The CMIS is currently exploring opportunities which will see its footprint at PTP to expand through the "Advantage Through Innovation" programme. This is an £800M innovation fund which recognises the need for a new approach to innovation to keep our nation safe. One of the seven declared defence challenges for innovation is to "understand and take effective decisions in the information age, ensuring defence leaders have access to the best information possible to inform understanding of critical issues and enable decision making that outpaces our adversaries." PTP directly aligns to this challenge and has a track record of maximising the capability delivered by integrated command information systems operating in complex and dynamic maritime environments.

2.2.3 Existing Arrangements

The current core estate (buildings and steel containers that house QinetiQ's facilities) at PTP are nearing life expiry and require considerable investment to maintain and modernise. There is significant risk they will not continue to be upgradeable within current legislative and statutory requirements.

The current key risks are as follows:

- Water penetration through the external aged structure;
- Asbestos issues throughout the building;
- The electrical infrastructure is near capacity and there is no secondary supply as back up and resilience;
- The capability infrastructure is housed in metal ISO containers that are life expired and require full replacement;
- No room for any future growth;
- The state of the buildings are poor, leaks are frequent and with poor ventilation;
- Space layout impacts on productivity are apparent.

Whilst maintained as far as possible, the look and feel of the site remains poor. To succeed, QinetiQ has to qualify as a supplier to corporate entities who must be convinced that the company can meet their scalability and quality requirements. The current state of the site and need for investment is a barrier to success. Whilst the technology hosted within the buildings is often state of the art, the condition and appearance of the building infrastructure does not create a good impression.

[17] http://www.defencegrowthpartnership.co.uk/

[18] http://www.ukdsc.org/centre-for-maritime-intelligence-systems/

Figure 13: Current North Elevation Block 5

Figure 14: Current South Elevation Block 5

2.3 Current Business Strategies

2.3.1 QinetiQ Vision and Strategy

Our vision is our aspiration for the company; it sets the direction and provides the catalyst for change. Our vision is to be:

"The chosen partner around the world for mission-critical solutions, innovating for our customers' advantage."

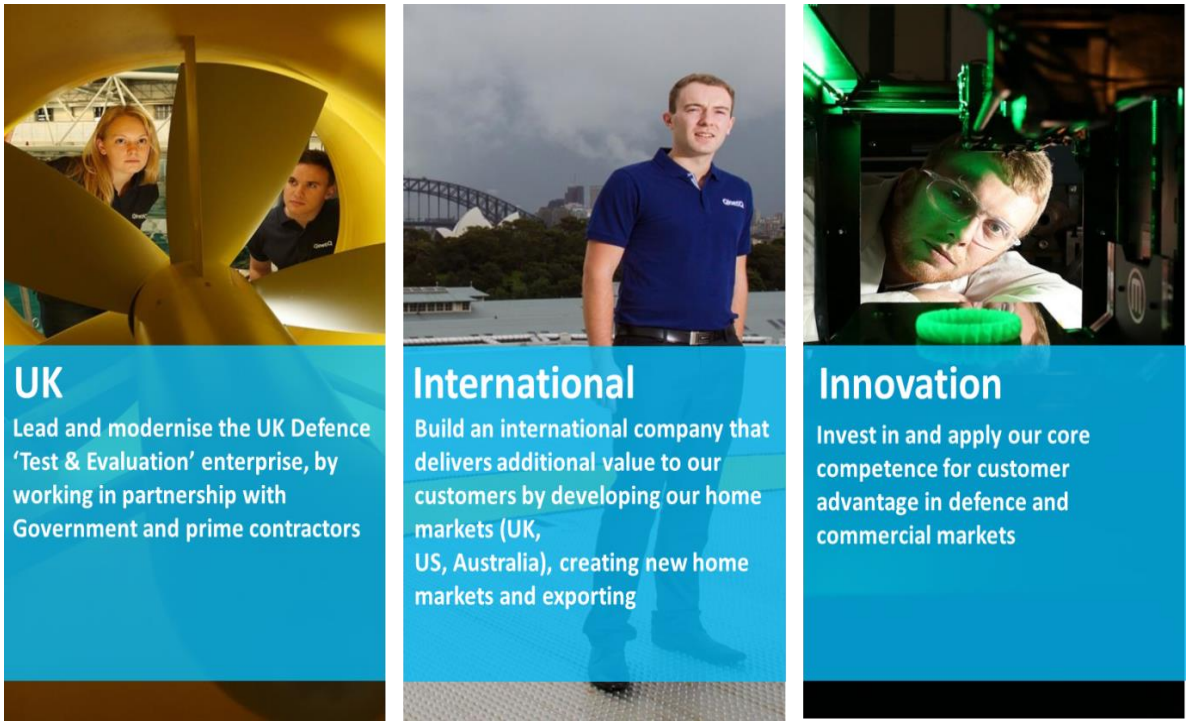


Figure 15: QinetiQ's corporate vision has 3 strands and the NMSC scheme contributes to each of these

To pursue our vision, we have developed a strategy that sets out to grow the company by focusing on our primary UK customer, international customers as well as innovation. The strategy has three areas of focus:

- Sustain and transform core UK contracts (including the Naval Combat Systems Integration Support Service (NCSISS)) to meet future market demand through collaboration;
- Broaden our technology base through innovation;
- Develop adjacent markets in the UK and overseas.

We are taking action to re-invigorate our core business through realising efficiencies, targeted investment and improving our industrial relationships and collaborations. To complement this, QinetiQ is undertaking Strategic Innovation in developing concepts and techniques for applying digital Test and Evaluation, deployable Test and Evaluation, and blended live and synthetic environments, setting the pace across the industry. We are addressing CMS through innovation in the exploitation of emerging technologies, such as autonomy and big data, addressing the UK MOD customer challenges in areas such as Continuous Carrier Strike Capability, Continuous At Sea Deterrent, Ballistic Missile Defence and Reinforcing the Warfighting Edge. We are continuing to explore significant opportunities to expand into complementary markets working with selected partners and exploiting our knowledge and facilities. QinetiQ is working with our customers to address the longer term workforce and capabilities, taking into account the changing nature of work and demographics through initiatives such as the 5% Club. The 5% Club is focused on

creating momentum behind the recruitment of apprentices and graduates into the workforce. Its members consist of large and small employers from a wide range of sectors who want to make a difference and support the UK's ability to compete in increasingly tough global markets.

2.4 The Case for Change

The case for the re-development of PTP is predicated on the three foundation stones illustrated in Figure 16 and explored in more detail in subsequent paragraphs.

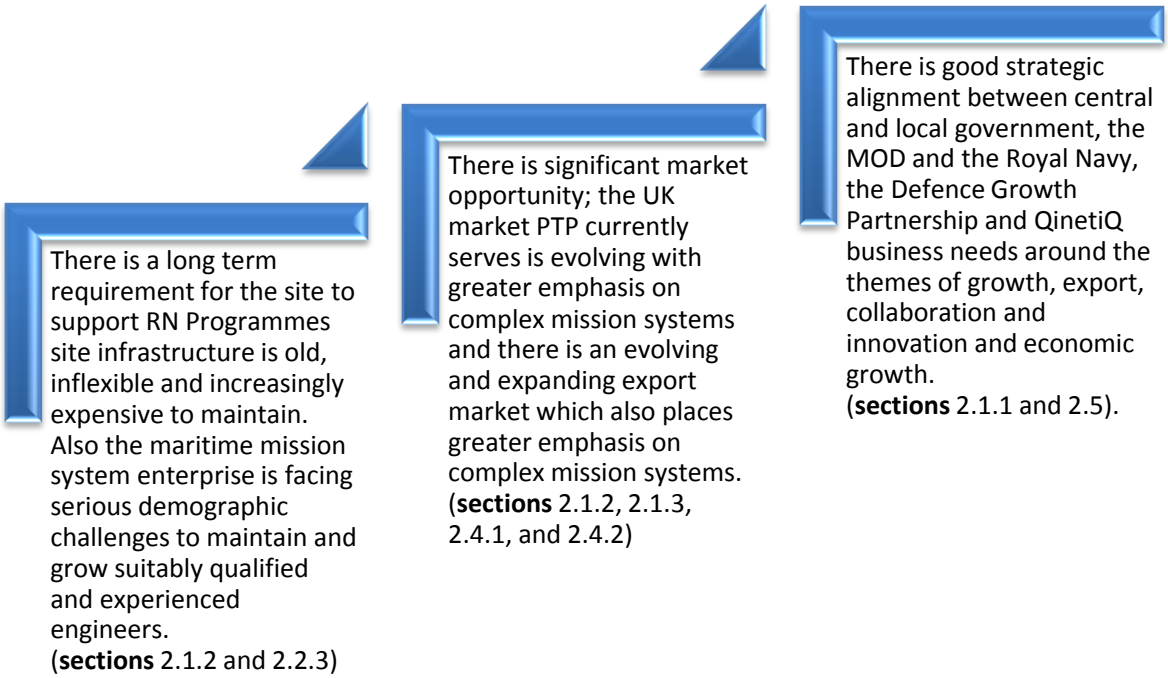


Figure 16: The key business imperatives for the case for change at PTP

From a Local Growth Fund perspective the case for change is predicated on the opportunity to leverage QinetiQ's investment to maximise benefit to the Solent Region through the Innovation and Collaboration Hub. This will:

- **Increase the capacity** of the new building to create unique and flexible enterprise space for high tech organisations potentially creating up to 100 new high GVA roles;
- **Amplifying the region's technology status** and existing centre of gravity around marine and maritime capabilities to create more compelling employment propositions and greater export success;
- **Align** the works to ensure maximum value for money during the construction phase.

2.4.1 Systems Emphasis

The maritime and marine sector is rapidly changing presenting both risk and opportunity for those operating in the sector in the Solent Region. These changes include but are not limited to:

- The rise of unmanned, autonomous and intelligent system technologies and their impact on a global maritime market estimated at £146Billion;
- Against a backdrop of increasing global economic pressures and increasing demand for capability, many navies are re-directing capital investment away from fewer high cost, high capability platforms towards greater numbers of smaller, more agile, multi-role platforms;
- The recapitalisation of the Royal Navy's surface fleet including the imminent arrival in Portsmouth of the Queen Elizabeth Class and the HMG's recent commitment to build the Type 26 Global Combat Ship on the Clyde;
- Potential engineering skills shortages driven by demographics and competition from other sectors exploiting similar technologies;
- UK MOD reviewing and reducing its estate holdings.

2.4.2 The Impact of Complex Mission System Technologies

The DGP's CMIS, which is based at PTP has identified that UK and worldwide Marine and Maritime Defence Sector trends are driving ever greater need for the skills, expertise and facilities necessary to conceptualise, develop and deliver complex integrated system solutions that exploit technological advances in communications and information systems, autonomy and intelligent systems. These trends include:

- Maritime platforms have long service lives requiring regular technology insertion to maintain, adapt and increase mission capability. The need for navies to maintain operational advantage will continue to drive a demand to incorporate innovation and technology into both legacy and new platforms;
- Proliferation of sensors and networking generating rapid data growth and big data demands automatic interpretation and command support. Coupled with a desire for ever faster responses, persistence and wider area coverage, this will provide a pathway for greater innovation, integration and cooperation;
- Emergent intelligent systems technologies have enjoyed progressive take-up and good track record with maritime forces albeit it quite limited applications that have been manpower intensive and not well integrated with extant Command, Control and Communication systems. Consequently there will be need to demonstrate benefits form wider application of the technologies;
- Regulatory, community and media expectations that human control and supervision will be applied to intelligent systems technologies.

2.5 Business Needs - Current and Future

2.5.1 QinetiQ Business Needs

Delivered through a proven co-contracting model with BAE Systems, the NCSISS[19] delivery model brings together skilled scientists and engineers, synthetic test environments and bespoke analysis tools to test and integrate combat system hardware and software. In doing so, the service provides MOD decision makers with objective, evidence based advice that:

- Assures delivered capability and enables the Royal Navy to discharge its responsibilities for overall combat system design, safety and combat safety;
- Takes risk and cost out of combat system acquisition and through-life support and enables MOD to hold its suppliers to account.

19 Naval Combat Systems Integration Support Services

The service also dramatically reduces the need to test systems at sea which would otherwise constrain front line platform availability. For the Type 23 Frigate, the National Audit Office calculated a saving of 6 years of operational platform life across the class based on an 18 year hull life. Most Type 23 Frigates will achieve almost double that life expectancy.

The MOD's 10 year commitment to the service is transformational for PTP. The NCSISS Phase 2 Contract unlocks QinetiQ PV investment in a brand new building (QinetiQ Current Plan) that will provide modern, cost effective accommodation for the facilities and the teams that use them. The operational efficiencies that the new building will deliver have been built into the contract price and offer the MOD exceptional value for money.

In addition to the needs of this specific contract, QinetiQ's business strategy is delivered through three areas of focus:

- Sustaining and transforming our core UK Test and Evaluation contracts to meet future market demand through collaboration;
- Broaden our technology base through innovation;
- Develop adjacent markets in the UK and overseas.

