

An update for defence decision makers

INFORM

February 2018

The Value of Partnership



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Introduction

Welcome to the fifth issue of INFORM. As this latest issue coincides with the end of the current phase of the MOD Niteworks contract, we have taken the opportunity to capture, reflect and codify what is required to maintain a partnership of MOD, industry and academia, and what it takes to keep it relevant as the landscape within which it operates evolves. Our goal in doing this is to share some of the lessons of working in partnership such that these might be carried forward into new ways of working in the future.

I have been privileged to work with a range of remarkably talented individuals throughout my time with Niteworks. I have witnessed how quickly, once rank, badges of office and affiliations are stripped away, and given the right environment, teams can assimilate the complex challenges that confront them and mature and test possible systemic improvements.

It is easy to forget that the processes we use today have been honed over 15 years of experience on close to 450 projects. It is important therefore that we should capture this learning and transfer it. This is not to say that what works here will necessarily work somewhere else, as we recognise that subtle differences in approach can lead to large variances in outputs and outcomes. Nevertheless, it is as a minimum a starting point for further adaptation.

Within Niteworks we codify what we do in something we call the Niteworks Way (see page 7). This serves as a high level visualisation and description of the things we value and provides a sense of the way that the elements of the operating model integrate. We start by conceptually viewing situations as systems – this is important as it requires us to think about the internal working of the system as well as the external influences upon the system. This helps us to make recommendations that are grounded in practicality and are therefore implementable. Next we establish clear principles – these may be thought of as the values that drive our behaviours and methods. An example of this is that we value engagement. This is best illustrated by the role of the project team where engagement does not stop with the formation of a team drawn from across the partnership, but continues throughout the life of the project as the team members continue to look outward through a range of engagement mechanisms to ensure they leverage the widest possible sources of knowledge.

Closely linked to this is benefits and exploitation management. Here we recognise a hierarchy of outputs, outcomes and benefits. Each is important, yet as each is

dependent on the others, all aspects need to be addressed with equal importance. Outputs feed into outcomes, which we can think of as immediately realised benefits. Further benefits can be realised by appropriate exploitation activity. Every project must consider its exploitation strategy to ensure that benefits can be realised; hence, at the risk of tautology, we value exploitation and benefits.

The next area of the Niteworks Way I highlight is knowledge management (see page 12). This is typically a vexing challenge that we have looked at repeatedly within Niteworks. Here I do not claim that we have ‘solved’ the problem of information management or have developed a sophisticated high-end information management system. Rather, where Niteworks has been successful is in creating a culture where the importance of knowledge, its curation, distribution and reuse is valued and understood. Because of this, resources and effort are put into leveraging prior learning, the creation of management information and developing and using evidence and data to inform decisions.

The Niteworks Way, underpinned by a process of rigorous audit and continuous improvement has helped Niteworks to adapt and stay relevant as the environment around it has evolved. I believe this has contributed to its 15 years of activity to date and why, through the Niteworks Replacement competition, the spirit of the partnership can be taken forward in its chosen future form.

As I look back over what has been achieved by the partnership over the years, there are many highlights that come to mind. I constrain myself to reflect on just one. The setting for this relates back to the time when the Brigades were going through their pre-deployment training for OP HERRICK. The Niteworks partnership was first asked to get involved to help MOD look at how the realities of what would be faced in theatre could be better reflected in the pre-deployment. This was particularly challenging given the highly dynamic nature of the equipment state fed by the UOR process, shifting tactics, techniques and procedures borne from in theatre operational experience and changes to the pattern of life that result. We were able to help MOD rapidly address the necessary improvements that were needed and as a result went on to support many of the Brigades during their work up training.

I visited the Niteworks teams that worked in support of the Brigades and saw first-hand how the military personnel sought out anyone in a Niteworks partnership tee-shirt to

seek advice on any aspect of what they were doing that was unfamiliar. Being ex-Army myself, I took great pride from what I saw and walked away clear on the gravity of what we were doing. This was no ethereal study; it was about real people preparing to put themselves in harm’s way to protect us. They deserved our dedicated support and I was proud that were able to provide this during a time of need. This is just one of the near 450 projects the partnership has supported.

It has been an honour to support the Niteworks partnership and a pleasure to work with such a diverse range of talent from across MOD, Dstl, industry and academia. Thank you for your support over the last 15 years and my best wishes to everyone for the future.



