

## Written evidence submitted by Jag Patel

*One of the techniques used by defence contractors to extract taxpayer funds from HM Treasury is by concealing technical risks.*

### INTRODUCTION

1. The story of the AJAX procurement programme is one of gross incompetence, chronic mismanagement and appallingly poor performance. Successive governments have given the prime contractor countless opportunities to get this programme back on track, but it has squandered them all. Enough is enough.
2. The sheer incompetence of people in government who negotiated and signed this equipment procurement contract, that is to say, elite politicians, their special advisers, senior civil servants and military top brass, knows no bounds.
3. As for the contractor, it is more interested in extracting the maximum amount of money out of HM Treasury than supplying equipment to the Armed Forces that is fit-for-purpose, adequately sustained in-service and constitutes value for money through-life.
4. By any measure, the AJAX programme has delivered extremely poor value for money. It is for this reason, and this reason alone, that it should be cancelled.
5. This submission makes the case for doing exactly that. But first, it looks at what the central purpose of an engineering company is, so that people can understand how this development programme came to be in such a terrible mess.

### CENTRAL PURPOSE OF AN ENGINEERING COMPANY

6. The central purpose of any private sector establishment that calls itself an engineering company is to satisfy the equipment needs of its customers, normally expressed as a technical specification requirement.
7. This core activity requires the company to maintain a team of professionally qualified and experienced engineers whose job is to advance the developmental status of the starting-point for the technical solution from its existing condition, to a point where it will satisfy the qualitative and quantitative requirements expressed in the technical specification, within a competitive environment driven by the profit motive and winning mindset.
8. The undeniable fact of the matter is that defence contractors in the UK no longer possess such a capability, which would explain why they are unable to undertake and complete even the simplest of development programmes for its customer, the MoD.

### NO PRIOR EXPERIENCE

9. This is because problem-solving engineering functions of defence contractors' businesses is made-up *entirely* of people who were previously in the pay of the State. They came across to the private sector via the "revolving door" with no prior experience of solving technical problems or advancing the developmental status of the starting-point for the technical solution – because they were *never* required to do so during the first half of their career in the public sector.
10. Contractors have gone on to compound the problem by assigning such work to people who have not done it before. Not surprisingly, the results are entirely predictable – MoD equipment development programmes invariably go from one crisis to another, again and again, with delays, cost overruns and defective equipment as the only guaranteed outcomes.
11. The lack of a basic design & development capability and the poor performance that it engenders has persuaded the government to move away from the high-risk strategy of buying

equipment designed to a bespoke technical specification requirement to buying equipment *off-the-shelf*.<sup>1</sup>

### **A FULLY ENGINEERED AND SUPPORTED TECHNICAL SOLUTION**

12. The attraction of off-the-self equipment is that it is a *fully* engineered and supported technical solution which satisfies the key user requirements at *no* additional cost or risk to the Exchequer, that is to say, it does *not* require any user-specified modifications or related development work laden with risk to be performed upon it – which has been the cause of persistent delays and cost overruns on equipment procurement programmes for as long anyone can remember.
13. In response, the proposition from contractors is the *same* as it has always been. They promise to develop the next generation of equipment platforms incorporating the latest technological advances, which unfortunately necessitates performing development work. Nowhere in their response is there any mention of off-the-shelf equipment. There is a simple reason for this, they have got none to offer – leaving the government with no choice, but to import what it needs from foreign equipment manufacturers.
14. In a clear signal that the government has lost faith in the ability of domestic contractors to satisfy its equipment needs, it has moved ahead to purchase the following off-the-shelf equipment platforms:
- a. Boeing H-47(ER) Chinook heavy-lift helicopters
  - b. Artec BOXER armoured vehicles
  - c. Boeing E-7 Wedgetail airborne early warning and control aircraft
  - d. General Atomics MQ-9B Protector armed drones
  - e. Boeing Apache AH-64E attack helicopters equipped with Lockheed Martin AGM-179 Joint Air-to-Ground Missiles
  - f. Boeing P-8A Poseidon maritime patrol aircraft
15. Accordingly, the replacement for AJAX should be selected from a choice of *existing* in-service platforms which satisfy the key user requirements, by first conducting a comprehensive market survey and then a comparative analysis of their validated performance characteristics.

### **CONCEALING TECHNICAL RISKS**

16. One of the techniques used by defence contractors to extract taxpayer funds from HM Treasury is by concealing technical risks.
17. Anyone who has worked in the defence engineering industry will know that financial risks start-out as innocuous looking technical risks on the contractor's premises, where selected ones are *deliberately* concealed by the contractor during the design & development phase, then skilfully transferred to MoD Abbey Wood, Bristol where they suddenly morph into "show stopping" risks and come to the fore immediately *after* the main investment decision has been taken, ultimately ending up as an additional cost burden on Front Line Commands, who have been given day-to-day responsibility for managing the defence equipment budget.
18. This happens because a key behavioural characteristic of contractors is that they will *always* choose to conceal technical risks identified early in the programme, by engaging with procurement officials and getting them to focus on *declared* risks which ordinarily fall in the trivia category, whilst skilfully diverting their attention away from those really huge "show stopping" risks which they will only reveal later on, when things go wrong, to realise their objective of

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<sup>1</sup> Written submission to the Public Accounts Committee, Inquiry into *Improving the performance of defence contracts*, written evidence from Jag Patel IPC0001, published 12 July 2021, p.4, PDF file.  
<https://committees.parliament.uk/writtenevidence/37726/pdf/>

“growing” the contract by getting Abbey Wood Team Leader to raise Contract Amendments and/or let Post Design Services contracts.