QinetiQ's business needs therefore stems from these and, as such, the scheme must also develop opportunities to deliver on the strategy. This translates into requirements for not only the transformation of the facilities and accommodation at the site but also requirements for prospective tenants. In additional to meeting the necessary security constraints associated with operating from a site with List X status, QinetiQ is looking for synergies with the existing activity at PTP and collaboration opportunities that will advance one or more of these focus areas.

2.5.2 The Needs of Prospective Tenants

Any relationship with prospective commercial tenants will need to be a win:win. In addition to offering modern, cost effective and inclusive corporate accommodation with access to unique facilities and expertise, QinetiQ is seeking to attract corporate and SME occupiers who can complement and also advance their own business strategies through collaboration and intellectual knowledge sharing with QinetiQ or with other tenants on the site. Shared business objectives are therefore an important need.

The ability for the proposed facility to accommodate and attract local commercial and business tenants who can co-locate with QinetiQ is critical to local economy growth for the following reasons:

1. Commercial tenants will allow the building to be fully utilised/occupied where by renting more operational space in order to reduce property voids in the building;
2. They will deliver extra revenue by renting more space within building at a commercial rate, thereby generating additional income in order to reduce the total cost of asset ownership and operating costs;
3. Commercial tenants will also provide some synergies in terms of providing local employment expertise and also working collaboratively with QinetiQ as supply chain and knowledge/innovation transfer partners;
4. This approach also enables QinetiQ to raise its social corporate responsibility as a responsible landlord and corporation that delivers local diverse services and business opportunities to the local community.

In addition to the benefits to be gained from business synergies with the activities undertaken at PTP, the key selling points for the proposed development for prospective tenants include:

1. **Flexible workspace**: A particular issue for hi-tech digital start-ups, which are reluctant to commit to longer term leases because of the risk of the business failing. Co-working environments offering easy-in, easy-out accommodation also provide a space for these business to interact, collaborate, innovate and secure new business opportunities. The proposed development will be able to offer flexible technology hub space which can be leased on flexible terms by occupiers.
2. **Proximity to Universities and Further Education Colleges** to collaborate with: PTP has strong research and technology knowledge, in the form of intellectual property, transfer links and business development opportunities with Portsmouth and Southampton Universities especially in the areas of new defence, aviation and maritime systems advancement. Most corporate occupiers looking for commercial space to grow their businesses in the Solent Enterprise Region will view the proposed development as a strategic hub and enterprise platform for establishing and growing their new businesses internationally. In addition the Solent Region has a huge pool of highly skilled and unskilled talent and young workforce, including apprentices, which will help local businesses to grow.
3. **High quality business technology parks and car parking ratios**: Travelling by car remains by far the most popular means of commuting in the Enterprise M3. There is therefore still a major role for high quality business technology parks offering good leisure and retail amenities and high car parking ratios.
4. **Access to Portsmouth International Sea Port and Southampton Airport**: These offer a number of advantages for digital firms, including access to a young and highly skilled workforce who increasingly choose to live on the south coastal locations and have lower rates of car ownership. Connections to central London continue to grow in importance as more and more London based firms look to relocate parts of their operations due to high property costs. PTP offers an excellent connection for commercial occupiers to road, sea and air network infrastructure links.
5. **Superfast broadband**: This is now a core requirement for most businesses and sectors, but particularly the defence, aviation and maritime sectors which are highly dependent on high upstream and downstream bandwidth for sharing files with clients, customers and collaborators. The redevelopment will have the latest superfast broadband and multi-channel and content communication media and telecoms infrastructure systems when completed.

2.6 Meeting the Need - The National Maritime Systems Centre

2.6.1 The National Maritime Systems Centre Vision

QinetiQ's vision is to build on this legacy and the site's current capabilities to re-develop and re-position PTP as the UK's National Maritime Systems Centre. Leveraging QinetiQ's PV investment and potential public sector investment through the Local Growth Fund, we plan to increase capacity at the site and transform it to create a modern, efficient and environmentally-friendly enterprise resource which will enable collaboration, innovation and growth.

Coalescing facilities around a single site infrastructure **reduces the need for duplication of costly facilities across the enterprise and lowers barriers to entry for SMEs**. The site will become a focal point for attracting, retaining and developing critical skills within the industry through a Systems Engineering Academy, membership of the 5% Club, Science Technology, Engineering and Maths (STEM) Outreach activities and close links with key academic institutions.

The NMSC will exploit synergies across parallel activities including:

- MOD research, acquisition and support programmes in the Maritime Mission Systems domain including unmanned/autonomous systems, joint force and international coalition capabilities;
- Maritime Intelligent Systems export opportunities through the DGP CMIS;
- Systems integration, test and evaluation activities for other government departments and blue light organisations, for example, the Maritime & Coastguard Agency (MCA) and Civil Aviation Authority (CAA);
- Maritime defence and security research, innovation and collaboration.

The scheme will also create a focal point for attracting, retaining and developing critical skills within the industry through QinetiQ's membership of the 5% Club, close links with key academic institutions in both Higher and Further Education and the establishment of Systems Engineering Academy. The Academy will build on specialist courses already supplied by QinetiQ to MOD and the defence industry.

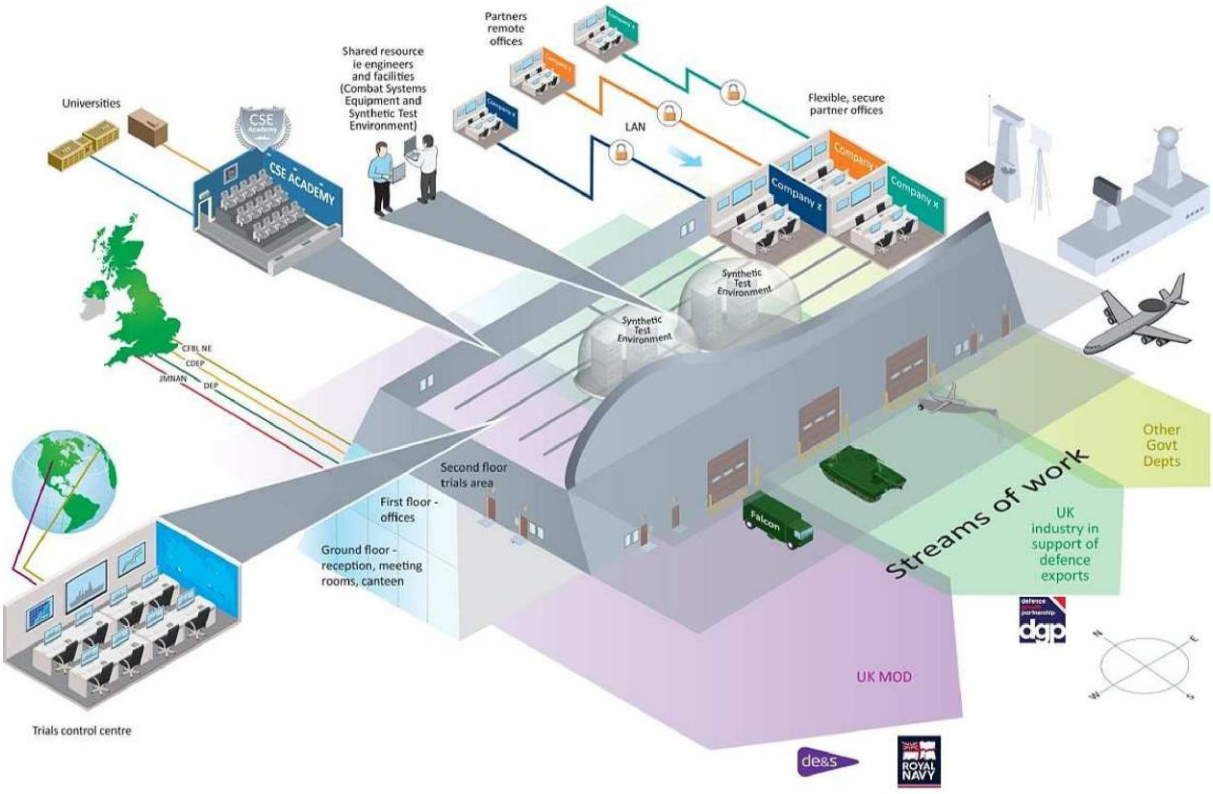


Figure 17: National Maritime Systems Centre conceptual vision

2.6.2 Scheme Overview and Scope

Subject to a successful application for Local Growth Fund investment both parts of the scheme, the QinetiQ Current Plan and the Innovation and Collaboration Hub, will be delivered in parallel. Aligning the investment presents the most cost effective and expedient route to creating a Solent Region enterprise resource.

The scope of the QinetiQ Current Plan is bounded to the re-development and modernisation of current office and laboratory facilities at PTP to create a 21st century system engineering facility that meets the needs of QinetiQ's defence and security sector customers. The works include the demolition of Blocks 1, 2, 5, 6, and 8 and the construction of part four storey / part two storey new office and laboratory space on the overall footprint. Block 5, which houses the NCSISS

capability, will remain in place until the QinetiQ Current Plan has been completed to allow for parallel running.

The scope of the Innovation and Collaboration Hub is to extend the QinetiQ Current Plan to provide a further 2000 square metres of office and laboratory space in support of local enterprise, local business incubator and growth and the development of the Solent Region. The two parts of the building will share the use of the restaurant, classrooms, auditorium, conference rooms, first aid room, stores, workshops, and laboratories.

National Maritime Systems Centre Scheme

	Innovation and Collaboration Hub	QinetiQ's Current Plan
Size / Capacity	New build extension: 2000 sq m. Capacity ~100 people depending on tenants requirements for office, trials or laboratory space.	New build: 5000 sq m, mixed office, trials and laboratory space. Capacity ~190 people. Wide site legacy accommodation, mixed office, trials and laboratory space. Capacity ~ 90 people.
Description	Additional configurable office and laboratory pace available to defence and security companies seeking expand or relocate in the Solent Region.	Collaborative office space shared with BAE Systems and MOD Office Trials and Integration Facilities Trials & Operations Control Centre Dedicated QinetiQ office space and laboratories
	Shared classrooms, auditorium, first aid facilities, staff restaurant, stores, workshops	

Figure 18: Public sector funding will increase scheme capacity and deliver the full National Maritime Systems Centre vision

2.6.3 Lowering barriers for Small to Medium Enterprises

The case for change set out in Section 2.4 represents a significant opportunity for SMEs. Historically, opportunity to enter the UK maritime mission systems supply chain has been limited with larger defence and aerospace prime contractors dominating the market. Barriers have included limited access to trials and reference systems for experimentation and concept development and the high costs associated with developing/assuring software to the high standards required by the Royal Navy and selling to the MOD.

The Innovation and Collaboration Hub concept seeks to address these barriers by providing SMEs the opportunity to access:

- Facilities at the NMSC for concept development, experimentation and evaluation;
- MOD customers in research and acquisition;
- Collaboration opportunities existing suppliers in the UK and for export questions.

A range of flexible models will be available to SMEs or other organisations seeking to take advantage of the opportunities. A sample is illustrated in Figure 19.

Figure 19: A range of flexible models for collaboration

At the current stage of the scheme it is not possible to identify which SMEs may take up the opportunity or in what numbers. The apportionment of the proposed additional 2000 square metres will depend on the mix of tenants and their needs for office, trials or laboratory space. This mix, which may vary over time as different tenants move in and out of the ICH, will also determine the ultimate capacity of the ICH for job creation.