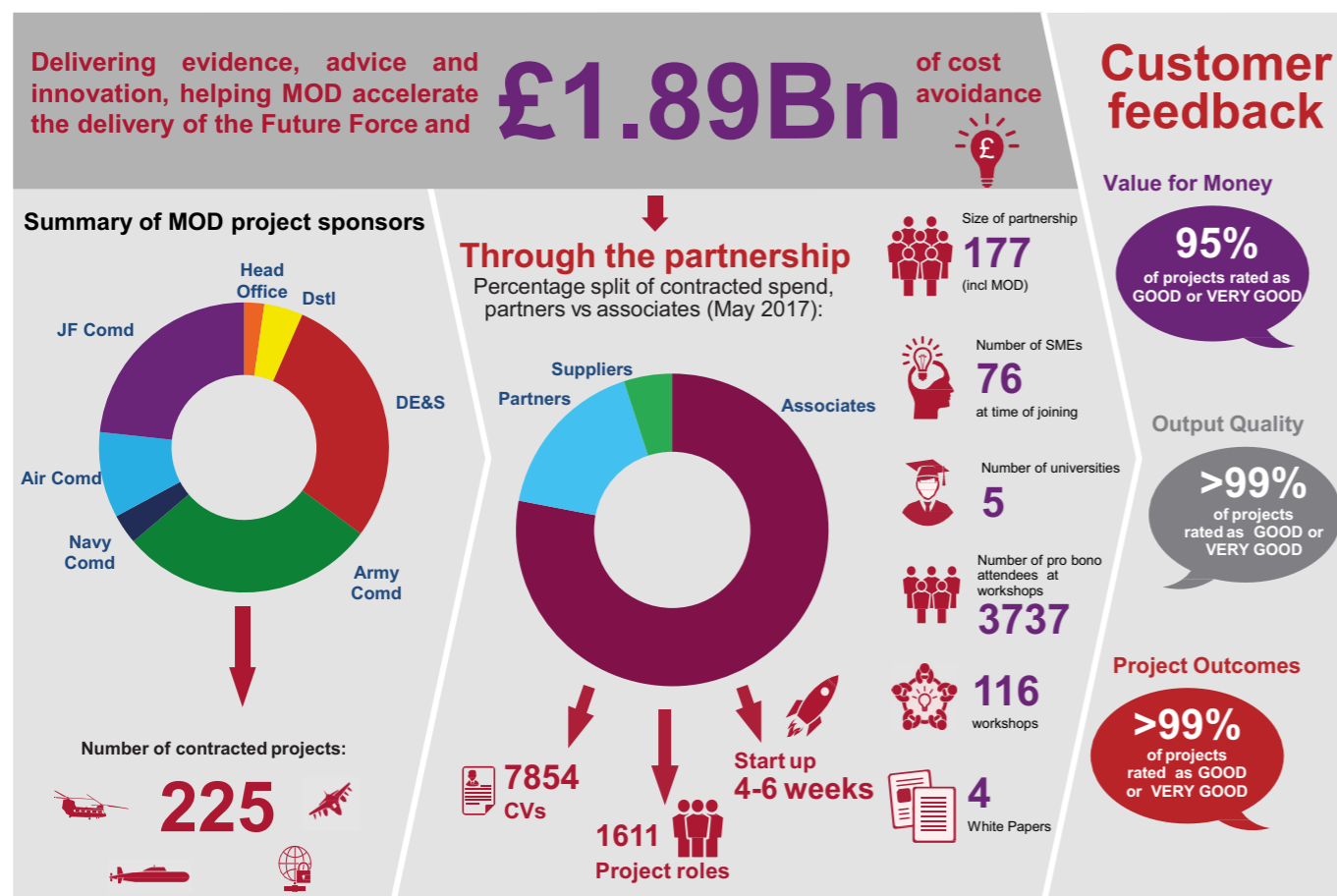
Simon Jewell
Managing Director

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Niteworks III in Numbers

Niteworks Projects Benefits



Niteworks Projects: Contributing to the Defence Enterprise Innovation System



Of the 450 projects undertaken since 2003, over the course of Niteworks III (2013 -18) the partnership has supported 225 projects covering the Joint, Sea, Land and Air domains. 1,611 project roles were created, for which 7,854 curriculum vitae (CV) applications were received from industry. Of the competitively selected people, 46% were first-timers, having not previously worked on Niteworks III projects or core team activities before. Once formed, project teams were supported by 3,737 members of MOD, Dstl, industry and academia that gave up their time to support project workshops through which the knowledge and prior learning from the partnership (and beyond) was brought to bear in support of the individual projects.

Over the past five years, the partnership grew 63% from

108 to 177 member companies (including 5 universities). The partnership continues to comprise a mix of large and small companies, from a range of defence and non-defence backgrounds. 75 were classified as small-to-medium sized entities (SME) at the point of joining. The partnership remained open to new members until January 2018 when the decision was taken to suspend new partnership applications until the outcome of the Niteworks (Replacement) competition is known.

Feedback on the projects has been overwhelmingly positive with >99% of project sponsors that provided feedback rating project outcomes as Very Good or Good and the aggregate cost avoidance support to MOD is calculated to be in the order of £1.89 billion.

At one level Niteworks projects are relatively easy to quantify. They each start with work to agree a Single Statement of User Need (SSUN), they develop an agreed approach to deliver a set of outputs, outcomes and benefits, with a plan and allocation of resources to deliver the desired outcome. In most cases there is immediate payback as a project sponsor receives the artefacts and know-how required to address their specified situation.

Job done? Well not quite! Each output has so far only contributed to a need articulated through a single project. We are after more, namely the value added from choosing to work with the Niteworks partnership. This can be observed through a range of additional benefits:

- I) Re-use (see page 7). Re-use rather than re-work and re-sell is the principle that says we will start each project by building on the knowledge that has gone before by establishing a knowledge baseline. This principle is not limited to prior Niteworks tasks, but leverages all available sources of prior knowledge, from within MOD

and Dstl, from across the partnership's industry and academic players and from international sources (such as the information exchange between Australia and the UK).

- II) Aggregate knowledge (see page 12). Based on the principle that the sum of the parts can be greater than the whole, within Niteworks we are keen to exploit the collective knowledge of multiple outputs to address the strategic-systemic challenges facing defence. This is delivered through the corporate memory of the Niteworks Core Team for the benefit of current and future projects and codified through a series of Niteworks White Papers to help disseminate learning back into MOD, industry and academia.
- III) Alignment of benefits with strategic areas of focus across MOD. Benefits are identified in the areas of capability development, driving efficiency, delivering innovation, promoting prosperity and building agility. The benefits graphic on this page shows how individual projects have contributed to these broader goals.

The History and Development of Niteworks

The Niteworks partnership was established by MOD in 2003 to provide a commercially neutral environment in which MOD, industry and academia would be able work together to address Defence challenges arising from increased connectivity and complexity. Initially the focus of the partnership was solely on the realisation of the potential benefits of Network Enabled Capability (NEC) via the mechanism of War-Fighting Experimentation (WFE). In the beginning, there were only five members of the partnership and funding was allocated on a priority basis from a central budget. Today the partnership stands at 176 companies working with MOD.



Members of the partnership work through a wargaming exercise at the Niteworks Technical Symposium 2017.

Even at the earliest stages, the basic building blocks of an enduring and adaptable capability were in place. Key features included: a flexible and extensible commercial framework; a unique shared Intellectual Property (IP) model and; an open collaborative approach that was able to break down barriers between organisations that normally compete, or would normally be found on opposite sides of a customer-supplier relationship.

The collaboration model adopted by Niteworks has proved to be extremely durable and very effective in addressing a wide range of problems, particularly where the degree of complexity is such that a broad spread of organisations and diversity of perspectives is required to create a robust solution. As a result, Niteworks has now undertaken close to 450 projects and has become highly valued by MOD and other partnership members as a means of navigating through the toughest collective challenges. Typically, these challenges involve: (1) Generation of evidence for decision makers; (2) Application of best-practice within the Defence

context; and (3) Practical innovation.

