

# **The Wrong Side of the Hill**

**The 'Secret' Realignment of UK Defence Policy**

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**Foreword by Christopher Booker**

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## Foreword

The purpose of this paper by Dr Richard North is to provide some of the background to one of the most significant yet largely unreported political developments of recent years: the moves being made by the United Kingdom to integrate its armed forces with those of the European Union. The implications of this for Britain and for the United States can scarcely be exaggerated, because – for reasons set out in this paper - the nature of this new military relationship with her European partners will make it increasingly hard for the UK either to fight independently or to co-operate militarily with the US. That “special relationship” which has been the cornerstone of British defence policy from the time of the Second World War up to the recent US-British coalition in Iraq will be at an end.

What makes this even more alarming is the extent to which the British Government has been at pains publicly to conceal and even to deny its true military and political agenda in this respect, by insisting that its new relationship with its EU partners does not prejudice its continued participation in Nato. Yet the key to appreciating how rapidly the UK and the US are now moving apart, as Dr North shows, lies in the pattern of the procurement policy now being followed by the UK’s Ministry of Defence (MoD).

The political cue for this historic parting of the ways was Tony Blair’s agreement at St Malo in 1998 that Britain’s armed forces should be integrated with those of the EU as part of an autonomous EU defence effort, capable of operating outside Nato. This led the following year to the EU’s decision to establish a multi-national ‘European Rapid Reaction Force’ (ERRF) as the centrepiece of its new military ambitions.

The repercussions of this decision are made infinitely greater by the fact that both the US and the EU stand today on the edge of a technical revolution in warfare, centred on satellites, electronics and a new generation of vehicles, unmanned aircraft and weapons systems. So closely co-ordinated will the forces of the future need to be through their technology that it will be virtually impossible for forces working under different systems to work alongside one another.

Until recently the UK and the US were still working in close partnership in developing the technology required to achieve this mutational change in the nature of warfare. Most notably they were equal partners in what was known as the FSCS project, until Britain withdrew, leaving the US to carry on to develop its more advanced FCS (Future Combat System).

In the past year or two, the MoD’s procurement policy has shown a similarly decisive shift away from co-operation with the US towards ever-closer dependence on Britain’s EU partners. Almost across the board, the MoD is now turning its back on joint defence projects with the US, even where these involve British firms, to purchase instead equipment supplied or developed by firms in France, Germany, Italy and Sweden. The pattern of this dependence implies a state of technical and doctrinal integration with the EU’s defence effort so complete that any further collaboration with the US will eventually be no longer feasible.

The key to co-ordinating future warfare will lie in satellite systems, such as the US GPS/Navstar system on which Nato currently depends. The cornerstone of the EU's autonomous defence effort lies in its plans to establish three, largely French-built systems, led by Galileo, set up as a direct rival to the GPS system and due to be in place by 2008 and directed from the EU's satellite control centre in Spain.

From there, as Dr North shows, it is proposed that almost every aspect of Britain's future defence planning now relies on equipment supplied or being developed by her EU partners. British troops will no longer be transported by US-built C-130 and C-17 aircraft, but by the A400M "Eurolifiter". The UK's successor to FSCS, a £14 billion project known as FRES (Future Rapid Effect System), will probably rely on armoured fighting vehicles supplied by Sweden, with French guns and ammunition.

Joint US-British bids to supply £1.1 billion-worth of trucks were in 2004 rejected in favour of trucks built by the German firm Man-Nutzfahrzeuge, adding the name of a former British firm ERF to imply some British contribution. US and other non-EU reconnaissance vehicles were rejected in favour of an obsolescent and much more expensive version made by the Italian firm Iveco, although their origin is again to be disguised behind the name of the British firm BAE Land Systems.

A joint project with the US to develop a 155mm howitzer has been abandoned in favour of a French gun firing German-designed shells. Battlefield radar systems are being built in Germany and Sweden. Development of unmanned aircraft is being led by France, while the RAF's main strike aircraft will be the Eurofighter, firing French-made missiles.

So the list continues, for projects large and small. Three giant aircraft carriers are to be shared between the Royal Navy and France, with the French firm Thales playing a central part in their design and construction. The UK has even abandoned its capacity to manufacture small arms, so that the British army's future rifles are likely to be supplied by Belgium.

The one consistent pattern in recent MoD procurement policy has been that, wherever possible, US firms are now being excluded, even where this means excluding British firms associated with them, and often buying inferior or more costly equipment than that which Anglo-US contractors could supply.

As Dr North's paper explores, the nature of the equipment now being bought for the UK's armed forces, and the "European" or "non-Nato" standards now being laid down by the new European Defence Agency in Brussels, implies not just a growing technical divergence between the ERF and Nato but also a doctrinal conflict with established US and Nato practice which will make it increasingly difficult for forces on each side of this divide to work together, or even to share the same battlezones.

Almost the most startling feature of this immense political and military transformation is the extent to which it is moving ahead behind the scenes without being publicly explained or acknowledged, not least by the British government. Yet much of what is going on can be pieced together from the story now being consistently betrayed by the pattern of Britain's procurement policy. Such is the story which is for the first time publicly explored in Dr. North's remarkable paper.

# The Wrong Side of the Hill

## An account of the “secret” realignment of UK defence policy

All the business of war, and indeed all the business of life, is to endeavour to find out what you don't know by what you do; that's what I called “guessing what was at the other side of the hill.”