2.6.4 Overall Strategic Fit

Overall the scheme has excellent strategic fit with both central and local government initiatives and with QinetiQ's business strategy. This fit is summarised in Figure 20:

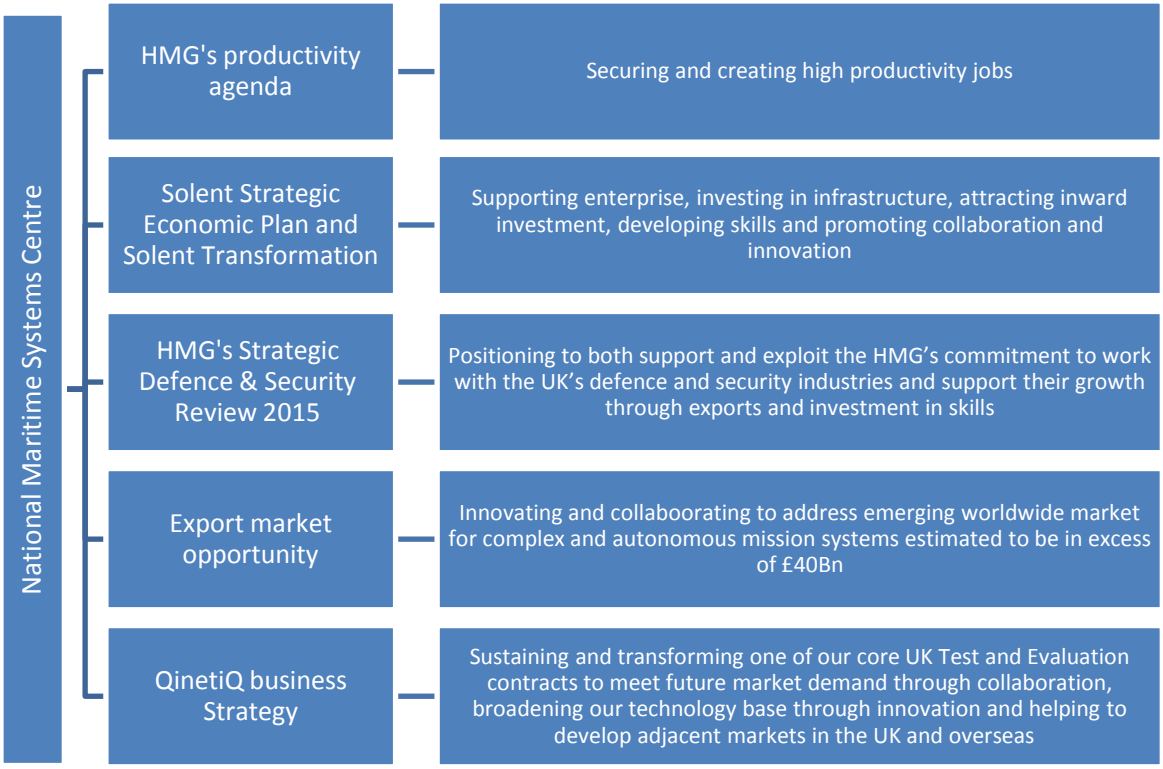


Figure 20: The scheme has a strong strategic fit with both the strategy of the Solent LEP and QinetiQ

The scheme's fit with the Royal Navy's ship building programme and therefore the National Shipbuilding Strategy has already been described in Section 2.1.2. Another dimension is the scheme's alignment with some of the wider thinking in Sir John Clark's independent report to inform the UK National Shipbuilding Strategy. This recommended a virtual innovation centre to challenge existing naval standards and advances in design, materials and construction methods. Whilst this recommendation was specifically in the context of the ship structure and hull, the same rationale should be applied to the mission systems fitted within the platform and therefore fit well with the NMSC raison d'etre.

> *Industry and the Government should invest in a small, specialised virtual Innovation Centre to challenge existing Naval standards and introduce new ones, and to force through advanced in design, new materials including composites and manufacture/assembly methods that contribute to productivity improvements and cost of build. The leader of the Innovation Centre should oversee the "Global competitiveness plans".*
>
> Sir John Clark

2.6.5 Supporting the Solent LEP Strategic Economic Plan

In addition to safeguarding and creating the potential for additional high productivity employment, the scheme will also increase technology status and standing of the Solent Region. It also aligns well with geographically close parallel initiatives beyond PTP:

- The UK 5 Year South Coast Growth Plan (2016);
- The Solent Marine and Maritime Initiative;
- The QinetiQ Ship Performance and Optimisation Centre;
- The Portsmouth University Technical College;
- The UK South Coast Marine Cluster.

Consequently, the scheme demonstrates direct support to the objectives and priorities set out in the Solent LEP Strategic Economic Plan. These are summarised in Figure 21 and Figure 22:

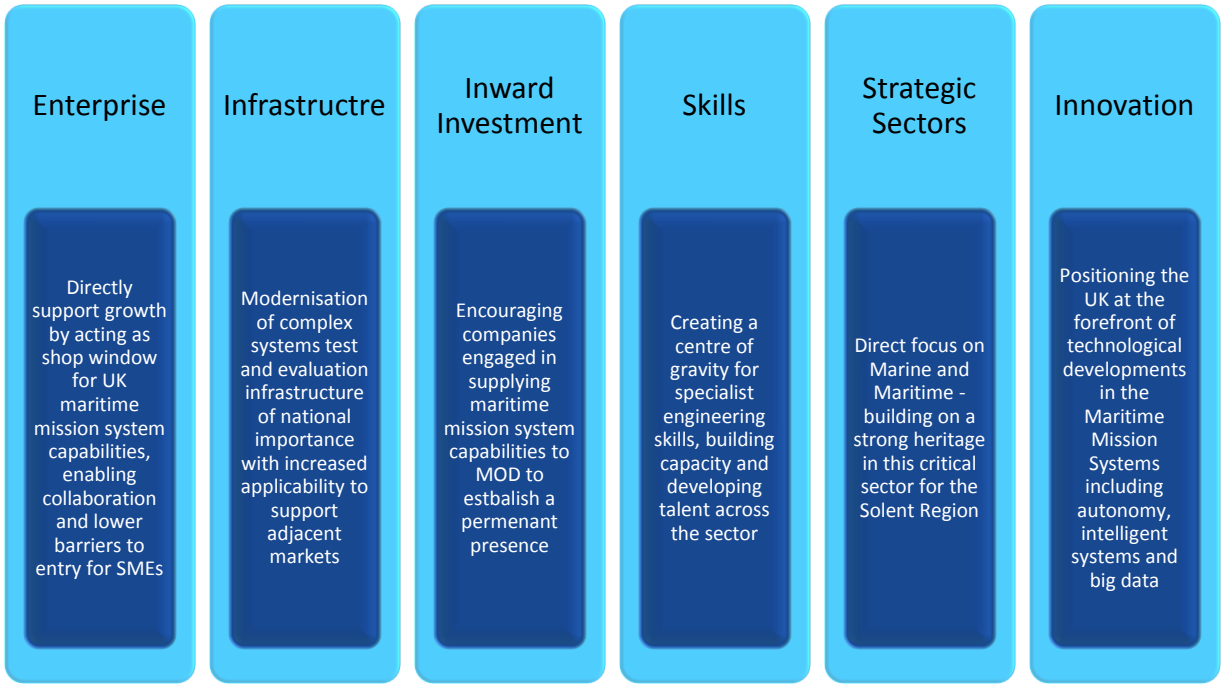


Figure 21: Supporting the Solent LEP Strategic Economic Plan – Priorities

Figure 22: Supporting the Solent LEP Strategic Economic Plan - Objectives

2.7 Benefits and Risks

The key benefits and the associated risks to the success of the scheme are summarised in the following graphics. For simplicity and clarity they are presented holistically for the NMSC scheme overall but it should be noted that from a public sector investment perspective the perceived risk exposure needs to be tempered to the level of public sector investment. Conversely, it is expected that the full benefit of the scheme will flow through to the Solent Region to create a very positive risk/reward balance from a public sector investment perspective. This positive balance is further re-inforced by the fact that only some of the risk is born by the public sector with some key financial risk shouldered by QinetiQ.

Aligning public sector and QinetiQ investment such that the QinetiQ's current plan can be executed simultaneously will result in a lower overall risk profile than if the two parts of the scheme were executed separately, or at different locations as proposed in Option 4..

More detail of the potential project risks associated with the Innovation and Collaboration Hub is provided in Section 4.4.

The approach and methodologies we propose to ensure that these aspects of the scheme are pro-actively and properly managed is addressed in the Management Case in Section 6.

Solent LEP fail to secure multi-year funding committment (QinetiQ Risk)	•Support to Solent LEP to seek subsequent, or multi-year, funding committments. •Seek QinetiQ approval to take-on the associated financial risk. •Renegotiate grant terms. •Investigate the potential for 3rd party investors to step-in if risk materialises.
The scheme development costs overrun (QinetiQ Risk)	•Robust change control system to be put in place. •Cost management to be carried out throughout the projects lifecycle.
The scheme fails to acheive the measures of success (Shared risk)	•Establish credible annd measurable success critieria. •Establish and execute a Benefits Realisation Plan using a proven methodology. •Create attractive proposition for potential tenants and engage early.
The Innovation and Collaboration Hub fails to acheive Planning Consent (Shared risk)	•Canvass with local authority and local communities as part of the pre-planning stage. •Design to closely match design for QinetiQ current plan.

Figure 23: Effective mitigations have been identified for the scheme's key risks

Construction jobs supported through the scheme's construction and operation phase.

Safeguarding the roles of individuals currently employed by QinetiQ and its partners at PTP.

Creation of new engineering science and high end technology jobs through QinetiQ growth and leasing space to tenants.

Supporting an increase in the number of SME in the Solent Region.

Through the creation of the QinetiQ Combat System Engineering Academy unlock innovation-led growth to engage more businesses in knowledge transfer and innovation, develop links to wider Higher Education Institutes.

Figure 24: The scheme's principal benefit has been drawn from the economic case and will be the scheme's measures of success

2.8 Constraints and Dependencies

Overall the scheme has relatively few constraints or dependencies. The key dependencies relate to the Innovation and Collaboration Hub where it will be necessary gain planning approval for the modified building design incorporating the additional 2000 square metres proposed. Approval of the Local Growth Fund application and agreement of the grant terms are the only other significant dependencies.

The majority of the scheme's constraints relate to the construction phase of the programme and are centred on topography and conditions at the PTP site and the conditions laid down as part of the extant planning approval for the QinetiQ Current Plan.

The planning conditions imposed by the local authority are mainly around ecological concerns and we will, through the design and construction phase, put together and manage plans to address them. Further planning conditions may be imposed when the modified design is submitted for approval, but they are expected to be in line with the conditions already imposed. For completeness the key constraints are listed below.

- **Site**
  - The location and physical topography of the site;
  - The need to maintain the site's accreditation to undertake work for the UK MOD;
- **Building design**
  - Achieving a sufficiently flexible and adaptable building design and operating policy that will meet the technical needs of a wide variety of stakeholders;
  - Meeting security needs;
- **Planning and Construction**
  - The development starts on the main building before the planning expires in 3 years;
  - That should any un-known hazardous waste be found a waste management action plan be put in place and executed. All works included on this application are on brown field site;
  - That following the ground condition report there is no evidence of chemicals or gases found within the sub soil and if found there are maintenance and monitoring plans put in place. A nominated competent person will be appointed to oversee the implementation;
  - No percussive piling or works with heavy machinery which would result in a noise level exceeding 69dbAmax (measured at the closets part of the Portsmouth Harbour SPA and RAMSAR site) shall be undertaken during the bird overwintering period, 1st October to 31st March inclusive;
  - The development shall (unless otherwise agreed in writing by the Local Planning Authority) be carried out in accordance with the Preliminary Ecological Appraisal (ref A021830-97 prepared by WYG Planning and Environmental and dated 15th February 2016);
  - Translocation strategies relating to plants and reptiles have been submitted to and approved in writing by the Local Planning Authority;
  - A programme of archaeological assessment is secured in accordance with a Written Scheme of Investigation have been submitted to and approved in writing by the Local Planning Authority;
  - The development shall thereafter be implemented in accordance with the approved Written Scheme of Investigation;
- **Identifying suitable commercial tenants**
  - Tenants will need to have synergy with the work undertaken at the site and have the necessary security accreditation.

2.9 Engaging Key Stakeholders

Figure 25: Constructive engagement with a wide range of stakeholders

QinetiQ's vision for a National Maritime Systems Centre has been developed over a number of years and during that time we have deliberately taken an open and transparent approach with a wide range of stakeholders. This has led a great deal of positive supportive for the scheme and critically, some important decisions by key stakeholders that were vital pre-requisites to progressing the scheme to this stage. In summary these are:

- **The Royal Navy and Ministry Of Defence**. Securing a long term commit to the NCSISS contract delivered from PTP took over two years and required considerable engagement at all levels. A compelling value for money proposition and alignment of stakeholders in Navy Command Head Quarters, Defence Equipment & Support and MOD Whitehall led a new contract which commenced on 1st October 2016 and will run to 31st March 2027. The long term revenue visibility that the contract generates forms the cornerstone of QinetiQ's business case for the PV investment committed to the scheme. Positive engagement continues with a view to expanding the scope of the contract on a number fronts, not least to include the Type 26, Queen Elizabeth Class, Offshore Patrol Vessels and the Type 31;
- **Portsmouth City Council**. There has been regular informal engagement both directly and also indirectly through QinetiQ's involvement with the CMIS which is hosted at PTP. Formal engagement was through QinetiQ's application for planning consent for a new building at PTP which will form the heart of the National Maritime Systems Centre. The application was approved on 9th June 2016. This approval paves the way for a 5000 square metres development (the "QinetiQ current plan") which will be funded through QinetiQ's PV investment. This planning decision was a critical step in securing MOD's long term commitment to the site. A further application will be made to address the 2000 square metres extension (the "Innovation and Collaboration Hub") to these plans which will be funded by this grant application if approved;
- **Solent LEP.** Initial discussion with the Solent commenced in 2014 in parallel with the establishment of the CMIS. This dialogue led to the inclusion of the scheme on a list of potential projects included in the Solent LEP's successful submission for indicative Growth Deal allocations up to and including 2020-21. To this end a draft business case for the

scheme was submitted in July 2016 and collectively we are working to ensure that the funding agreement for the scheme which will run under the Local Growth Fund in Financial Year 2017/18 is in place at the earliest possible stage.