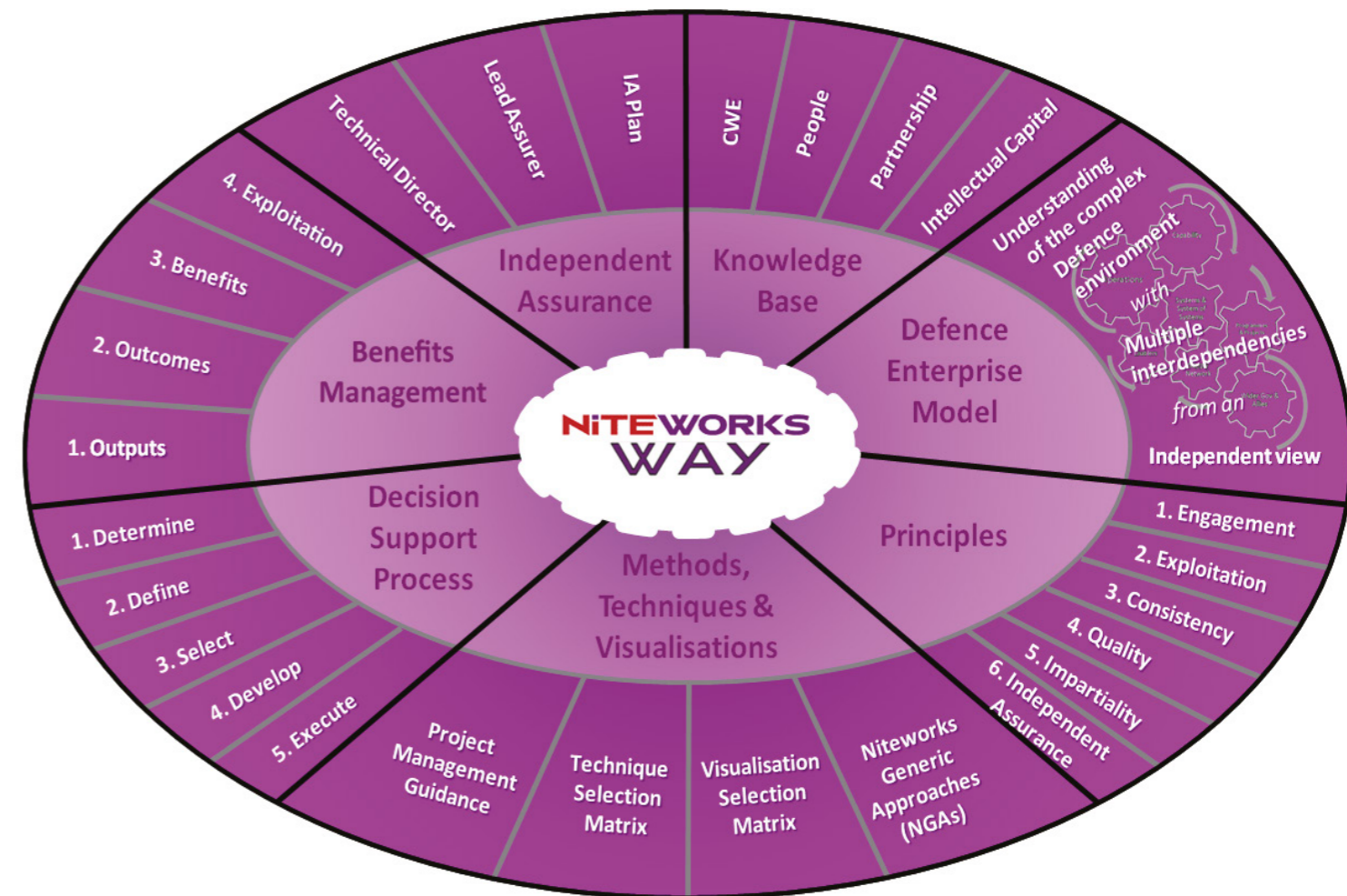
Building on the excellent feedback from MOD customers (page 4), feedback from other partnership members shows that they benefit from project engagements, greater understanding of MOD's intent and use of Niteworks outputs. The success of the model has influenced numerous initiatives across Defence and inspired constructs in other domains, including the Rapid Prototyping, Development and Evaluation (RPDE) organisation in Australia and Bluelightworks, which operated on behalf of the UK Home Office.

Within Niteworks, we are advocates of the innovation models it embodies – we see it as a genuinely collaborative arrangement that is not compromised by partial commercial considerations. It is an 'advanced' tool that is not appropriate for use in all situations – but where it has greatest traction, namely in complex enterprise level problem solving, it has demonstrated its worth.

The Niteworks Way

Niteworks is no different from any organisation that tailors its way of doing business to match its context and the kinds of problems it has to address. It is the uniqueness of the Niteworks construct and how this dictates the tailoring requirements that makes the 'Niteworks Way' distinct. Every single person joining a Niteworks project team, or the core team, is inducted using the Niteworks Way to enable them to get 'up to speed' quickly with the essential things they need to know about Niteworks.

The Niteworks Way is visualised in terms of its key elements as follows:



Each of the elements is described in the previously published Niteworks Way Quick Reference Guide. This article only describes the principles, as these are key to understanding how Niteworks works.

The Niteworks Way Principles are the key to understanding what is important for Niteworks to function effectively. There are six principles:

Engagement: Niteworks exists to bring together MOD, industry and academia to address problems that cannot be addressed in other ways. Engagement must therefore be conducted comprehensively and rigorously. Every project must undertake stakeholder analysis (using the Defence Enterprise Model) and develop partnership engagement plans. Engagement is facilitated by the availability of pre-defined engagement mechanisms within the Niteworks Methods, Techniques and Visualisations.

Niteworks Organisation

Exploitation: There are two aspects to exploitation. The first is re-use rather than re-work. Every project is required to undertake a knowledge management exercise (using the Niteworks Knowledge Base and others) to determine whether any relevant work has been undertaken previously, either by Niteworks or other parties. Furthermore, Niteworks is careful to curate the intellectual capital it creates so that it can be used subsequently by the partnership and UK Defence more generally. This know-how is captured within a range of products, including Niteworks Generic Approaches, Guides and White Papers, and these products are made available via the Collaborative Working Environment (CWE). Niteworks employs a Knowledge Manager to assist projects with access to knowledge. The second aspect of exploitation is avoiding the production of 'shelfware'. Niteworks is acutely aware that its work must be taken forward by others for it to realise any value. For this reason, every project is required to develop a benefits map and an exploitation plan, with the agreement of explicit exploitation actions where possible. Niteworks employs a Benefits Manager to assist projects with these aspects.

Consistency: To provide a repeatable customer experience and create a recognisable brand, projects are required to adopt consistent styles and formats. These are enforced by document templates provided within the CWE. At a more technical level, a library of tried-and-tested methods, techniques and visualisations is provided to support consistency and communications with a wide variety of stakeholders.

Quality: There are three aspects to quality. The first is the use of 'best athletes' available from the partnership to construct project teams. The resourcing process involves issuing project role descriptions to all partnership members as part of a quality-driven competition involving CV sifting

by a panel and interviewing of typically 3 or 4 candidates for each role. Team balance is also considered as part of the selection process. This process and the breadth/depth of the partnership generally results in very high quality teams being constructed. The second aspect of quality is independent assurance, which is so important it has its own principle (see below). The third aspect of quality is product hygiene. Every Niteworks output is subject to review for issues such as formatting, spelling, easy to understand language, etc.

