Strategic Command
Defence Support

Pj TAMPA – Spiral 3

Q&A Supporting Documentation

13 January 2025

The UK Ministry of Defence and U.S. Department of Defense share common challenges in additive manufacturing (AM) adoption in their industrial bases. Both nations recognise that there is significant benefit in collaborating on solutions to address these challenges to save time and resources and align solutions to improve allied interoperability and ultimately inter-changeability to support the logistics of the allied force during global operations. The demonstration of equivalent outcomes from a multi-nation supply base is necessary to have common qualification of AM suppliers.

The objective of Pj TAMPA Spiral 3B is to prove the concept that could lead to the creation of a global supply chain of AM parts producers through the establishment UK/US bilateral use cases. It is intended to demonstrate the feasibility of the defence primes/OEMs, through SMEs, to produce and qualify parts from the MOD inventory that are both suitable for additive manufacturing and proving difficult to obtain. It also aims to identify and address any blockers to allied interoperability and interchangeability.

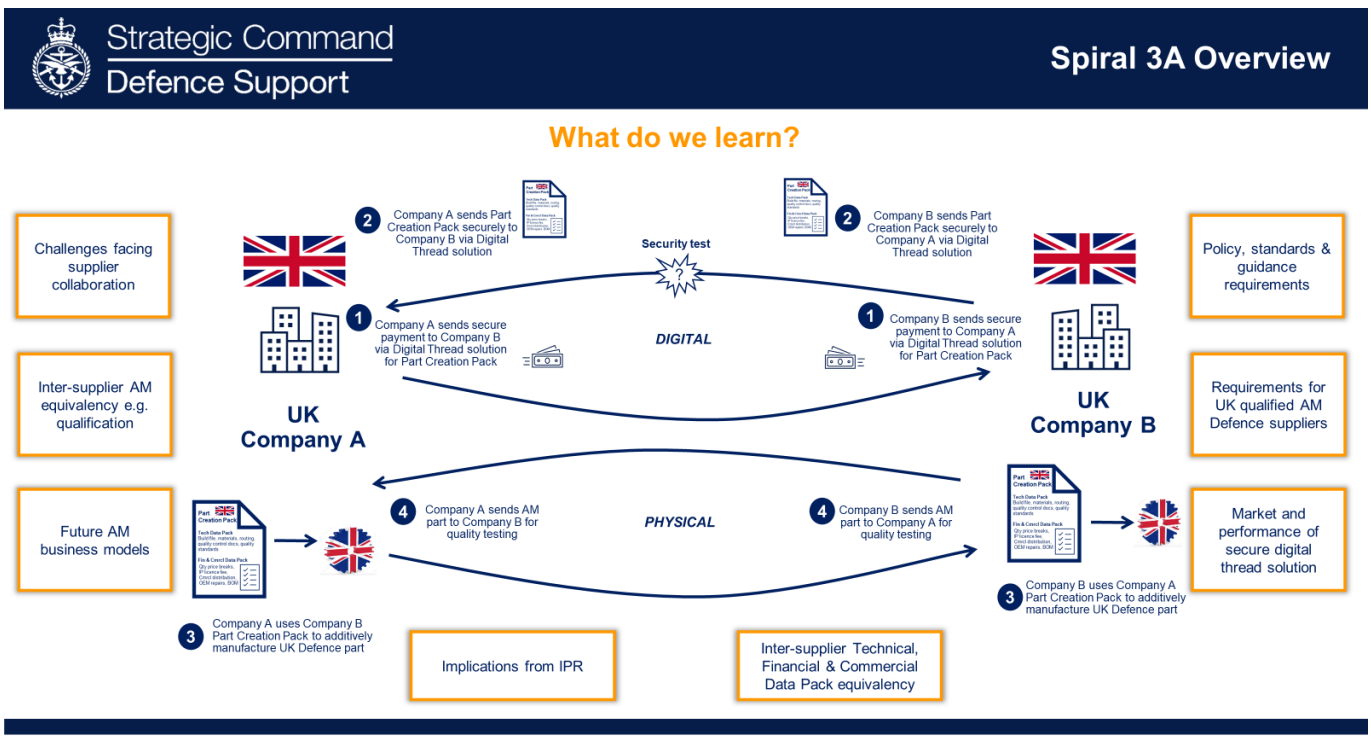
Spiral 3 will be split into part A and B:

Spiral 3A – test the equivalency of produced parts between UK-to-UK companies;

Spiral 3B – test the equivalency of UK parts produced by US companies and vice versa.