Other key engagements are also ongoing and include:

- **Current and prospective future tenants**. A wide range of companies that form part of the MOD's supply chain for mission systems. Many already utilise the site on an itinerant basis as their equipment transitions through the lifecycle from R&D, through Development, Manufacture, Integration, Test and Evaluation and into service with the Royal Navy. Many see considerable merit in a more permanent presence on the site to enable cost effective access to unique test facilities for earlier and more comprehensive system trials and proving, greater collaboration for the development of critical skills, innovation and the pursuit of wider business development opportunities in the UK and internationally;
- **Schools and academia**. Work in this area is ongoing to build on the relationships already established. QinetiQ has built links with both Portsmouth University and the University of Southampton and has supported the establishment of the City's University Technical College. As part of the scheme we anticipate building on the specialist technical training we deliver to MOD and defence industry delegates to establish a small academy focused on developing the critical complex systems engineering skills necessary to strengthen the quality and availability of resource in the UK maritime mission systems enterprise;
- **South Coast Marine Cluster (SCMC) and Solent Maritime & Marine Institute (SMMI).** QinetiQ is engaged on both these initiatives and in both cases we see the National Maritime Systems Centre as a net contributor to the benefits they seek to deliver for the region. We also see reciprocal benefit from involvement in these initiatives for the National Maritime Systems Centre. A specific example would be PTP's participation in the SCMC's Year of Autonomy;
- **QinetiQ Employees** through the Employee Engagement Group (EEG). The EEG is a consultation body that acts as the collective voice of all QinetiQ employees. The EEG has a central role in the conduct and promotion of open and honest two-way discussion between the Company and its employees and is integral in gathering employee opinion and feedback during periods of change. The EEG seeks to pro-actively improve employee engagement by providing a channel through which they can get involved and help to shape QinetiQ into a place they want to work. The EEG representative based at PTP is actively engaged in the development of scheme and in particular the generation of detailed requirements for the new building with the main objective of actively listen to and reflect the views of the employees and acting as a bridge between them and leadership teams at a local, divisional and executive level;
- **Neighbours** principally through Winchester City and Southwick Parish Councils both through informal briefing and meetings and the formal public consultation during the planning application for QinetiQ's current plan;
- **Political Stakeholders** through site visits meetings and briefings. Recent activities have included positive engagement with the Minister for Portsmouth and the constituency Members of Parliament for Portsmouth North, Portsmouth South and the Meon Valley.

3. The Economic Case

The purpose of this section is three-fold. It aims to:

- Demonstrate the optimum option has been put forward for investment;
- Describe the economic benefit that will be derived from this option
- Describe how the benefit would be measured and how they link to critical success factors for the Solent LEP and QinetiQ.

QinetiQ employed a two-step process to select the optimum option for investment as illustrated in Figure 26.

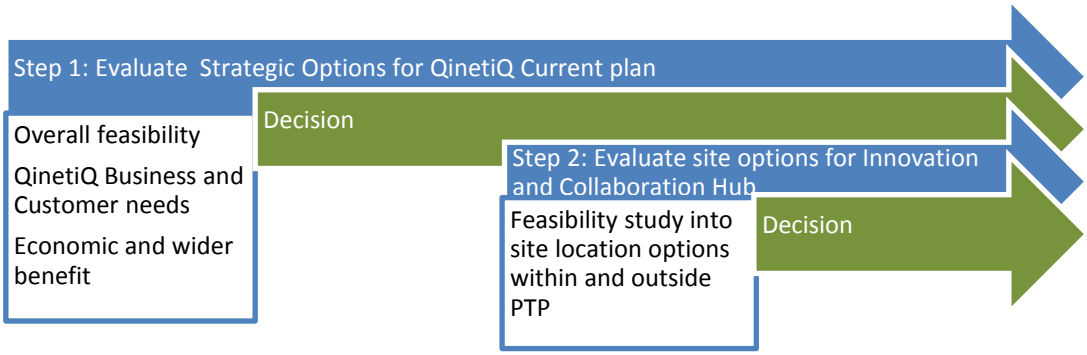


Figure 26: A two-step process with some iteration was used to select the preferred option

3.1 Analysis of Strategic Options

QinetiQ identified four strategic options for the implementation of the NMSC vision that were assessed against for their fit with QinetiQ's business need and their potential wider economic benefit. A summary of the options and assessment criteria is show in Figure 6. A more detailed qualitative assessment of the options is provided at Annex A.

Options 1 and 2 form the "Do Nothing" Options for the Solent LEP as they require no public sector investment. Option 2 will be QinetiQ's fall-back position if no public sector investment is forthcoming.

Option 1, has been discounted on the basis that the existing facilities at PTP are housed in aged infrastructure that will constrain QinetiQ's future growth aspirations and prevent execution of the company's strategy (see Section 2.3). QinetiQ is now committed to the re-development of PTP so Option 2 forms the baseline position.

Option 4, investment in a dual site, such as a separate test site and the existing site, is not preferred due to potential productivity impact and higher implementation and operating costs. The scheme's success is also dependant on the creation of a compelling proposition for prospective tenants and a need to generate synergies with existing activity at the site to generate innovation and collaboration. PTP's location and topography make it uniquely suitable for the

work that is conducted there and therefore any dual site strategy is likely to weaken the proposition for prospective tenants and undermine the success of the scheme.

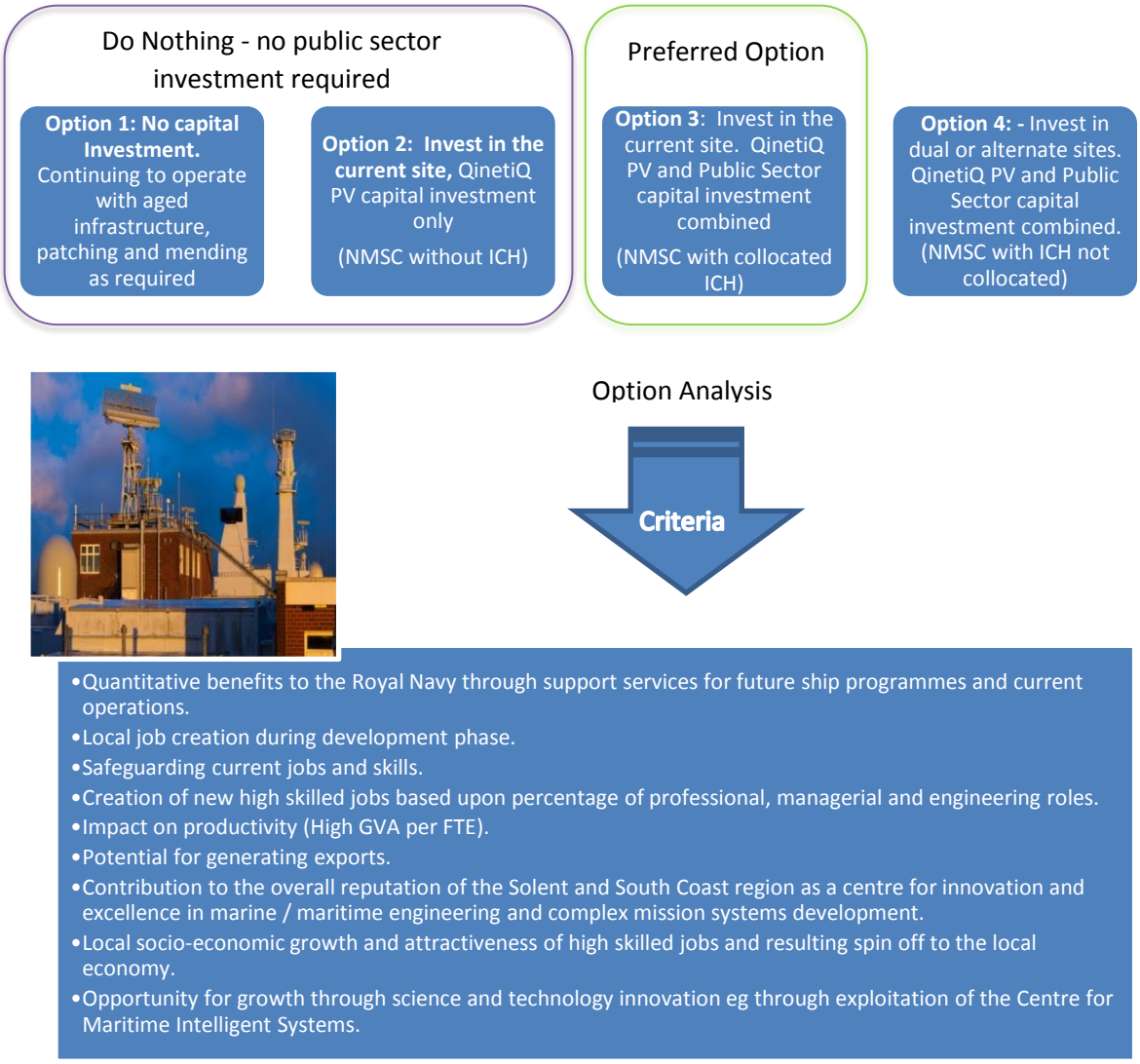


Figure 27: Implementation options have been assessed for their economic impact

The preferred option is Option 3 "Invest in the current site, QinetiQ PV and Public Sector capital investment combined". Coalescing facilities around a single site infrastructure **reduces the need for duplication of costly facilities across the enterprise and lowers barriers to entry for Small and Medium sized Enterprises (SME)**. Through leveraging committed investment by QinetiQ this chosen strategic option offers:

- Greater efficiencies in the construction and operation of the scheme;
- Improved capabilities;
- Enhanced capacity for collaboration and Innovation.

The investment in the current site within the Solent Region leverages existing utilities and skills investment, gives the company future expandability options and will maximise productivity in the long term. From an operational and commercial development point of view the timings of the investment are optimal, as they aid customer engagement and completion of a key investment during the development programme.

Through leveraging committed investment by QinetiQ this chosen strategic option offers:

- Greater efficiencies;
- Improved capabilities;
- Enhanced capacity.

From an operational and commercial development point of view the timings of the investment are more optimal, as they aid customer engagement and completion of a key investment during the development programme.

This option is expected to unlock the following economic impacts:

- During the construction stage there will be a large supply chain employed and used at PTP almost all of which is sourced within the local area. The sector is characterised by high levels of fragmentation. Analysis carried out for BIS by EC Harris (2013)15 has shown that for a 'typical' large building project – that is, in the £15 - £20 million range - the main contractor may be directly managing around 50 sub-contracts of which a large proportion are small. The wider supply chain impact of this scheme will support significant amounts of local jobs in all fields;
- The development plan will safeguard jobs of circa 280 jobs and could generate up to 100 new jobs encouraging new business growth in the area, this includes direct job creation by QinetiQ is estimated generate around £[redacted] of economic value between 2018-2023, with highly skilled jobs generating high GVA per job ratio;
- The company expects to make large value of environmental savings of new build and new technology against the running costs of the existing facility. The savings in CO_2 emissions will also have a material environmental value.

3.2 Innovation and Collaboration Hub - Analysis of PTP Site Options

QinetiQ carried out a feasibility study for a possible extension to the QinetiQ Current Plan.

We have reviewed the whole PTP site to include all possible locations and short listed to five options. All locations have been assessed by the following design disciplines: Architect; Transport; Sustainability; Arboriculture; Engineering; Landscape; Ecology and Cost.

As a team we have reviewed all options and selected a preferred location to develop into a massing model. The analysis has allowed us to provide the initial building size.

<u>Location Options Considered</u>

- Site Option 1 - Extension of the proposed building to the west, potentially four storeys;
- Site Option 2 - New building to the east of the proposed building with links to common parts, potentially four storeys;
- Site Option 3 - New building at the Granada site, potentially four storeys;
- Site Option 4 - Extension of Block 3 to create a complete doughnut building, single storey;
- Site Option 5 - New building at the Main Gate site incorporating security, changing secure line and creating secure and unsecure parking, potentially four storeys.

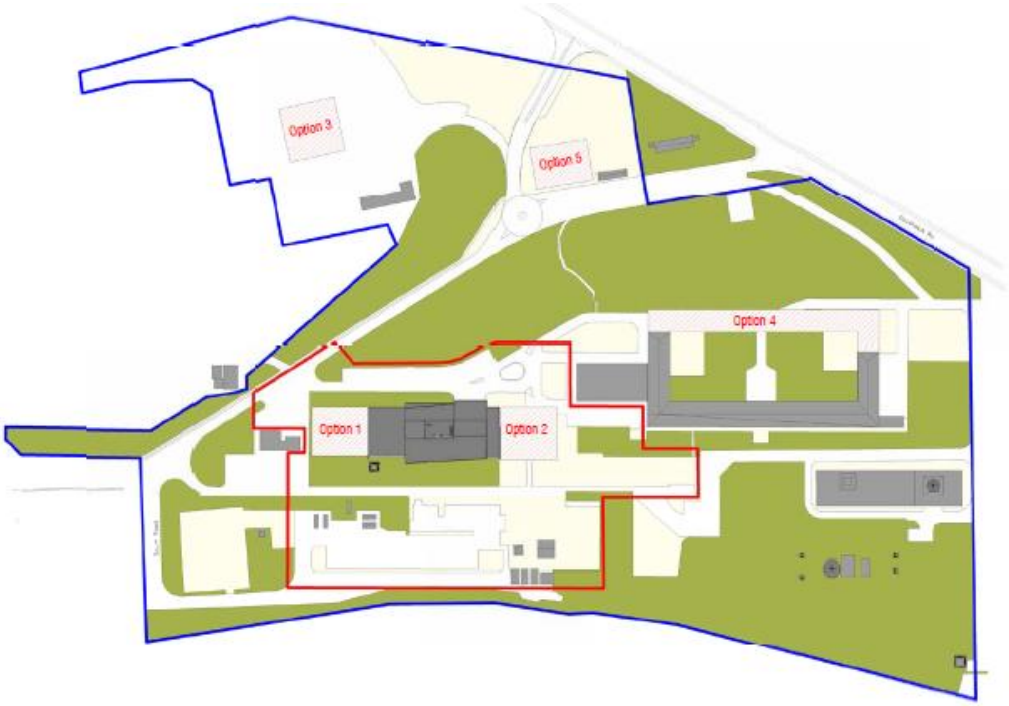


Figure 28: Plan of site options considered

Conclusions

- Site Option 1

  The original proposal allows the building to be flexible and adaptable for the changing requirements of QinetiQ and extension on the site is possible which utilises this building.