Impartiality: How impartiality can be delivered by a construct consisting of organisations that are normally on opposite 'sides' of a contract, or are in competition with each other, is a constant question. It is essential that the resourcing process, including team selection and construction, is done transparently, without favour and with care to ensure there is inherent balance. Special care is taken to avoid getting too close to a competition, and to avoid taking on certain roles that are incompatible with the nature of the construct (eg supporting MOD in running a competition for a product or service).

Independent Assurance: A key mechanism for ensuring process and product quality is to assign each project an expert technical advisor in the form of a Lead Assurer. There are several such assurers in the core team, selected for their expertise across a range of topics relevant to Niteworks projects. At the start of the project the Assurer will assist the project in deciding on the details of the decision support process it should adopt, including which Methods Techniques and Visualisations to use, and as the project proceeds this relationship will become more one of reviewing the work completed. Where appropriate, Assurers will work together, or specific expertise will be sourced from outside of the partnership.

The Niteworks construct includes an MOD centrally funded Core Team of around 30 people (working either full-time or part-time), which manages the portfolio of projects and provides essential continuity functions such as commercial, financial, technical, governance and the maintenance of a healthy partnership. The composition of the Core Team is roughly a third from MOD (including serving military officers), a third from the lead partner (mainly commercial and financial staff) and a third drawn from other partnership members, selected through competition. Core Team roles are periodically refreshed to ensure that the team members continue to be the best available. Additionally the MOD requires the model to be scalable based on demand. To achieve this, a so-called Pseudo Core of additional personnel which includes programme, project and resource managers has also been created. The size of this element of Niteworks ebbs and flows depending on MOD demand and bestows a high degree of scalability within the model.

In the early stages of a project the core team: assists MOD in the identification of suitable Niteworks tasks; works up a putative approach, including discovering any pre-existing work, agreeing an outline plan and possible team composition and any other components necessary in delivery; provides rough estimates of cost and prepares for an Initiation Gate. The Initiation Gate is an MOD Governance point that, if successfully negotiated, allows candidates who have been competitively selected from the

partnership to start work on the project. When the scope and approach have been fully worked up an Execution Gate marks the stage at which the task can be formally placed on contract. Of note is the fact that the early stage work is funded at risk by DS&EQT, something which gives the Niteworks model its fast start-up capability. Independent assurance and project oversight is conducted on a continuing basis during every project. The Core team then assists MOD in exploiting the outputs of each project and manages the Intellectual Property created.

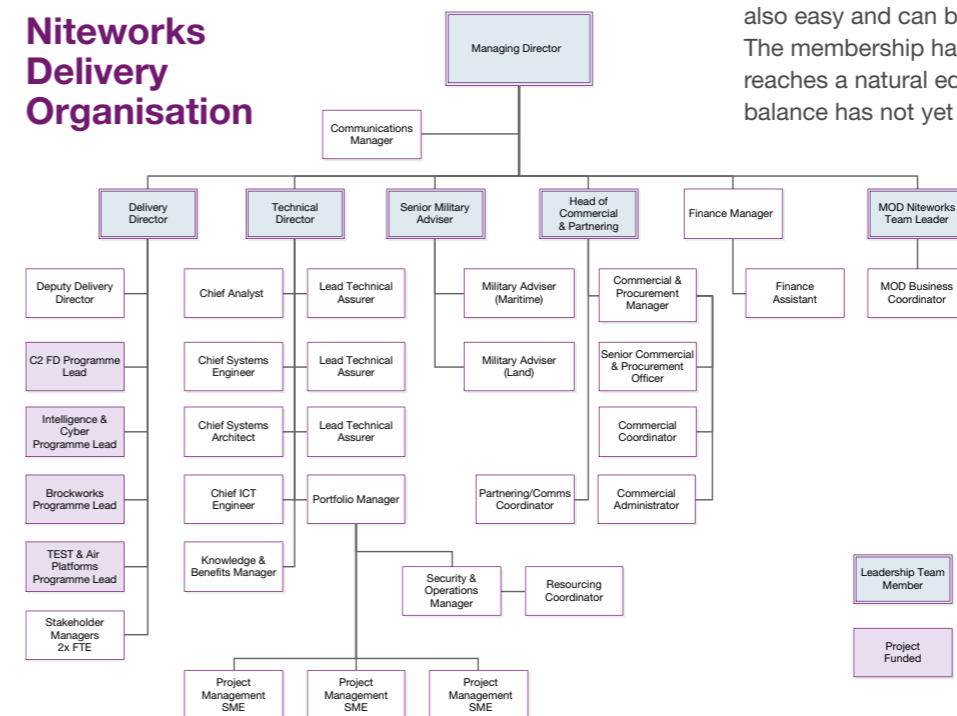
The success of Niteworks has stimulated partnership growth so that today there are 177 partnership members, including MOD, Dstl, major Defence contractors, Small and Medium Sized Enterprises (SMEs), technology specialists, consulting companies and academic institutions. This provides a very broad and a very deep partnership; diversity and depth are both key enablers for innovation.

However, where a project requires specialist skills, mechanisms exist to work beyond the partnership as necessary. Indeed, experience has shown several new entrants to the partnership joined following their prior engagement in specific project activity.

Membership is 'open and inclusive' in the sense that any organisation (larger than a micro entity) can apply to join and no membership fee is required; the only significant criterion for membership is that the organisation has some capability of relevance to offer. Exit from the partnership is also easy and can be effected at any time by agreement. The membership has been allowed to expand until it reaches a natural equilibrium. At the time of writing this balance has not yet been achieved and the partnership is

still growing. Individual companies will each have their own motivation for joining the partnership. Some members report that Niteworks affords them their only opportunity to contribute to Defence thinking and that participation in projects also offers a unique career development opportunity for their people. From an MOD perspective there is widespread appreciation of the additional benefits the Niteworks core team provide; through coherence across projects, exploitation once tasks have been completed and generic lessons collated in Niteworks White Papers.

Niteworks Delivery Organisation



Commercial Framework



Niteworks Project lead Bob Wallace briefs senior British and French visitors at CENZUB, France, during Project Brittany.

The commercial framework is a key enabler for the successful operation of Niteworks as it provides the essential transparency, impartiality, agility and knowledge sharing for the construct. The framework has an elegant simplicity that has stood the test of time since Niteworks inception in 2003.