Both parts will explore secure, quality-controlled, transmission of AM information between different supply chain partners; a key requisite to delivering the emerging UK AdvM strategy and the US Regional Sustainment Framework (RSF).

Below can be found an overview of Spiral 3A.



Spiral 3 cont.

It has been agreed with the US DOD to keep Spiral 3B restricted to a bilateral test, with future work under Director Joint Support increasing complexity to multilateral test case(s).

Learning that will be gathered through these test cases include but are not limited to:

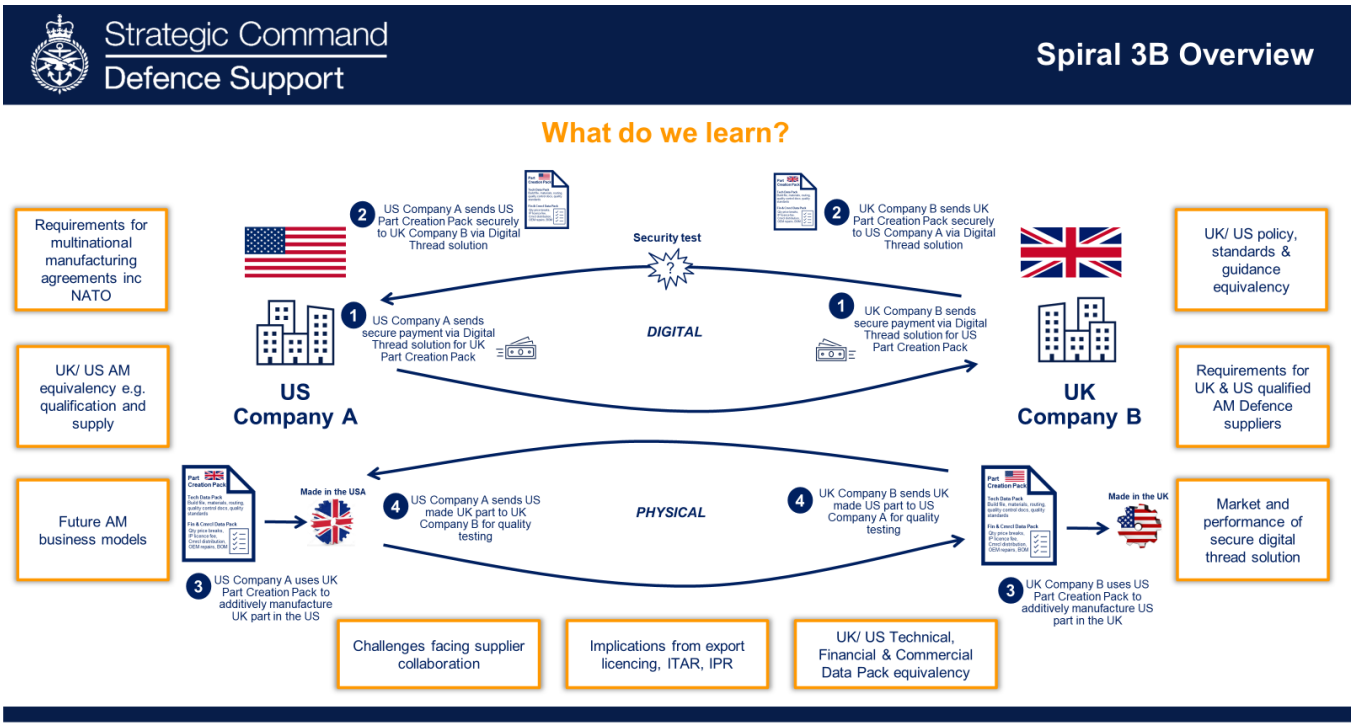
a. An understanding of UK/ US AM standards, policy and guidance equivalency;

b. IPR, export licencing or ITAR implications of manufacturing interoperability;

c. An understanding of the requirements to achieve secure AM data transfer solutions;

d. An understanding of UK/ US Technical Data Pack equivalency.