#### **COERCING PROCUREMENT OFFICIALS**

19. They achieve this by contriving situations which entice procurement officials into partaking in detailed design decisions relating to the evolving technical solution, and then using this involvement to coerce procurement officials into raising Contract Amendments later on. Indeed, it the very *existence* of Contract Amendments and PDS contracts that causes contractors to conceal “show stopping” risks in the first place!

20. These concealed risks then come to the fore immediately after (never before) the main investment decision has been taken, surprising everyone (except the contractor) and imposing a budget-busting burden on FLCs. What is particularly disturbing about this deceitful behaviour is that it is being masterminded by people who were previously in the pay of the State.

21. And because there exists no *Code on Ethical Behaviour in Business* which would offer protection to good people on the contractor’s payroll who are driven by strong professional, ethical and moral values and who would otherwise blow the whistle on this conspiracy of concealment, they are forced to remain silent.

22. So, the chances of financial risks materialising on any programme that requires development work to be performed upon it are about as certain as night follows day.

#### **TRASHING GOOD ENGINEERING PRACTICE**

23. AJAX is a classic example of a development programme where the contractor’s commercial interests trump good engineering practice.

24. As any professional engineer knows, good engineering practice requires that development of a product comprising a complex technological mix of electronic, electrical, mechanical and software components should be advanced in a systematic way – using the well-established design, development, systems integration, prototyping and testing phases – to ensure it satisfies fully, the technical specification requirement *before* proceeding to the serial production phase. This tried and tested methodology has been in use from the earliest of times, indeed, going back as far as the Industrial Revolution.

25. The desire to push back the frontiers of discovery and quest for scientific knowledge eventually culminated in engineering pioneers building machines that were capable of producing consumer products in large quantities, making the necessities of life much more affordable, and freeing up more time for leisure. To begin with, the development of precision engineered products was led by private interests. However, the State came to recognise the value of these technological advances made in the civilian arena and quickly requisitioned the capability and know-how for its own military purposes.

26. Like the consumer market in engineered products, defence equipment for the Armed Forces is subject to the same principles of good engineering practice.

#### **ALIENATING ENGINEERING PROFESSIONALS**

27. Whereas the development of consumer goods has always been funded by private capital, the costs associated with the design, development and manufacture of defence equipment is paid for by the taxpayer, which has, in the latter part of the twentieth century – coincident with the emergence of *crony capitalism* (the nexus between the political elite and big business that puts the national interest *last*) – created perverse incentives which actively encourages the *trashing* of good engineering practice, for no reason other than to serve the narrow commercial interests of defence equipment manufacturers – alienating engineering professionals along the way, who only came into it to do the right thing, as their predecessors have done for countless years. No wonder, today’s young graduate engineers with a sense of purpose are shunning defence contractors!

28. This tendency is exemplified by the inordinate *haste* to proceed to the next engineering phase of defence procurement programmes involving the design, development, systems integration, prototyping, testing & manufacturing phases – *without* completing the previous one fully – an affliction which has taken hold of the full spectrum of defence engineering businesses, at *every* level of the extended supply chain, from prime contractors right at the top, to piece-part and component manufacturers at the bottom.

29. On the other hand, companies that design and manufacture precision engineered products funded wholly by the private sector are the *only* ones that employ professional engineers who are committed to applying the principles of good engineering practice, no matter what. The problem arises when the State comes along with public funds, creating perverse incentives, which then leads to excessively costly outcomes for taxpayers.

### **RIDING ROUGHSHOD**

30. The only priority for defence contractors is to get to the main investment decision point as quickly as possible, which conveniently takes them into the manufacturing phase. They will do *anything* to reach this milestone, even if it means riding roughshod over experienced engineers' views. This is because the manufacturing phase yields the highest commercial return of all the engineering phases.

31. It should be noted that defence contractors are very fond of marketing themselves as engineering businesses. Yet, they have done more than most to denigrate the engineering profession by not only lowering the reputation and standing of their *own* employees, but also depressing their earning power in the wider labour market.

### **CONCLUSIONS**

32. AJAX may be making its occupants sick, but taxpayers are sick and tired of funding a procurement programme that has failed to deliver a fully compliant vehicle after all these years.

33. Defence contractors in the UK no longer possess a design & development capability which disqualifies them from working on development programmes.

34. The very existence of Contract Amendments and PDS contracts is what causes contractors to conceal “show stopping” risks.

35. Fixed-price contracts offer no immunity to contractors' deceitful tactic of concealing technical risks.

36. The emergence of crony capitalism has created perverse incentives which actively encourages the trashing of good engineering practice.

### **RECOMMENDATIONS**

37. Hitherto, the AJAX programme has delivered extremely poor value for money. It is for this reason, and this reason alone, that it should be cancelled and replaced with an off-the-shelf equipment.

#### **About the Author**

Jag Patel has considerable experience of researching, analysing and solving a wide range of entrenched procurement problems on defence acquisition programmes.

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