The framework consists of a contract between MOD and a Lead Partner underpinned by various agreements and key partnering principles which then flow down equally to all other members of the partnership. The contract covers the provision of the Core Team and services (funded by MOD centre) as well as individual projects (funded by project sponsors), which are incorporated as contract amendments once approved by MOD. Individual company rates are agreed in advance, ensuring that contracts can be placed swiftly for any agreed tasks. The contract is completely transparent to MOD with all costs provided at the end of each Financial Year for MOD to review. A key to its success is that the contract is flexible and adaptable to allow Niteworks to meet MOD's changing requirements.

The existence of the core funding means that various 'common good' activities can be undertaken – which in turn means that Niteworks is able to operate at a 'best practice' level in many areas (eg technical assurance, coherence, knowledge management, communications and exploitation planning), which is generally not possible under other arrangements. The requirement for customers to fund their projects is essential for ensuring genuine customer engagement and for enhancing the likelihood of outputs being exploited appropriately by the MOD.

Further agility in the framework is afforded by an Initiation

Fund provided within the contract and managed by the Core Team; this allows project initiation activity to be undertaken in advance of a formal contract amendment, which normally is only in place at the Execution Gate. This ensures early industry involvement and the ability to start engaging with a MOD customer at the earliest opportunity and help work up an agreed Approach.

A key agreement within the framework is the unique Niteworks IPR Agreement. This Agreement ensures a level playing field amongst the whole partnership in the event of any downstream competition. MOD owns the foreground IP created and automatically licences it under a free worldwide licence to all Partners and any Associates directly tasked on the specific project, for their use for UK Government purposes only. Other members of the partnership may request the output from MOD again as long as it is for UK Government purposes. All members of the partnership are provided access to the Executive Summaries of all Niteworks' outputs so they may identify if there are any that would be of interest to them. Trust is established with partnership members via clearly defined contractual arrangements for handling their background IP – in essence partnership members contributing background IP to a project have control over who is able to see the information they provide, and it is returned to them at the end of the project. These arrangements are critical to gathering awareness of the latest developments and to encouraging exploitation.

The partnership is open and inclusive and operates with an established set of partnering principles that are critical to ensuring the vital partnership behaviours are maintained.

Governance and Sponsorship

Governance of day-to-day project operations is implemented using several mechanisms. The basic approach is a gated governance regime, overseen by embedded MOD personnel. There are two key decision points associated with two key gates. The first gate is the Initiation Gate, at which a decision is taken on whether a task proposed by a customer is suitable for the Niteworks construct, in which case work can begin to develop a detailed understanding of the task and the approach that would be undertaken. The second gate is the Execution Gate, at which a decision is taken on whether all elements (eg funding, capacity within Niteworks, clear benefits and exploitation pathways) are in place to allow the task to proceed in accordance with a detailed plan. The Execution Gate decision also refers to a second tier of governance

provided by the MOD contracting authority for the Niteworks contract – this is essentially to ensure that the contract is being used appropriately.

There are two Boards that provide overall sponsorship and leadership. The first is an MOD Strategic Board, which meets periodically to provide overall direction to the partnership. The second is a Partnership Board, consisting of all twelve of the Niteworks partners and an independent associate representative (currently provided by ADS), and Managing Director Niteworks. This Board meets quarterly and considers a range of issues relating to the health of the partnership. Both of these Boards provide context for projects within Niteworks but neither is directly involved in delivering projects.



Philip Dunne MP chairing the SME Suppliers Forum at Niteworks in 2015.

Knowledge Management in Niteworks

Knowledge Management (KM) in Niteworks is like KM anywhere – except with added challenges.

Niteworks Aspect	Challenge for KM
Project teams are very eager to get into their interesting question challenge and want 'everything now'	Need to start searching for information before project begins – use Core Team expertise to start early
As team members come from many organisations, they have many different ways of storing and labelling information	Every project would be different – need to enforce a standard project template to help everyone
High turnover of staff through the year	Not able to invest in staff training to raise KM quality standards – need to minimise the project tasks that require training
Focus by Project and Core Teams on 'getting the job done'	Consistency can be a low priority – constant encouragement to follow standards
All partnership organisations need to know where and how to access Niteworks knowledge	Regular communications to let 'consumers' know new reports are available

Project Start-up: Feeding the Beast

When a Niteworks project starts, there is a lot for the new team to take in and understand, and sharing and storing knowledge is just one of the areas the team have to consider. To help, we try to minimise the work project teams need to do to find the information they need, so that they can be as productive as soon as possible.

Expertise in the guise of Lead Assurers and Programme Leads is available for projects to talk to – helping directly from their own experience or knowing who to contact.

Access to previous Niteworks projects is available, to see what has been learned already, what can be referenced and what can be re-used (as it all belongs to the MOD).

White papers, Niteworks Generic Approaches, and Guidance papers take previous approaches and present them in ways that are directly useful to project teams (and others). The 'Niteworks Way' is accumulated knowledge and approaches based on what previous projects have discovered, and includes most areas a project may need to know about – from Architecture to Warfighting Experimentation.

MOD sources such as Dstl's Athena research database and DE&S D S&EQT can be expertly searched for previous MOD research. This includes searching for and gaining access (where permitted) to 'MOD only' reports. As it can take time to get permission, searches are frequently triggered before the project officially starts, based on the knowledge in the Core Team.

A key source of knowledge for all Niteworks projects is industry engagement. Workshops, 'innovathons', bilaterals and other similar discussions between industry experts, MOD stakeholders and the project team provide direct and efficient knowledge transfer that informs all those involved.

Perhaps not normally considered 'knowledge management' – but of critical importance to the Niteworks model – are the processes and technology to handle Government Funded Information received from customers and 'background IP' from the partnership in a safe and secure way.

Organising Information – is it possible?

Though a lot of the knowledge management in Niteworks is person-to-person (as in any organisation) because of the large number of 'transitory' project staff, we make our knowledge repository, the Collaborative Working Environment (CWE), as easy to access as possible. This starts with the idea that the information being stored is not just for the authors and project staff but also for all users, eg later projects, the Core Team and the partnership.

Project spaces have evolved over time and now have a number of key features:

- A fixed structure that has been refined over time to fit Niteworks projects where authors are 'discouraged' from creating their own folders (avoiding 'Bobs stuff' or 'Miscellaneous')
- 'Big buttons' for rapid access to the key information a project needs
- Latest Activity views (both project wide and 'my' activity) for rapid access to the documents people most want to find

Away from projects, information has been organised round 'functions' – these are stable activities that Niteworks does, for example: project support, finance, and assurance. Information is not stored round individuals or areas that change over time – for example Niteworks programmes (which follow MOD priorities).