Below can be found an overview of Spiral 3B.



Organisations holding IPR for metallic parts on MOD in-service platforms are encouraged to participate; this input will be invaluable to support the development of a parts creation solution that allows competitors to produce parts without compromising IP.

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1. **Will there be specific direction from the MoD on the part to be investigated and produced by AM?** We want Original Equipment Manufacturers (OEM) and Prime companies to bid to produce parts that will have utility to Defence. We will be looking at parts that are either in short supply or obsolete on the current inventory list that can no longer be produced by traditional methods or add no value for money (VfM) to produce via traditional methods, such as casting and forging.

2. **Will these part selections be driven by the platform teams within DE&S or by the StratCom Innovation team?** During the tendering process, we will look at the propositions from companies as to why the part(s) are useful and we will score the utility of those components. We would encourage those bidding to engage with the DE&S delivery teams whose part they would like to produce as part of this bidding process, which will allow a route to exploitation as part of the bid.

3. **What material are you expecting to use for Spiral 3 parts?** Following various discussions internally and with our US DOD colleagues, we have concluded titanium and nickel to be the most common metals that would be of utility to Defence. We would not discount polymers or scamalloys; however, polymer parts would need to contain strong arguments to their utility and significant benefit in comparison to the other mentioned materials.

4. **Will there be feedstock qualification or standardisation instructed by the MOD that we will need to adhere to?** We are currently in the process of understanding what the qualification process will look like and whether that qualification will include material standards and production standards. The criteria will most likely be around the part design specifications which will drive the feedstock, rather than the MOD prescribing a particular supplier.

5. **Will organisations need to be on the current framework used in Spirals 1 and 2?** No, organisations do not need to be part of the existing framework for project Tampa. The existing framework for Spirals 1 and 2 will be closed at the end of Spiral 2 activities.

6. **What will the bidding process be like?** We are developing this bid via Commercial X, who acquire innovative military capability which create advantage and increase value to Defence, providing us with more flexibility. We will score parts against performance, cost and time.

7. **How can organisations get involved in Spiral 3?** The tender will be launched on Defence Sourcing Portal under a Research and Development route. Additionally, anyone is welcome to the Project Tampa Working Groups which have different working strands (Inventory Management, Digital Thread, Certification and Intellectual Property Rights) and meet online and in person on a regular basis. Please contact the project's working group liaison Edit Barbantan at edit.barbantan100@mod.gov.uk to gain access to the community.

8. **What are the timelines associated with Spiral 3?** We are looking at launching the tender in Q1 of 2025, with a contract possible start time of April 2025. We will be looking at 12 months per part A and B of Spiral 3. Parts A and B will run concurrently, with a possible time gap between their start time to allow resource allocation from those companies bidding.

9. **Are you testing for expedient repairs?** No, the current scope of Project Tampa is to enhance supply chain resilience. However, expedient repairs are part of the Advanced Manufacturing Strategy that the StratCom Innovation team are working on.

10. **Will the digitisation and reverse engineering be an expected part of Spiral 3's scope?** Given the time constraints associated with Spiral 3, we will have to score bids against performance, cost and time. Should the reverse engineering element of the bid prove to be a significant benefit overall, please ensure to include this in your use case.

10. **How does the UK supply chain fit in with Spiral 3A and how does this affect overseas industry partners who have a presence in the UK?** We welcome those companies who have a UK presence to bid for Spiral 3A. Due to the level of investment available for Spiral 3, we would very much encourage companies to use existing printers and supply chain connections, rather than develop a new additive manufacturing facility. We are interested in operational qualification rather than part qualification.

11. **How can we find organisations that will participate in the US?** The US organisations that will participate in Spiral 3B will be members of America Makes, a list which can be found here. America Makes is the contracting mechanism the US will be using. Whilst it is possible for organisations outside of America Makes to submit a bid, they will need to be part of the America Makes framework to be awarded a contract.

12. **What will be the funding arrangement for Spiral 3?** We have £2M pre-approved for Spiral 3, split equally across 3A (UK only activity) and 3B (UK/US activity). However, this will be split depending on how many bids we take forward. There will be further information included in the tender documentation as to how we plan on splitting the funds. For Spiral 3B specifically, the US will have match the UK funding which will be split between those companies bidding on the America Makes framework.