  The location for Option 1 is not ideal as it compromises the secure line when accessing the building and distance from the common facilities.

- Site Option 2

  The intention for this building was to create a catalyst for the development of the campus. The extension proposal will use a similar language and plug into the original proposal utilising the facilities. The original design proposal incorporated the possibility for the building to be adaptable and extendable. This location provides a link to the main facilities whilst maintaining the secure line for the separate main use.

  Linking to the main facility increases collaboration and respects the multi-use nature of the building. The extension will use a similar language for design continuity

- Site Option 3

  This is a flatter site and therefore a simpler construction requirement. The distance and topography of the site disconnect the building from the main QinetiQ hub facilities which would restrict the interaction and collaboration. Access strategy is not in line with the future development plan for the site.

- Site Option 4

  Extension links to an existing single story building on a brown field with no planning in place. This option is land hungry as it is a one storey building. Foot print will be large and it is not in line with the future thinking development. Extending this building will limit the possibility of a new building on prime site as part of a progressional master plan.

- Site Option 5

This location is at the entrance of the site which will provide an impact upon first impression. This site will require significant infrastructure change including access, moving the security hut, relocating parking etc. This will have a substantial impact on the budget.

3.3 Innovation and Collaboration Hub - preferred site option

Site Option 2 was the preferred solution as it provides a link to the main facilities whilst maintaining the secure line for the separate use. Linking to the main facility increases collaboration and respects the multi-use nature of the building. The design concept for the new build was based around the ability for the building to be adaptable and extendable.

The context behind the design was led and worked with the landscape by embedding the lower two floors into the hill and uniting the level difference on site. This creates the impression of 2 buildings; the lower laboratory and research facility, and the office, conference and workshop facility sliding over the top. The Solent LEP extension will meet the same requirements not to impose on the landscape but to respect the levels and context working within the parameters of the master plan.

The images below illustrate Option 2 linking to the existing QinetiQ proposal. Plugging into the east side of the building allows for the facilities in the centre to be utilised as the main hub whilst maintaining a secure line for the existing proposal.

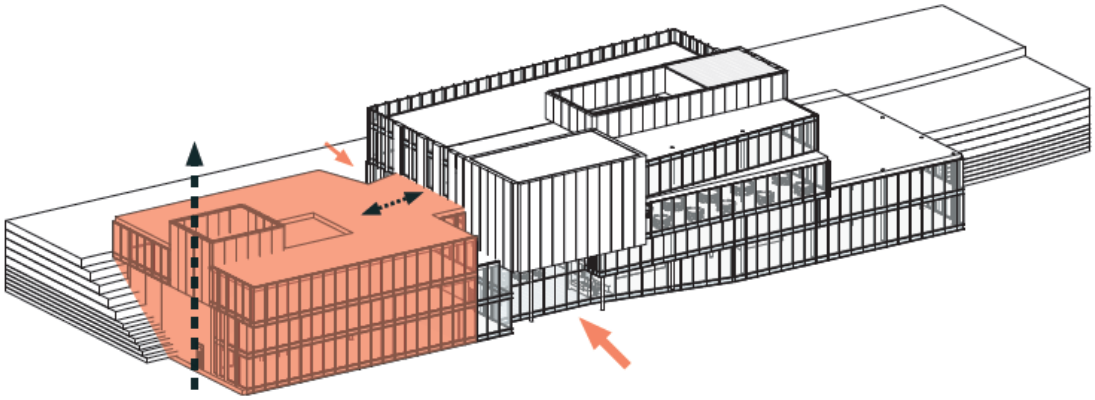


Figure 29: Proposed extension viewed from the North

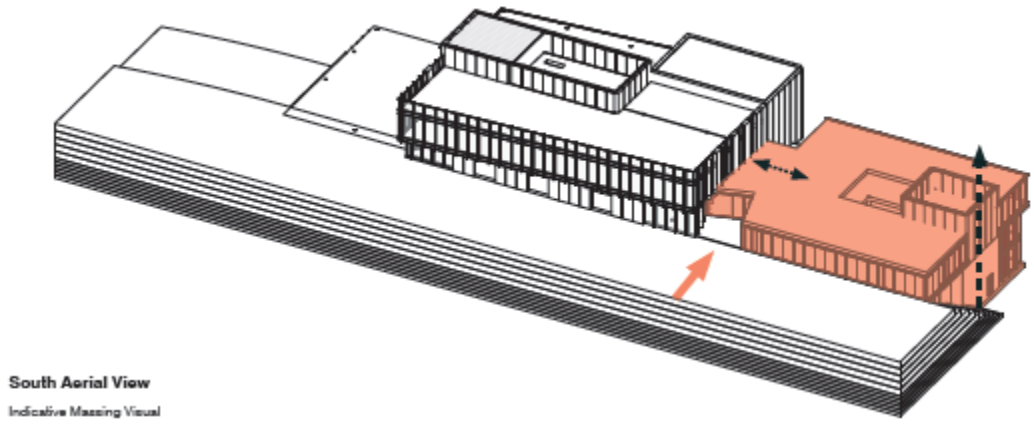


Figure 30: Proposed extension viewed from the South

3.4 Economic Appraisal of Costs and Benefits with CBA

A full Cost Benefit Analysis of the Innovation and Collaboration Hub has not been undertaken. A qualitative analysis of the strategic options was sufficient to identify the preferred option. The cost estimates for the PTP site options discussed in Section 3.2 were broadly similar and therefore it was possible to discriminate and down select using a qualitative assessment.

On this basis the cost benefit analysis can be simplified to a straight forward judgement as to whether a £[redacted] public sector investment to realise the benefits illustrated through the proposed scheme measures of success in Section 3.6.

3.5 Critical Success Factors

The following table highlights how the scheme contributes to critical success factors for both Solent LEP and QinetiQ. The high degree of alignment between the two reinforces the attractiveness of the scheme.

Solent LEP	QinetiQ
Maximise the economic impact of the (marine and maritime) assets in the area and sectors with the potential for growth. Promoting the area as the United Kingdom's (UK) leading growth hub for advanced manufacturing, marine and aerospace both at home and, more importantly, in the global marketplace. Developing the advanced engineering and manufacturing sector through a business-led approach and supporting the visitor economy. Unlock critical employment sites to enable the Solent businesses, particularly the marine, maritime and advanced manufacturing sectors of the economy, to expand. Ensure people have the right skills to access employment and support its growing sectors. Provide effective support to SMEs to enable them to grow – including marine and maritime SMEs. Unlock innovation-led growth to engage more businesses in knowledge transfer and innovation, develop links to wider Higher education Institutes and demonstrate the benefits of working with knowledge-based partners. Drive up productivity in the area to address the widening gap between the Solent and other economic areas within the South East, ensuring it remains competitive on a global stage. Promoting Upstream Sustainability and Corporate Social Responsibility - Reduce Carbon Footprint and Improve Community Engagement.	Safeguard the continued employment of professional engineers, research scientists, professional project managers and support staff currently employed by QinetiQ and its partners at PTP. Creating the capacity to attract high productivity jobs: new engineering science and high end technology jobs over time. QinetiQ jobs will be generated through sustained growth in our core, international and adjacent markets. Additional jobs will be created by attracting other companies including those that currently use the facilities at PTP on an itinerant basis to create a permanent presence on the site. Expand the CMIS team creating new engineering and business development roles. Promoting Upstream Sustainability and Corporate Social Responsibility - Reduce Carbon Footprint and Improve Community Engagement. Improve social deprivation and economic inequality.

Table 3: Comparison of the scheme's contribution to critical success factor for both the Solent LEP and QinetiQ highlights a high degree of commonality

3.6 Measures of Success

The following table sets out the potential benefits of the scheme articulated as the measures of success to be tracked through the Benefits Management Process. **It is proposed that these are established as the range of measurable targets that jointly, the Solent LEP and QinetiQ should strive to achieve** noting that failure to achieve any single specific target would not imply failure of the scheme overall.

ID	Description	Observation	Attribution	Measurement	
				Pre- Realisation	Post-Realisation
1	Construction jobs supported through the scheme's construction phase.	150 construction staff engaged during the construction phase.	Benefit will be realised during the construction phase.	N/A	Total number of construction workers engaged throughout the construction phase of the scheme.
2	Safeguarding the roles of individuals currently employed by QinetiQ and its partners at PTP.	At least 280 people employed at PTP	The benefit will be realised immediately post implementation at PTP as a result of the new building resulting from QinetiQ investment.	Number of people employed at PTP on 31 December 2016.	Number of people employed at PTP immediately post implementation
3	Creation of new engineering science and high end technology jobs through QinetiQ growth and leasing space to tenants.	Increase in the number of new roles at PTP.	The benefit will be realised over the 5 years post implementation at PTP as a result of the new building resulting from public and private sector investment.	Number of PTP based jobs on 31 December 2016.	Number of new QinetiQ jobs at PTP 5 years post implementation
4	Supporting an increase in the number of SME in the Solent LEP	Increase in the number of SME utilising the NMSC.	The benefit will be realised over the 5 years post implementation s PTP as a result of new business attracted to the site.	Number of SME utilising PTP on 31 December 2016.	Number of SME utilising the Solent LEP extension 5 years post implementation
5	Through the creation of the QinetiQ Combat System Engineering Academy unlock innovation-led growth to engage more businesses in knowledge transfer and innovation, develop links to wider Higher Education Institutes.	Increase in the number students attending Combat Systems Engineering related training courses delivered from PTP.	The benefit will be realised over the 5 years post implementation s PTP as a result of new business attracted to the site.	Number students attending of combat system engineering related training at PTP in the years 2012-2016.	Number students attending of combat system engineering related training at PTP in the 5 years post implementation

Table 4: The Benefits Management Plan propose measurable success criteria

3.7 Distributional Analysis

Given the scale of the scheme we have not undertaken a distributional analysis. However, based on the expectation that new roles created are likely to align with the skills distribution of the existing workforce at PTP, it is anticipated that 80% of the roles will be Categories 1 – 3 (Level 4 and above) (taxonomy for skills and salaries).

3.8 State Aid

QinetiQ's initial assessment is that the level of funding proposed in this case does not contravene state aid rules. We are currently seeking legal advice to confirm the position and provide an update when this is received.

4. The Commercial Case

This section of the Full Business Case outlines the proposed deal in relation to the preferred option outlined in the Economic Case.

4.1 Innovation and Collaboration Hub - Description of the Works

The project includes the demolition of Blocks 9 and 11 and associated ancillary accommodation units for the erection of a part-two; part-four new office facilities with research and development laboratories, new parking, landscaping and associated works in conjunction with the QinetiQ build adjacent.

The site is currently used as B1 use class for office and research purposes. The building contains 2/3 storey office accommodation, laboratories and research facilities, with a total floor area of 2,000 square metres Gross External Area (GEA). The application site is situated within the PTP within Portsmouth City Council. The location is on the northern side of the Portsdown Hill which overlooks Winchester City. Both Portsmouth and Winchester City Councils have been consulted throughout the design process.

QinetiQ Current Plan and Innovation and Collaboration Hub building will be connected via common entrance and stairs leading up to the higher levels of the site to the QinetiQ four storey new build to form the National Maritime Systems Centre. There will be shared use of the restaurant, classrooms, auditorium, conference rooms, first aid room, stores, workshops, and laboratories. The new buildings will be complemented with car parking and landscaping to enhance the developed site.