Within functions, information is identified that will be of most interest to 'visitors' (such as the Niteworks Travel and Expenses Policy in the Commercial and Finance area), and placed prominently on the function's front door, with other information moved further back – making it easier to find the most sought after items.

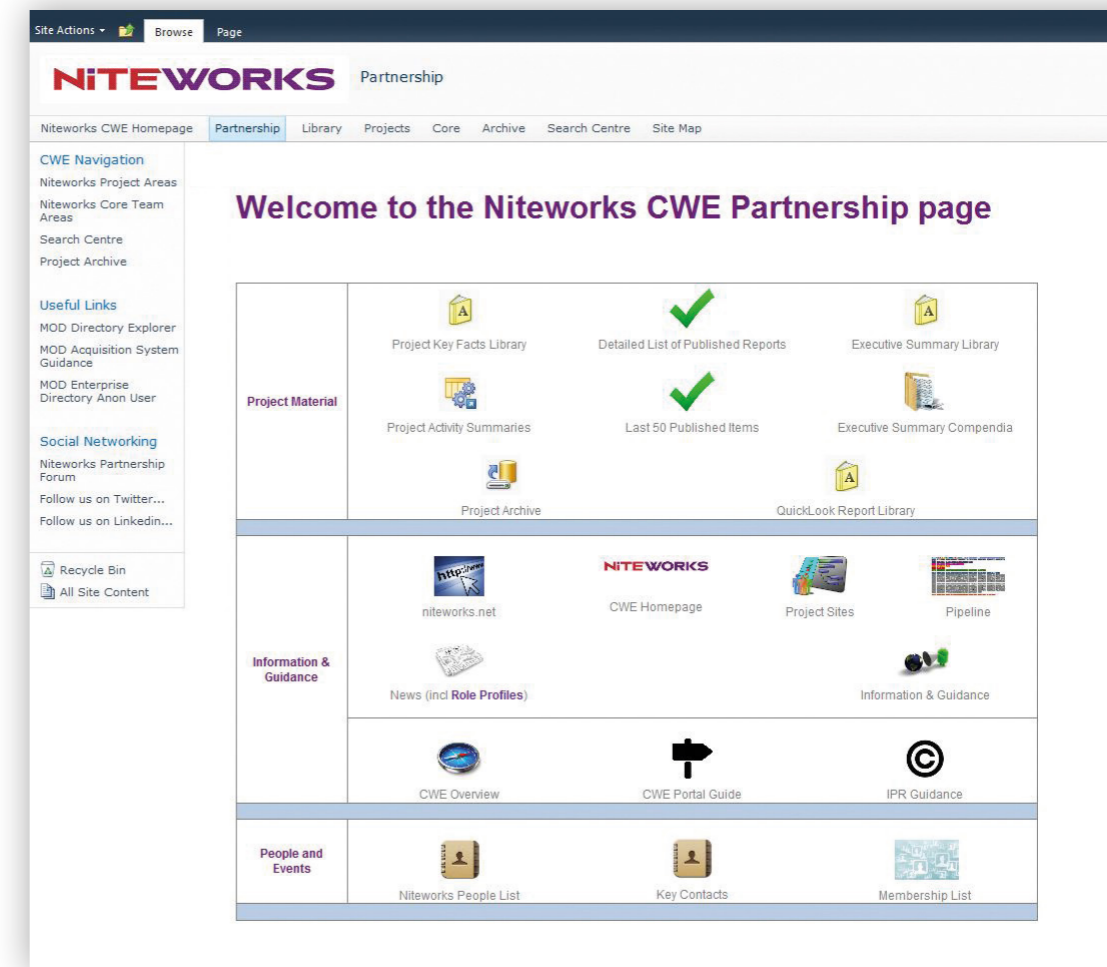
Document naming is also encouraged to be straightforward and easy for others to understand. As the CWE has version management, authors are encouraged not to name documents '...V1' or '...FINAL', or to use complex naming schemes that need explanation.

After Project Closure: Ensuring Reuse

Ideally from a KM point of view a single version of each output is stored once and made available to everyone who wants (and is allowed) access to it. In practice, this is hard to achieve and a set of pragmatic compromises have been worked out – in particular documents with the same access rules are more easily grouped in the same location.

For example, standalone Executive Summaries (extracted from project reports) are stored together in one library (rather than in each project space) where they can be viewed by the whole partnership.

Published Niteworks outputs are available in the CWE to Niteworks partners and future project teams by having a



The Niteworks Collaborative Working Environment (CWE).

Published folder in each project. Outputs that are restricted to the MOD are signposted to partners by placing an 'unpublished item' in the Published folder.

For members of the partnership who do not have access to the CWE, a monthly Newsflash alerts everyone to the latest published outputs and explains how these can be requested via the Knowledge Manager – who can also answer the question 'Does Niteworks know anything about X?'

Niteworks also makes its outputs available to Dstl's Athena database and also to MOD staff on DII. Access to these outputs is controlled but ensures as wide exploitation of Niteworks efforts as possible.

In conclusion, Niteworks knowledge management solution is a range of tools and techniques that need to be constantly reinforced and adjusted, to ensure the valuable Niteworks knowledge is easily available.

Views from the Partnership



Ministry
of Defence

MOD - Reflection and Learning

Heather Goldstraw, MOD D S&EQT (Tech Office)

I doubt when my predecessors launched Niteworks fifteen years ago, they fully appreciated their vision and foresight. Indeed, as we look towards taking the fundamental principles of Niteworks forward to Niteworks (Replacement), it is helpful to reflect on the circumstances that led to the formation of the partnership.

In the period immediately before and after 2000, MOD recognised that the information age was starting to change the nature of conflict. There was increasing recognition of the impact of systems of systems, which required better information flows within and between systems to take advantage of the 'power of the network' and to make best use of the available information. As MOD looked out to industry, it recognised that many companies had the ability to contribute towards addressing the challenge, but also that none could address the issue in isolation. MOD was, therefore, left facing a conundrum – how to engage with industry in a way that encouraged collaboration and joint working within the problem space in a way that did not undermine MOD's ability to achieve value for money through downstream competition. The solution was Niteworks – so termed to describe its early method of solution generation – Network Integration Test and Experimentation works.