13. **Who will be providing the part quality assurance in Spiral 3?** It will be the supplier you have chosen to collaborate with or your internal QA team. Defence is not planning on conducting independent QA of the parts produced.

14. **Are you engaged with the RAF?** Yes, we are engaged with the RAF via Group Captain Justin Blackie and Robert Fennell. We are looking to understand how we can weave in 71 IR Squadron into the wider Defence Strategy, which the Innovation Team is working on.

15. **As a newcomer, where can we find more information on the previous activities conducted under Project TAMPA?** If you would like to gain access to Kahootz, the online repository for Project Tampa's previous activities, please email stu.olden@teamdefence.info and CC in edit.barbantan100@mod.gov.uk.

16. **As a small or medium enterprise, who can we partner with to deliver the digital thread used in Spiral 3 tender?** Become a member of the Digital Thread Working Group by contacting the group's secretary Edit Barbantan at edit.barbantan100@mod.gov.uk to gain access to the community.

17. **What are the cyber qualifications required for bidders?** Ideally, we would like organisations to be Cyber Essentials Plus (CE+) qualified.

18. **Will a statement of requirement (SOR) be released and will this be part of the invitation to tender (ITT) or issued beforehand?** The SOR will form part of the ITT.

19. **Will the digitisation and reverse engineering be an expected part of Spiral 3's scope?** Given the time constraints associated with Spiral 3, we will have to score bids against performance, cost and time. Should the reverse engineering element of the bid prove to be a significant benefit overall, please ensure to include this in your use case.

20. **Are you asking us to experiment with a different commercial model than we currently use e.g. a pay per print approach? Is this predicated on software offered by companies such as Vistory? Do you have a preferred data transmission solution? The diagrams depicting data and payment exchange suggests a customer, supplier relationship e.g. MoD buying the rights to print parts from a Prime but sending the part back to the Prime to validate. This doesn't feel like a viable or value add operating model. It might be easier if you could articulate the outcome you wanted so that we could design a system to meet that demand. Is the focus for this work on engineering or our commercial and IT practices?** Focus for S3 is on industry collaboration, and commercial and IT practices are the focus areas. The spiral does not include MOD buying rights to print parts from a Prime. It is about primes working with new companies, and we are interested in prime-to-prime relationships, to securely transmit data to print quality assured (equivalent) parts.

21. **In Spiral 1 and 2 we have demonstrated designing parts for AM production and contracting a 3rd party supplier to manufacture parts, sending them the digital design pack for them to manufacture against. Are you asking us to repeat this work?** No (See above). We want to see Primes working together via their own AM supply chains developed through S1 and 2 to collaborate to print equivalent parts that meet MOD potential future demand (S3 demand is still coming from industry assuming MOD's demand needs through engagement with DE&S or exploiting existing knowledge. S4 is where MOD's demands come into industry direct via a Proof of Concept for the Parts Creation Solution).

22. **The overview diagrams suggest that Company A and Company B would both derive part data e.g. primes, and send that to each other to manufacture. There tend not be examples where this kind of data exchange happens / is needed. As a vehicle prime we may get components from other primes but we wouldn't send our data the other way. Are these parts being shared the same part or different parts? Is the idea an experiment to show equivalency?** The assumption would be different parts because different primes are responsible for different parts in the supply chain today. However, if you submit a proposal to test the production of the same part via two separate/different prime manufacturing SCs to reduce variables pertaining to equivalency testing this would be appropriate.

23. **In the call it was mentioned that there would be a preference for manufacturing parts in materials such as Inconel or Titanium rather than commodity polymers. With the desire to test commonality and potential requirement for CE/CE+ it's likely to be very hard/impossible to find multiple compliant suppliers in the UK for these "exotic" processes.** It is a preference based upon the most likely materials that would add value to Defence, but the focus should be more about choosing the right part which is MOD demand (obsolete etc) which allows you to challenge two independent SCs to manufacture in an equivalent fashion rather than being overly focused on the exotic material.

24. **In the call you mentioned being interested in us proposing to manufacture obsolete parts, is the plan to leave this part selection to the bid teams.** Yes.

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