Figure 31: Proposed North elevation showing the Innovation and Collaboration Hub extension to the East

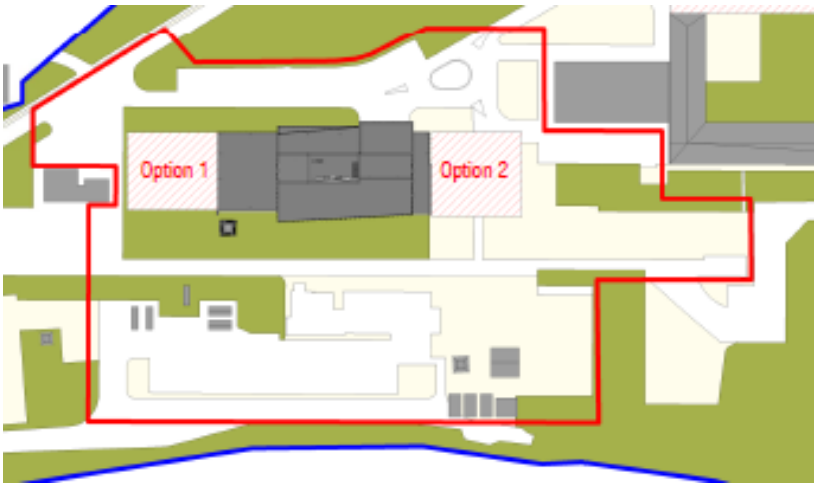


Figure 32: Options 2 East side of the QinetiQ Current Plan New Build

4.2 Procurement Strategy

4.2.1 Outline Design and Planning Consultancy

Under a framework agreement the design development, planning consultant and cost management will be carried out by WYG and architects Scott Brownrigg. Our framework agreement with WYG which was executed in 2007 following a competitive tender exercise sets out percentage fees for Capital Projects. The equivalent fee for this stage of project is based on a New Build with Sub Contractors Design. WYG are proposing to deliver the required services for a significantly reduced fee whilst deploying an exceptionally talented and creative team, committed to sustainable and efficient design, many of whom worked on the design of the original scheme.

WYG will also provide the Technical support and Principal Designer role during the construction phase.

4.2.2 Design and Build Procurement Route

QinetiQ decided a full design and build contract was the most appropriate procurement strategy for the project. This way the contractor who was carrying out the full design would carry out the build ensuring the full requirement is understood and executed.

Ten companies known to QinetiQ with the relevant experiences will be issued with expressions of Interest (EOI) and a pre-qualification questionnaire (PQQ) and scoring matrix. The contractors will be marked on the following:

1. **Previous Experience:**
    - Details of two projects of similar size, complexity and scale;
    - Details of two projects which co-ordinated the design and construction activities;
    - Details of two projects which have included an element of Sustainable Construction, Energy Efficiency and Modern Methods of Construction (for example CLT, SIPs);
    - Details of two projects which have brought innovation into design and construction;
    - Details of any design awards received or nominated for:
        - Details of any current contracts you have received from QinetiQ;
2. **Capabilities:**
    - Details of in-house teams in support of the delivery;
    - Details of the goods/services which are outsourced to alternative suppliers;
3. **Service Performance:**
    - Proposed distribution network;
    - Governance on customer satisfaction;
    - Systems used to ensure that supplier's goods meet the contracted quality;
    - Experience on the operation of contracts involving performance against Key Performance Indicators (based on quality/delivery standards) or similar measures;
4. **Risk Management:**
    - Risk management experience and management systems;
    - Sufficient insurance cover;
    - Refused insurance cover and details;
5. **Quality:**
    - Quality policy statement;
    - Management of quality to ensure the goods/services of sub contracted work matches the customer requirements;
6. **Security:**
    - Screening measures of staff prior to employment on a contract or permanent basis;
    - Security measures in place to prevent unauthorised/unlawful access to data held electronically or in hard copy;

- Employees/sub-contractors that already have attained security clearance at either a MOD or QinetiQ site;

7. **Sustainability:**
   - CSR policy;
   - Details of successfully delivery of a BREEAM 'Excellent' or 'Outstanding' rated building;
8. **Methodology:**
   Details of the proposed delivery and management team in terms of proposed individuals, their responsibilities, roles, qualifications, skills and should be supplemented by CVs for up to three key staff directly involved in the delivery of the project to completion;
9. **Organogram:**
   Project specific organogram indicating key site and office based personnel which will be used on the project;
10. **Modern Methods of Construction:**
    Details on key supply chain providers in relation to Modern Methods of construction (for example CLT, SIPs) and/or modular construction elements of the project, together with a rationale for incorporating this element into the design development and construction phases of the project;
11. **Health and Safety:**
    Details of how they manage co-ordinate and plan health and safety activities during the design stage and construction stage;
12. **Health and Safety Questionnaire:**
    The EOI/PQQ will be evaluated and the contractors will be down selected to four preferred bidders. These bidders will be invited to full tender based on the outline design and employers requirement. As part of the evaluation process the contractors will be invited to interview to present their case.

The preferred contractor will be the one that can provide the best technical and commercial bid, and that can prove delivery.

4.3 Approvals

The main approval required is planning permission for the new build. Full planning consent has been received for the main building but not the works covered by this project. The projects requirements are within Commercial B1 use and are not dissimilar to the current facilities and the works are an extension to the building that has already received planning.

Other approvals are as follows:

- Solent LEP Board approval;
- QinetiQ Board approval to commit the funds for the outline design of the ICH.

The QinetiQ Board funding approvals were given in December and the initial detailed designs completed for planning application to be submitted at the end of March 2017. The Project team are canvasing Local Authority and the general public as part of the pre-planning stage.

The planning of the main parts of the site is already complete (roads and utilities) the planning is expected to be expedient to ensure full approvals are in place at the end of June 2017

4.4 Innovation and Collaboration Hub – Project Risk Assessment

The following table sets of the key risks and mitigations pertaining to the design and construction phases of the scheme. The higher level risks for the scheme overall are discussed in Section 2.7.

Risk	Mitigation
Project Delivery	
Planning Issues	The requirements for the Innovation and Collaboration Hub are generally not bespoke and are the same concept design to the QinetiQ Current Plan. The local authority and general public will be canvased as part of the pre-planning and outline design stage.
Change of Scope	The scope of requirements for the project is well defined. The requirements for the new build are subject to more detailed planning but are not highly unusual or bespoke and therefore the risk is low. The project will be managed through a defined gate review process to prevent scope creep.
Delays to delivery	The project team is already established and the plans are being developed.
The project is not properly resourced	As this project is critical to the success of the company the project team has already been established and the company is continually monitoring its resourcing.
Project is not well managed	The company has a long experience of delivery of large scale project developments. The project will be run through a controlled gate review process with a dedicated project team. The MLW Managing Director will sponsor the project with support from the Finance Director. A stakeholder group will also be established to engage all relevant parties.
Buried asbestos found during excavation	The site of the new build is on an area that has already been developed.
Unknown services found	Service records and maintenance drawings will be consulted before any ground breaking activities.
Archaeological find during excavation	A desk top study has already been carried out to evaluate the possibilities of any archaeological finds. An archaeological watching brief will form part of any ground breaking activities
Other hazardous waste found	Ground and soil investigations will be carried out as part of the outline design phase.

Table 5: Top level risks pertaining to the design and construction phase of the Innovation and Collaboration Hub

4.5 Project Timetable

Milestone	Planned Completion Date
Outline Design	End March 2017
Planning Application	End of March 2017
Solent LEP Approval	End of April 2017
Planning consent	End June 2017
Detailed Design	End October 2017
Works Start on Site	End November 2017
Build Complete	End February 2019
Fit out and commission	End April 2019
All works complete	End May 2019

Table 6: Project Timetable

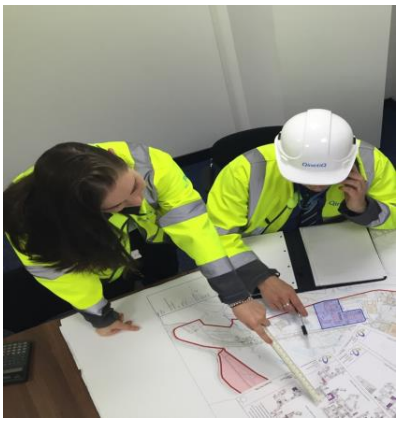
4.6 Key Contractual Arrangements

4.6.1 Construction Stage

QinetiQ will let a full design and build contract for this project under the NEC3 Engineering and Construction Contract (ECC) which is the main construction contract within the NEC3 family. The Engineering and Construction Contract has been used on some of the highest profile projects in the world, including the London 2012 Olympics, as well as every day projects such as the construction of buildings, highways and process plants. This contract is used for the appointment of a contractor for engineering and construction work, including any level of design responsibility.

4.7 Skills Matrix and Experience

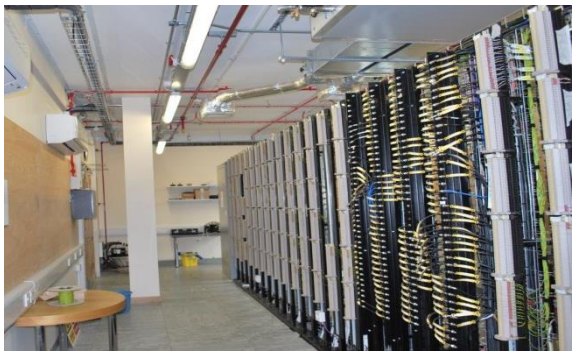
4.7.1 QinetiQ Group Property

	Our Aim Construction Project Management within Facilities Management delivers a wide range of building and infrastructure projects from multi-million pound new build facilities to complex operational building refurbishments and infrastructure improvements across the UK. Our aim is to enable our clients to achieve their programme objectives to time, cost and quality, and maximise efficiency, through leveraging our skills and depth of experience. Our aim is backed up by our track record of delivery across a range of sectors.

Modern Methods of Construction Using modern methods of construction we will apply the principals of Sustainable Development for the new build facility at PTP. Working closely with the designers and developers to ensure a building that will support the future and will be designed for greater energy efficiency.	

	Multi-occupancy facilities The QinetiQ Commercial Property team adopt a property strategy to optimise office space across our Cody, Haslar and PTP estates to reduce operating costs, maximise utilisation. The strategy delivers new job opportunities and increases the diversity in the local employment economy.

Sensitive Environments We work in challenging environments where project teams develop innovative solutions to ensure that operational performance is not impacted by the building works.	

	Technology We design and build complex communication installations coordinating technical competence to deliver building and network systems in support of new technology and research and development activities.

Infrastructure We plan and execute infrastructure upgrade projects working alongside users to ensure a coordinated project delivery is achieved to fulfil the requirements.	

	Environmental Constraints We manage interfaces with statutory bodies to balance the needs of the project with those of the local ecological environment.

Flexible Solutions We develop and implement flexible solutions in multi-occupancy working environments. Flexible build solutions enable teams and staff to adapt working practices to changing customer's needs.	

5. The Financial Case

This section of the Full Business Case confirms funding arrangements and affordability and explains any impact on the balance sheet of QinetiQ.

5.1 Public Capital and Revenue Requirements

Table 7 shows the short term capital requirement for this project, and the QinetiQ funded project running in parallel.

	FY16 Q1	FY17 Q1	FY17 Q2	FY17 Q3	FY17 Q4	FY18 Q1	FY18 Q2	FY18 Q3	FY18 Q4	FY19 Q1	FY19 Q2	FY19 Q3	FY19 Q4	Total
[redacted]														
[redacted]														
[redacted]														
[redacted]														
[redacted]														
[redacted]														
[redacted]														
[redacted]														

Table 7: Capital funding profile

The scheme will generate income for QinetiQ in the form of rent for space in the ICH and course fees from the Systems Engineering academy. It will also generate additional costs in the form of business rates and additional operating costs for the ICH. A full operating cost model has not been produced at this stage.

5.2 Sustainability and Energy Savings

QinetiQ is committed to reduce our CO_2 emissions from our buildings by 17% by 2020 from a 2013 baseline and are certified to ISO 50001 Energy Management System as an organisation. We have a requirement to consider energy efficiency as part of all of our new build and refurbishment projects.

The new build at PTP, which would replace the existing 1940s building, would provide us with a significant opportunity to improve the energy performance of the PTP site. We will be aiming to achieve a BREAAM Excellent rating for the new build and will appraise opportunities for energy efficient and low and zero carbon technologies based on the whole life costs of the facility. Our Energy Management System ensures that we operate and maintain our buildings with energy efficiency as a consideration, and strive to continually improve the operational energy efficiency of our buildings. A new build, which would have modular, controllable plant and equipment and effective energy monitoring, will provide us with the ability to achieve this continual improvement, and sustain energy efficiency improvements delivered.

5.3 Net Effect on Prices

The scheme is not anticipated to have any impact on prices due the fact that QinetiQ will negotiate and let all workstream and contract packages based on a Guaranteed Maximum Price (GMP) approach in order to obtain price and cost certainty on the project.

5.4 Impact on Balance Sheet and Income and Expenditure Account

The cost of the new building will be capitalised on QinetiQ's Balance Sheet and depreciated on a straight line basis over the economic useful life of the asset. For assets classified as buildings this is 25 years. The annual depreciation charge will be reported as an operating cost in the income and expenditure statement. The grant funds received will be treated as directly received cash in accordance with accounting standards.

5.5 Overall Funding and Affordability

The total estimated costs for the project are shown in Table 8, together with a phased expenditure profile. The projections are based on a mix of outline design and detailed design. It should be noted that proposed project costs assume that the proposed project is delivered as a single and holistic project. In addition, to enable us to get the best value for money solution the intention is that the main new build and the Solent LEP funded extension are managed in parallel and thus maximising on the one team approach. The current project cost plan also takes into account all current property taxes and capital allowance charges for the project when completed. It should also be noted that the project cost below do not take into any future relevant events and unforeseen effects that may affect the project time, cost and delivery. These estimated costs are based on construction rates as the JSP scales and not defined contractors' costs.