Niteworks was launched with a handful of partner companies but grew as confidence in the approach developed. Initially conducting large scale warfighting experiments, the model successfully demonstrated that:

- i) MOD and industry could collaborate jointly in the problem and solution spaces
- ii) Intellectual Property (IP) could be leveraged in a way that helped MOD understand the art of the possible to realise valuable outcomes for defence whilst individual company's background IP and investment was protected, and therefore
- iii) Trust could be established between companies such that they could collaborate without undermining their own differentiated positions

Despite its early success, the Niteworks model has never stood still, always looking at how it could improve its

relevance and impact. Warfighting experimentation as a method was only suited to certain classes of problem and a wider range of methods was required; closer engagement by the projects sponsors was sought through changes to the funding model for tasks and this, in turn, allowed Niteworks to grow in response to increasing demand.

With Ministerial support, in 2007 the Niteworks remit was broadened from the information space to support any MOD challenge that met the critical test of needing pan-industry engagement, and a wider range of methods and problem-solving techniques were adopted to provide MOD with a more agile service via a direct funding model with reduced central direction and oversight. This was a dramatic transformation, and was not without its challenges, but what is remarkable is that throughout these changes there were no significant changes to the partnership model. In 2013 Niteworks changed again, into the model that we know today. This time the changes were more subtle and focused on refreshing the governance arrangements both within MOD and within the partnership. Niteworks has since continued to grow: through the number and scale of the projects undertaken, the size of the overall partnership and in its significance to MOD as part of Defence's problem solving toolkit.

Throughout this evolution however, the founding principles of the collective partnership have not fundamentally changed and it has been the nature of the underpinning arrangements that enable this that has proved to be Niteworks' enduring strength, thanks to the foresight of those in MOD and industry that launched the original endeavour.

That Niteworks is firmly established as an important mechanism within Defence is reflected in our desire to see the partnership continue to flourish through the Niteworks (Replacement) competition. As we work to appoint the core service provider who will take Niteworks forward into its next epoch, we are equally focused on preserving the underlying partnership that has helped Niteworks add significant value to Defence over the last 15 years. Our aim is to choose a core team that will continue to inspire the confidence and trust of the current partnership and that will develop it further to grow the already distinguished track record of delivering quality outputs and outcomes and the significant benefits MOD has enjoyed to date.

Views from the Partnership

Raytheon

Niteworks – a partner's view from Raytheon

Peter Langsford, CTO Defence, Raytheon UK

The Partnership relationship between MOD and the Defence Industry is what makes the Niteworks construct unique; without it Niteworks would be just another method for MOD to contract for studies and advice. As with any successful partnership, this relationship provides significant benefits to all parties. Through the Partnership Board members of MOD and Industry are able to exchange candid views on a range of subjects of mutual interest, separate from and at a more systemic level compared with the routine interactions on specific programmes. This provides MOD with a collective Industry view and provides an opportunity for Industry to make its views known to MOD on these more systemic issues.

At the Niteworks project level the involvement of staff seconded from the Industry Partners improves the quality of the advice provided to MOD by bringing to bear the experience and expertise not just of the individual but of the whole organisation through reach back into their company. In the case of projects that include demonstrations, the Partner often also makes available equipment or services to support the project.

Raytheon believes that the benefit to the Industry partner includes the learning and growth of their employee through their experience at Niteworks, improved knowledge of MOD's thinking in specific areas and especially access

to the outputs of all the Niteworks projects through the Collaborative Working Environment (CWE). Access to the CWE can significantly improve the understanding within the Industry Partners of the MOD's intentions regarding future capabilities. This benefits the Industry Partners in better informing both their technology investment (PV) decisions and in better targeting the solutions they offer to MOD. The improved alignment of Industry's investment with MOD's intentions is of course also beneficial to MOD.

The involvement of the Associates in Niteworks projects also provides numerous knock-on benefits across the Defence Enterprise. Niteworks is able to provide the best possible advice to MOD by having a very wide range of SMEs with highly specialised, in depth knowledge to call on to staff projects. The Associates themselves benefit by being able to undertake challenging, funded study work. The Industry Partners benefit by having a highly informed supply chain to draw on for future delivery of capability to MOD.

Defence is a long term enterprise and it is in the interests of Industry that MOD gets the best possible advice to support its investment decisions just as it is in MOD's interests that Industry focuses its investment where it will most benefit capability delivery. Raytheon would hope that the MOD will continue to include the Partnership Construct within its future mix of decision support mechanisms.

Views from the Partnership

GENERAL DYNAMICS United Kingdom Limited

Niteworks – a partner's view from General Dynamics

Nicholas Beswick, Head of Concepts Development, General Dynamics UK Limited

General Dynamics UK was one of the founding Niteworks partners in 2003. In the early days of the partnership we led and participated in large scale experiments into what was then known as Network Enabled Capability. More recently, we have contributed to projects in support of Op HERRICK in Afghanistan and our specialist expertise in tactical communications and armoured vehicles for the Army's STRIKE experimentation. Niteworks has changed dramatically in that period in the nature of the projects it undertakes and the breadth of the partnership. However, the Niteworks philosophy has remained unchanged and continues to deliver value to its partners irrespective of the amount of project work they undertake.

As a prime systems integrator, our business is principally in the delivery of capability through the synergy of disparate components. To succeed, we must have a very clear understanding of our customer's needs which may not always be well expressed in formal requirements documents. Niteworks projects that tease out those needs through industry and user engagement, prior to any formal

acquisition, help us to understand what the user really wants and inform our decisions on whether to invest to pursue those opportunities.

The open participation of interested industry parties also helps with identifying potential members of the supply network, who may be SMEs with key niche products – a central component of innovation. At the other end of the acquisition process, Niteworks experiments with maturing programmes, such as AJAX or a new Bowman upgrade, develop user understanding and contribute to the successful delivery of capability into service and its exploitation, in the process enhancing the reputation of our products.

In short, Niteworks provides an invaluable mechanism for open collaboration between MOD and industry, over and above the specific benefits delivered by its individual projects. General Dynamics UK looks forward to full and active participation in a new Niteworks working to the same principles.



Niteworks – an associate's perspective from SVGC

Dr Andrew Dixon, Managing Director, SVGC Limited

I have been involved with Niteworks since 2009 although was aware of Niteworks for many years before. My first role was an invitation to participate in the re-design of the Niteworks approach to accelerate the response and delivery timelines and broaden the partnership, initially in the Land and Maritime domains and later more broadly. I was subsequently asked to deliver the role of "Programme Sector Director" until 2012, a role which I relished because it provided the potential to enable MOD and Industry to collaborate for the benefit of Defence as a whole.

SVGC has been a supplier to MOD since 1997 and an associate member of the Niteworks partnership since 2008. As a small business, the engagement with Niteworks has been a positive experience leveraging off existing knowledge developed with our MOD client and approaches which found a natural fit into the Niteworks partnership. In particular, the Niteworks principle through the selection process which does not differentiate between large and small companies and which offers genuine impartiality in the selection process – unusual in the current market.