Innovation and Collaboration Hub build breakdown	**Total**
Design	[redacted]
Infrastructure	[redacted]
New build	[redacted]
External works	[redacted]
Drainage	[redacted]
IS Services	[redacted]
Prelims	[redacted]
Contingency	[redacted]
Total Capex	[redacted]
One Off Costs (Demolition Costs)	
Demolish Block 9	[redacted]
Demolish Block 11	[redacted]
Total Opex	[redacted]
Total Cost Estimate	[redacted]

Table 8: Total Estimated Costs

5.6 Commissioner Support

The scheme will not require any Commissioner Support.

6. The Management Case

This section of the Full Business Case demonstrates that the scheme is achievable.

6.1 Programme and Project Management Methodology

6.1.1 Project Team and Governance

The delivery of the project will be under the governance of the Main Board of Directors.

Sarah Kenny, Managing Director Maritime, Land & Weapons Business will be the lead executive sponsor and Matt Kitson, Group Property Director, will lead the estates and property elements of the project.

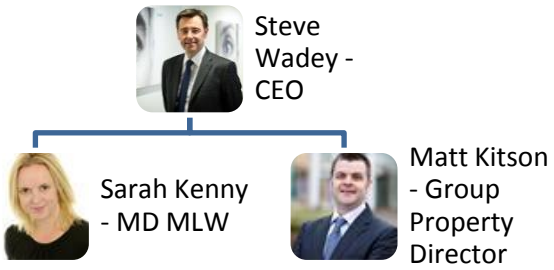


Figure 33: An experienced Executive Team will provide oversight to the scheme which is critical to the company's success

The full project team is detailed below:

Team member	Role
Steve Wadey	Chief Executive Officer (CEO).
Sarah Kenny	Maritime, Land and Weapons Managing Director and main Executive Sponsor.
Stuart Hider	Programmes Director – Maritime.
Matt Kitson	Group Property Director.
Peter Gombera	Head of Commercial Property.
Lisa Hunter Yeats	NMSC Integrated Delivery Team Lead
Geoff Bennett	South Coast Programme Manager.
Alex Morton	Project Manager.
Katie Bailey	Category Buyer, Operational Procurement Lead.

6.1.2 Project Management Competence and Training

Professional Project Managers are qualified to recognised standards including Association of Project Management (APM), Royal Institution of Chartered Surveyors (RICS), Prince 2 and Chartered Institute of Building (CIOB). A structured training framework is in place to provide a career development path for Project Managers.

6.1.3 Delivery

We use best practice Project Management procedures and a range of tools, drawn from cross-industry sectors, applied through our Project Management Framework.

> "As a delivery partner, we pride ourselves on finding the right solution to fulfil the customers' requirements. Our knowledge and expertise spans environments and sectors, through all stages of the lifecycle of the facility"

6.1.4 Considerate Delivery

Our stakeholder engagement approach reaches out to the local communities. Keeping them informed of activities during a construction project, and taking account of their needs can bring benefits such as enhanced reputation and we will appoint design and construction teams that understand and can respond to stakeholder requirements, and who can demonstrate good environmental and social performance.

6.1.5 Coordination

Our successful delivery is based on extensive planning and coordination of both Contractors and technical advisors. Significant Stakeholder engagement is necessary through the lifecycle of the project to ensure the customers' requirements are met. We have built up experiences in many fields of construction from Airfields, to Jetties; offices to explosive facilities and we endeavour to carry out all projects without effecting the trials and capability of the sites.

6.2 Programme and Project Management Plans

The QinetiQ project team offer an exceptional team that have the experience, talent and ability to deliver the requirements in the time required. The majority of our key project team members have worked on the design phase of the New Build facility and they bring the lessons learned into the Solent LEP extension.

The preferred method of procurement at this stage is a single stage design and build contract and the procurement exercise will include for the Solent LEP extension which gives **cost certainty at the earliest opportunity**. It also ensures that the works are competitively tendered and constructed at the same time.

We have developed a project delivery programme based on the preferred method of procurement and running the two phases as one. The programme has been developed such that the Construction phase can commence at the earliest opportunity.

Task		Duration	Start	Finish
1	**QQ Main Building**	**120 weeks**	**Nov-16**	**May-19**
1a	Procurement Exercise	34 weeks	Nov-16	Jul-17
1b	Design	16 weeks	Jul-17	Nov-17
1c	Demolition and Enabling works	16 weeks	Aug-17	Dec-17
1d	Construction	60 weeks	Nov-17	Feb-19
1e	Test and Commissioning	8 weeks	Feb-19	Mar-19
1f	Demolish Block 5	4 weeks	Mar-19	Mar-19
1g	Complete car park and landscape	8 weeks	Apr-19	May-19

1h	Works Complete			May-19
2	**Solent LEP Extension**	**112 weeks**	**Nov-16**	**Mar-19**
2a	Procurement Exercise	34 weeks	Nov-16	Jul-17
2b	Develop Planning Application Design	12 weeks	Jan-17	Mar-17
2c	Solent LEP Approval	4 weeks	Mar-17	Apr-17
2d	Submit Planning			Mar-17
2e	Planning Period	16 weeks	Mar-17	Jun-17
2f	Planning Consent			Jun-17
2g	Detailed Design	20 weeks	Jul-17	Nov-17
2h	Demolition and Enabling works	16 weeks	Nov-17	Feb-18
2i	Construction	48 weeks	Feb-18	Feb-19
2j	Test and Commissioning	8 weeks	Feb-19	Mar-19
2k	Works Complete			Mar-19

Table 9: Construction Plan

In conjunction with the design and construction plan the Group Property Commercial property team will execute and deliver the marketing strategy to fulfil the Solent LEP benefits for new business growth to PTP

Task		Duration	Start	Finish
3	**Business Growth**	**88 weeks**	**Nov-17**	**Jul-19**
3a	Marketing Strategy	48 weeks	Nov-17	Nov-18
3b	Contract/security	20 weeks	Nov-18	Mar-19
3c	Mobilisation / fit out	20 weeks	Mar-19	Jun-19
3d	Occupation			Jul-19

Table 10: Marketing Plan

6.3 Use of Specialist Advisers

WYG is an established UK based multi-disciplinary management and technical services consultancy with an overall turnover of £125.7M in 2013. Founded over 50 years ago and trading as a plc since 1997, they have over 1,400 employees in 40 countries. Their primary focus is in the Defence and Justice, Energy and Waste, Environment and Water, Transportation, Mining and Minerals, Urban and Commercial Development and Social Development and Infrastructure sectors. In these sectors, they offer full project lifecycle consultancy from policy advice to concept, through feasibility and design, to implementation and commissioning.

Through these stages, they offer core engineering and environmental technical services, project management, transportation, urban design and town planning as well as niche services in specialist areas such as acoustics, asbestos, ecology, landscape architecture, minerals and waste.

The proposed project team has delivered the first stage of this project and they will build on the excellent relationships built up on site over the last year. They recognise the importance of this facility in relationship to the broader services delivered to our clients.

The proposed development at PTP will need to be technically excellent, corporately excellent, an attractive place to work and a commercial success. In order to deliver this, Scott Brownrigg will continue as their architectural services partner on the next stage of this project.

Scott Brownrigg is widely regarded as one of the leading defence architects in the UK. They will bring extensive experience gained over a prolonged period of using their design skills and specialist knowledge of military requirements into master planning and a wide variety of building topographies.

They are at the forefront of the initiatives being driven though Construction 2025 and are undertaking a number of Cabinet office trail projects concerning the use of BIM and Integrated Project Insurance. Scott Brownrigg is heavily involved in strategic industry committees, including CIC, BISRIA and RIBA, which are developing standards for the BIM Level 2 Digital Plan of Works.

The project will benefit from the lessons learned from these initiatives, in particular the use of BIM will enable the end user to identify sight lines and allow stakeholder to visualise the end product at an early stage and base their critique on a visual model.

There will also be cost savings as the model can then be adopted by the contractor and ultimately the FM contractor/maintenance team, thereby supporting 'soft landings'.

Their aim is to provide a service that adds value through enhancing the client's assets as well as adding value to the delivery objectives.

6.4 Change and Contract Management Arrangements

QinetiQ will let a full design and build contract for this project under the NEC3 Engineering and Construction Contract (ECC) which is the main construction contract within the NEC3 family.

NEC3 is a family of contracts unique in offering a complete end-to-end project management solution for the entire project lifecycle; from planning, defining legal relationships and procurement of works, all the way through to project completion, management and beyond. The contracts are designed to save time and money while increasing standards by encouraging collaborative working in order to achieve shared project objectives between all parties. This philosophy promotes a less adversarial approach, decreasing the chance of time consuming and costly disputes.

NEC3 contracts are underpinned by a philosophy that the contractor (in the ECC) should not lose out, nor benefit from a windfall, as a result of an event which occurs and is at the employer's risk. Compensation events entitle a contractor to be compensated for any impact the event has on the prices, completion or key dates in the contract.

The cost impact of a compensation event is based upon the effect the event has on the cost of work already done and the forecast cost of work not yet done at the time that the project manager instructed the contractor to submit a quotation for the compensation event.

NEC contracts have a very clear, simple, but critical process for 'early warning'. The contractor and project manager will notify each other of any matter which could affect the cost, completion, progress or quality of the project. The early warning process is simple in principle and critical to the success of NEC contracts and facilitating the 'spirit of mutual trust and cooperation' required by the contract. The project manager will give the process, and the associated Risk Register, the attention it deserves and develop and use his soft skills to get the best out of risk reduction meetings.

6.5 Benefits Realisation

A detailed Benefit Realisation Management Plan has been produced. This Management Plan maps the strategic objectives of the Solent LEP and QinetiQ against the benefits delivered by the Local Growth Fund investment into the Innovation and Collaboration Hub.

The benefits realisation process will begin with establishing the benefits management strategy. Creating a benefits management strategy involves the following activities:

- Establishing the structures and functions required;
- Identifying the roles and responsibilities;
- Defining the frequency of benefit reviews;
- Measurement techniques to be used;
- Stating how benefits double-counting will be avoided;
- Detailing the process to be employed down to and including the granularity of detail;
- Establishing ownership and management commitment requirements.

Executing benefit realisation requires benefit owners to:

- Establish benefit measures if they do not already exist;
- Prepare for transition, including:
- Assessing the effect on business-as-usual and the readiness of stakeholders for moving to the 'new';
- Some stakeholder engagement activities, managing expectations, explaining why the change is necessary, and any necessary preparatory training;
- Establishing a benefit-tracking and reporting regime/mechanism.
- Ensure the ongoing operational performance is not suffering unduly during the changeover;
- Provide follow-up support and training;
- Ensure the new capabilities are embedded within the operational environment through appropriately managed business change.

For realised benefits, input from stakeholders, including the business change managers responsible for the changed operations will provide realistic information and evidence of what has been achieved to-date. The objectives of a benefit review will be to assess and update the benefit profiles and benefits realisation plan to ensure that the planned benefits remain achievable and have not changed in scope or value. A check of the overall set of benefits included within the benefits map remains aligned to the programme's objectives, and to reprioritise or realign them as necessary.

Stakeholders and senior management will be informed of progress in benefits realisation, and to help identify any further potential for benefits. This will enable the team to assess the performance of the changed business operations against their original (baseline) performance levels;

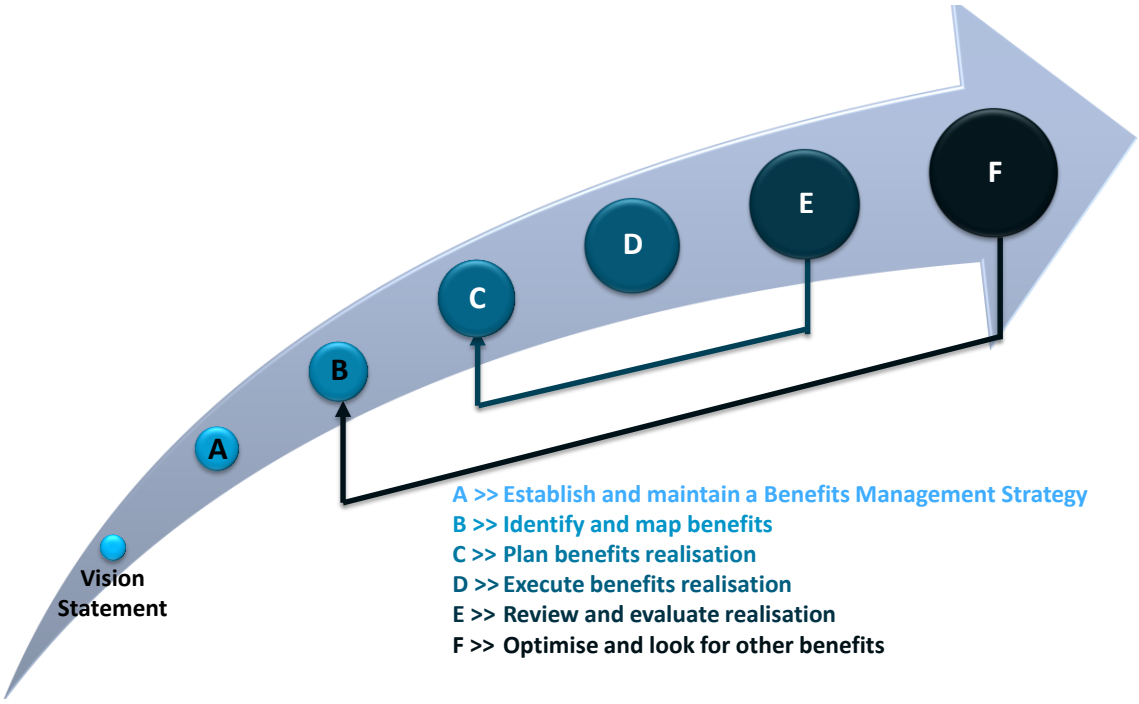


Figure 34: Benefits Realisation Process

6.6 Risk Management

Our Project Managers apply a proven approach to the management of risk through robust risk identification, analysis and response during all stages of the project lifecycle. QinetiQ has a number of risk analysis and management tools that can be used to look at the effect of project risks on the programme, on the cost plan or the combined effect on both the programme and budget. In addition QinetiQ operates robust project gateway reviews to effectively manage and alert stakeholders of any potential project risks that will need to be managed effectively by the various stakeholders. As described above in Section 5.3, QinetiQ will negotiate and let all workstream and contract packages based on a Guaranteed Maximum Price (GMP) approach in order to obtain maximum costs, quality and delivery certainty for the project before inception.

6.7 Monitoring During Implementation Phase

We will agree an appropriate regime for monitoring during the Implementation Phase with the Solent LEP.

6.8 Post Implementation Evaluation Arrangements

We will agree appropriate post implementation evaluation arrangement with the Solent LEP.

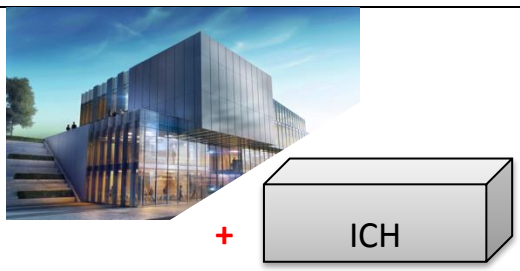
7. Abbreviations

Acronym	Description
ACER	Autonomy Command Exploitation and Realisation
C4ISR	Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance
CAA	Civil Aviation Authority
CMIS	Centre for Maritime Intelligent Systems
DGP	Defence Growth Partnership
ECC	Engineering and Construction Contract
EEG	Employee Engagement Group
EOI	Expressions of Interest
GEA	Gross External Area
MAPLE	Maritime Autonomous PLatform Exploitation
MCA	Maritime and Coastguard Agency
MCSU	Maritime C4ISR Support Unit
MLW	Maritime, Land & Weapons business within QinetiQ
MSP	Managing Successful Programmes
NCSISS	Naval Combat Systems Integration Support Service
NMSC	National Maritime System Centre
OACS	Open Architecture Combat Systems
PQQ	pre-qualification questionnaire
PTP	Portsdown Technology Park
PV	Private Venture
SCMC	South Coast Marine Cluster
SME	Small and Medium sized Enterprises
SMMI	Solent Maritime & Marine Institute
STEM	Science Technology, Engineering and Maths

Table 11: Table of Abbreviations

Annex A. Options Analysis

Four strategic options for the implementation of the NMSC vision have been assessed

Option 1: No Capital Investment.		Continue to operate with aged infrastructure, patching and mending as required
Option 2: Invest in the current site, QinetiQ PV capital investment only.		Solent LEP Do Nothing Option. The NMSC scheme proceeds without the ICH.
Option 3: Invest in the current site, QinetiQ PV and Public Sector investment combined.		NMSC schemes proceeds with collocated ICH.
Option 4: Invest in dual or alternative sites. QinetiQ PV and Public Sector investment combined.		NMSC scheme proceed at PTP with ICH located elsewhere.

Option 1 has been discounted following the award of the NCSISS Phase 2 contract in 2016 as the existing facilities at PTP constrain NCSISS delivery, limit QinetiQ's future growth aspirations and prevent execution of the company's strategy (Section 2.3).

Option 2 forms the baseline case (Solent LEP do nothing) against which Option 3 and 4 have been assessed. The table below summarises the assessment against nine criteria in terms of the relative positive impact (shaded green/light green) or a minimal impact (shaded amber) with respect to Option 2.

Option 3 has been assessed on the basis that collocation of the ICH at PTP brings a number of benefits to the Solent LEP in terms of leveraging QinetiQ's current plans for PTP. The Solent LEP investment will be used to add work space for use by SMEs and OEMs with access to shared site facilities such as the restaurant and conference rooms. Collocation on site also enables access to over £100M of investment in the specialist naval combat System Integration Facility at PTP which provides a unique opportunity to test innovative combat system concepts in a safe realistic environment not otherwise available except on warships.

Option 4 has been assessed on the basis that a suitable site for the ICH outside PTP is identified that can accommodate additional staff in terms of restaurant and site facilities. This may require a new build or re-purposing existing buildings. There are a number of disadvantages to this approach which may introduce risk to Solent LEP in realising the benefits of the investment. One is that a separate site may have limited or no connection to PTP which would lessen the attraction for SMEs and OEMs to the Portsmouth area as the ICH would be no different to another innovation hub/technology park.

Assessment criteria	Option 2: Invest in the current site, QinetiQ PV capital investment only.	Option 3: Invest in the current site, QinetiQ PV and Public Sector investment combined.	Option 4: Invest in dual or alternative sites. QinetiQ PV and Public Sector investment combined.
1. Quantitative benefits to the Royal Navy through support services for future ship programmes and current operations.	The investment already committed by QinetiQ supports the maintenance of current level of service in support of the Royal Navy. Longer term support may be limited through space constraints, thus prejudging the post NCSISS phase of work and support to future warships (eg GPFF and Type 26).	The additional Solent LEP funding will provide opportunities to SMEs and OEMS for the longer term support to future warships (eg GPFF and Type 26) and the emergent Maritime Autonomous Systems market from companies not currently involved in the supply chain. There will be greater opportunity through coherent delivery building on and using the existing capability on site.	The additional Solent LEP funding will provide some longer term support opportunities to future warships (as in option 3) however there will be increased cost of collaboration to ensure coherent delivery and assurance using the PTP reference facilities.
2. Local job creation during development phase.	Lower levels of job creation as project will be limited to committed investment.	Addition funding will require approx. 30% increase in local jobs for construction activities over the 4 year development programme.	Addition funding will require approx. 30% increase in local jobs for construction activities over the 4 year development programme. The ICH on a separate site may be smaller in size if common facilities such as conferencing rooms and restaurant need to be included. Repurposing an existing building may not create as many new jobs.
3. Safeguarding current jobs and skills	Safeguards current jobs (with no opportunity for growth) for the duration of the NCSISS Contract (~10 years).	Safeguards current jobs.	Safeguards current jobs.
4. Creation of new high skilled jobs based upon percentage of professional, managerial and engineering roles.	Limited job creation, significantly smaller than planned as opportunity for growth limited.	Supports long term growth of c 100 jobs (of which ~80% are Level 4 and above technical professional and management jobs) through direct collaboration and opportunities to use PTP facilities.	Supports long term growth of up to c 100 jobs (of which ~80% are Level 4 and above technical professional and management jobs). A separate site will introduce extra cost of collaboration and may reduce number of jobs created if those jobs rely on PTP facilities for testing in a realistic environment.
5. Impact on productivity (GVA per FTE).	No impact, current projection is GVA (Defined here as turnover / jobs) is in the order of £[redacted] pa across QinetiQ Portsmouth area sites.	Maintains GVA at around present levels and through expansion of workforce could grow total GVA per annum for the site by £[redacted].	Maintains GVA at around present levels and through expansion of workforce could grow total GVA per annum for the site by £[redacted] subject to caveats in (4)

Assessment criteria	Option 2: Invest in the current site, QinetiQ PV capital investment only.	Option 3: Invest in the current site, QinetiQ PV and Public Sector investment combined.	Option 4: Invest in dual or alternative sites. QinetiQ PV and Public Sector investment combined.
6. Potential for generating exports.	Limited to support opportunities working alongside UK Primes, inability to generate sufficient market presence, heavy reliance of Defence Growth Partnership / CMIS.	Creates a major presence on the International stage, assisting in showcasing SME capabilities and will form a major facility on the South Coast, embracing the aim of the South Coast Marine Cluster.	Showcase will be split over two site reducing the impact to international customers as OEMs won't be demonstrating capability at the site used by the Royal Navy.
7. Contribution to the overall reputation of the Solent and South Coast region as a centre for innovation and excellence in marine / maritime engineering and complex mission systems development.	Limited contribution to reputational enhancement, with the possibility of migration of medium / long term opportunities to other organisations primarily located in North M3 / Eastern M4 areas.	Major contribution to reputational enhancement, with the possibility of migration in the medium / long term for other organisations primarily located in North M3 / Eastern M4 areas to migrate to Portsmouth area.	The attraction to relocate organisations to ICH is reduced if access to PTP is limited.
8. Local socio-economic growth and attractiveness of high skilled jobs and resulting spin off to the local economy:	Assessed against the 3 sub-criteria below.	Assessed against the 3 sub-criteria below.	Assessed against the 3 sub-criteria below.
a. Direct Impact – current and future direct employment at the NMSC.	No direct impact, current levels of jobs maintained at GVA outlined above, (noting that significantly higher than overall GVA for Portsmouth region (£25,735 [House of Commons Regional and Local Growth Statistics Briefing Paper 05795, 30 August 2016].	Direct impact, with additional 100 jobs maintained at GVA outlined above, (noting that significantly higher than overall GVA for Portsmouth region (£25,735 [House of Commons Regional and Local Growth Statistics Briefing Paper 05795, 30 August 2016] leading to over [redacted] GVA addition to the area.	Similar to option 3 noting caveats in (4).

Assessment criteria	Option 2: Invest in the current site, QinetiQ PV capital investment only.	Option 3: Invest in the current site, QinetiQ PV and Public Sector investment combined.	Option 4: Invest in dual or alternative sites. QinetiQ PV and Public Sector investment combined.
b. Indirect Impact - addressing the wider economic impact e.g. consumer spend in the local economy.	As a high GVA company, this is an important factor, there is no increase under this option.	As a high GVA company , this is an important factor, will increase by around 25% from current levels relating to QinetiQ Portsmouth Sites.	Similar to option 3 noting caveats in (4).
c. Induced impact – looking at economic multiplier value of jobs supported by direct employment.	Other sources addressing Defence industry jobs indicate a strong multiplier effect, there is no increase under this option.	Using figures developed by OEF for BAE SYSTEMS, around 2.5 jobs are supported by each FTE, this gives rise to a potential increase of between 150 and 250 local jobs outside of the QinetiQ employment levels.	Similar to option 3 noting caveats in (4).
9. Opportunity for growth through science and technology innovation e.g. through exploitation of the Centre for Maritime Intelligent Systems.	The limited investment is unlikely to directly create additional jobs in the SME sector, the focus will be on developing a site against the agreed MOD funding available via the NCSISS programme. Whilst local links to SMEs and Universities will continue, the lack of clear growth capability in the programme will limit opportunities.	The investment will contribute to directly create additional jobs in the SME sector, the focus will be on developing a site as an accessible Centre for SME and Academic activity, with other companies based outside of the region, migrating staff and activities to the Centre. Growth will also demonstrate and attract high level skills to the area and provide greater focus for accessing both UK and international Research funding.	The investment will contribute to directly create additional jobs in the SME sector. However, there will be minimal differentiation of a separate ICH to any other innovation or technology park to encourage growth through innovation.

In the above assessment, there are some key advantages and disadvantages that can be pulled out which recommends Option 3 over Option 4:

Option 3: Invest in the current site, QinetiQ PV and Public Sector investment combined

Advantages

- Directly encourages SME and OEM to Solent area because of unique facilities
- Enables on site access to £100M+ of combat system reference system
- Leverages QinetiQ investment for site facilities such as restaurant and conference rooms
- Potential to maximise efficiency of LEP investment spend alongside QinetiQ build

Option 4: Invest in dual or alternative sites. QinetiQ PV and Public Sector investment combined.

Disadvantages

- Potential additional cost to the run of ICH
- Needs suitable site for ICH identified for new build or re-purposing of existing buildings
- LEP funding may need to be used for site facilities such as restaurant and conference rooms
- Access to PTP reference facilities needs to be agreed. If agreed no on-site accommodation for SME/OEM

Annex B. Benefits Realisation Plan

Annex supplied as standalone document

Annex C. External Market Evidence for Space Demand at PTP

Annex supplied as standalone document

Annex D. Project Team Biographies

[redacted]

[redacted]

[redacted]

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[redacted]

[redacted]

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[redacted]