As one of the architects of the new Niteworks model, it is heartening to see the success and Defence benefits which Niteworks has generated since 2009, and especially within a challenging climate of providing advisory services within Defence. We regularly come across Niteworks outputs in use within Defence in the pursuit and delivery of other tasks through other commercial mechanisms. Whether from an industrial perspective, or from an MOD perspective, there can be no doubt that the model delivers benefit. And now,

as Niteworks (Replacement) begins to take shape it is an important time to reflect on what makes Niteworks as a success.

For me, Niteworks represents a unique opportunity to help the MOD to shape its requirements, understanding the art-of-the-possible from industry, and of equal importance, to help to shape and focus the industrial and academic sector choices regarding private venture investment. This collaboration with industry lies at the heart of the Niteworks model.

Since 2014, SVGC has been the most-selected organisation for tasks in Niteworks – a position which we are proud to have attained and maintained. I believe we have achieved this because SVGC has been developed to follow the same principles which were expounded in the Niteworks transformation of 2009: a focus on collaborative leadership working with a wide range of individuals to rapidly achieve benefit and value; being pragmatic in recognising the art of the possible in the context of the client; recognising the value of the industrial engagement in project delivery; recognising Niteworks' important role as a change agent in MOD delivery, and in the strategic relationship between MOD and industry; with an analytical project approach which makes best use of the existing Niteworks delivery approaches.

Onwards then with Niteworks (Replacement) – which must build on the legacy which the current Niteworks model and continue to deliver on the fundamental principles which have made Niteworks a success. SVGC certainly intends to continue our relationship with Niteworks in the future.

Views from the Partnership

The Niteworks Partnership

The Niteworks partnership embraces 177 organisations including MOD and has the capacity to continue to grow



Niteworks – an associate’s perspective from Vedette

Dick Hemsley, Managing Director, Vedette Consulting

I began my association with the Niteworks Partnership in 2004, as its MOD ‘Joint User’. I’ve worked with it since 2006 as an Industry ‘person’ and – from 2010 – as the Managing Director of one of its Associate members (Vedette Consulting). Through all these 13 years, I’ve noted its evolution with enduring interest and pleasure. Niteworks was, and is, a ‘force for good’ in Defence. It’s also enabled SMEs like the one I lead to make a contribution that would otherwise have been difficult, or even impossible.

Niteworks has been through a lot of changes since 2004 – from a focus on monolithic ‘War-fighting Experiments’, through a period of ‘Quick Looks’ (terrific, and much missed) which preceded larger decision-support projects, to today’s ‘mixed economy’ of capability concept demonstrations and pan-DLoD capability explorations and experiments. As the Industry partnership has grown, so the distinctions between Partners and Associates seem almost to have disappeared – much to my pleasure, and to MOD’s benefit.

But some things have remained the same: notably Niteworks’ genuine impartiality and partnership, which set it apart from all of MOD’s other sources of technical support and external assistance. Most people who begin work in, or with, Niteworks sense this ‘cultural’ difference immediately. Hiring the ‘best athletes’ delivers high-quality project teams and, in my experience, Niteworks’ resourcing process is genuinely competitive. Only really strong candidates get interviewed and, if they perform best, they get the role. There can be a breathtakingly high tempo from project germination to initiation – in stark contrast with the EU Horizon 2020 research programme’s ‘flash to bang’ of up to 2 years. Niteworks remains open to new joiners, especially to SMEs – unlike most other MOD frameworks, which can present almost insurmountable bidding challenges (and even allow current members to ‘blackball’ new candidates!). It provides a unique proving ground and springboard for SMEs, giving them opportunities to learn, make connections, acquire profile, and build relationships with customers and suppliers.

Of course, the Niteworks model isn’t perfect. The current ‘partnership engagement principles’ – which constrain the

number of people from any one firm working on a project – can conflict with the ‘best athlete’ approach; I believe Niteworks should review their implementation to ensure they operate to the benefit of the MOD customer. The demise of core-funded ‘Quick Look’ projects has, I believe, reduced the tempo and breadth of Defence innovation and also increased the risk inherent in full-scale project designs – perhaps Niteworks (Replacement) will allow their reinstatement? Given that its lifespan exceeds 5 full MOD posting cycles, could Niteworks do more/do better to correct MOD’s ‘institutional amnesia’? It would, I think, be a good idea to reinstate formal Exploitation Gates, run by Project Sponsors, to really drive benefits realisation. And there’s scope for more innovative ways for projects to engage with the Industry partnership, given that the ‘quid pro quos’ for firms’ enthusiastic participation are MOD insight, contacts and opportunity; for example, a recent project has designed and facilitated an RAF/Industry Leadership Workshop, and brokered informal secondments of RAF programme managers to shadow Industry peers. More of this would seem sensible.

But when all’s said and done, I have no hesitation – as a businessman and a taxpayer – in acclaiming Niteworks. I wish it well over the few months it has left in its current form, and I fervently hope that Niteworks (Replacement) will build on that strong foundation.

Clarification note from the Niteworks Commercial Director:

The Niteworks model works on ensuring as much involvement across the partnership companies and MOD as possible, whether as part of the project team, the supporting core team or through other mechanisms such as workshop participation. This interaction across the partnership optimises the sharing of intellectual property and maintains the impartiality required to ensure Niteworks is providing the best possible response to our Customers.



Partnership Future

The MOD has confirmed that the Niteworks III contract will cease in accordance with the original contract timetable on 31 March 2018. All project activity will be completed by this date, although it will be followed by a short closure period to complete all commercial and financial post-costing activity to close the contract down.

The MOD remains fully committed to the benefits of the Niteworks partnership and the pan-industry approach. The requirement for a Niteworks (Replacement) has been endorsed by the Front Line Commands and DE&S is working to deliver a successor core service as soon as possible, although this will be later in FY 18/19. The Niteworks (Replacement) project was notified in the Defence Bulletin Contract Notice in November 2017, along with an industry briefing day on 25 January 2018.

DE&S is already working with Niteworks customers to manage the transition and to maintain key outputs through a range of mechanisms. To this end MOD will be maintaining ongoing engagement across the Niteworks partnership and will be communicating directly with all members in the near future. Until then, we welcome your ongoing commitment to this endeavour and look forward to continuing to deliver the benefits of the Niteworks approach in the coming years.

For questions and information about the Niteworks (Replacement) project, please contact **Alicia.Day705@mod.gov.uk** or **Kate.Ashby100@mod.gov.uk**



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