**Duke of Wellington, 1769-1852**

### Introduction

On 3 December 1998, UK Prime Minister Tony Blair and French President Jacques Chirac met for a bilateral summit in St. Malo, France. Afterwards, they issued a joint *communiqué* in which they stated:

“...the Union (EU) must be given appropriate structures and a capacity for analysis of situations, sources of intelligence, and a capability for relevant strategic planning, without unnecessary duplication, taking account of the existing assets of the WEU and the evolution of its relations with the EU. In this regard, the European Union will also need to have recourse to suitable military means (European capabilities pre-designated within NATO's European pillar or national or multinational European means outside the NATO framework)”.<sup>1</sup>

The following June, at their Cologne European Council, the EU's heads of government picked up the ball Blair and Chirac had offered. They decided to give substance to the EU's “Petersberg tasks”,<sup>2</sup> which were placed at the core of what was labelled the “European Common Security and Defence policy”. The fifteen heads of government, along with the President of the European Commission, declared that:

...the Union must have the capacity for autonomous action, backed up by credible military forces, the means to decide to use them and a readiness to do so, in order to respond to international crises without prejudice to actions by Nato.<sup>3</sup>

In December 1999, the Helsinki European Council took the initiative further and agreed on the creation of a European Rapid Reaction Force (ERRF). This was to be an EU-led military force able to deploy within 60 days and sustain for at least one year, up to 60,000 personnel capable of the full range of Petersberg tasks. Also agreed was a “Headline Goal” which set out the specific force components which member states agreed to contribute.

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<sup>1</sup> Cited in: [http://www.cap.uni-muenchen.de/download/2004/2004\\_Venusberg\\_Report.pdf](http://www.cap.uni-muenchen.de/download/2004/2004_Venusberg_Report.pdf)

<sup>2</sup> named after the hotel near Bonn, where in June 1992, Western European Union ministers who formulated the “tasks”. See: [http://europa.eu.int/scadplus/glossary/petersberg\\_tasks\\_en.htm](http://europa.eu.int/scadplus/glossary/petersberg_tasks_en.htm)

<sup>3</sup> Presidency conclusions. Annex III. [http://ue.eu.int/ueDocs/cms\\_Data/docs/pressData/en/ec/57886.pdf](http://ue.eu.int/ueDocs/cms_Data/docs/pressData/en/ec/57886.pdf)

Political analysts saw Blair's part in these events as a bid to reassert his claim to being a leader of "Europe", alongside France and Germany, a gesture to compensate for his country's failure to join the single currency. What they did not grasp was the extent to which he was bartering one of his country's greatest assets: Britain's armed forces. In so doing, he was turning his back on 50 years of the Nato alliance and on Britain's "special relationship" with the United States.

This action was given substance by a treaty, signed between the British government and five other nations – France, Germany, Spain, Italy and Sweden – on 27 July 2000.<sup>4</sup> Described as a "Framework agreement" between the six countries, overtly, it concerned "measures to facilitate the restructuring and operation of the European defence industry". But, in Part 7 (Articles 45-49), the Parties recognised "the need to harmonise the military requirements of their armed forces" and set out a permanent process for "harmonised force development and equipment acquisition planning".

Crucially, they agreed "to co-operate in establishing a long term master-plan that would present a common view of their future operational needs." This would constitute a framework for harmonised equipment acquisition planning and "orientation for a harmonised defence related R&T policy". To that effect, they agreed to subscribe to a "detailed analysis of military capabilities and the national planning status and priority of equipment and system programmes", as well as co-operating "as early as possible" in the genesis of the requirement up to and including the specification of the systems they wanted to develop and/or purchase.<sup>5</sup>

Despite being concluded entirely outside the framework of the European Union, it took in the six member states which accounted for 90 percent of indigenous armament production within the EU and was clearly part of the overall plan for European defence integration. The recitals refer to making a contribution to "the construction of a common European security and defence policy".

The Treaty also called for the Parties to "define and implement the methods, means and organisation" to achieve their objectives. This was done in July 2004 when, by a Joint Council Decision, the EU set up the European Defence Agency. It started work in January 2005, under the direction of Nick Witney from the MoD, its task to co-ordinate and promote development of European military capabilities and to foster the establishment of a European defence market.<sup>6</sup>

Meanwhile, the UK redefined its policy towards Nato. In April 1999, Blair had attended the Nato's 50<sup>th</sup> Anniversary celebrations in Washington, where he and other leaders reaffirmed their commitment to Nato as "an alliance for the 21<sup>st</sup> Century".<sup>7</sup> Implementing the decisions of this Summit, including the newly agreed Strategic Concept and the Defence Capabilities Initiative, became for a short time a central part of UK defence policy.<sup>8</sup> But, in 2002, references to the Washington Summit were removed, the policy becoming to: "Strengthen European security through an enlarged and modernised Nato,

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<sup>4</sup> [http://news.mod.uk/news/press/news\\_press\\_notice.asp?newsItem\\_id=391](http://news.mod.uk/news/press/news_press_notice.asp?newsItem_id=391)

<sup>5</sup> <http://www.mod.uk/issues/edi/>

<sup>6</sup> [http://ue.eu.int/cms3\\_fo/showPage.asp?id=277&lang=EN&mode=g](http://ue.eu.int/cms3_fo/showPage.asp?id=277&lang=EN&mode=g)

<sup>7</sup> <http://www.nato.int/docu/comm/1999/9904-wsh/9904-wsh.htm>

<sup>8</sup> [http://www.ogc.gov.uk/embedded\\_object.asp?docid=358](http://www.ogc.gov.uk/embedded_object.asp?docid=358)

an effective EU military crisis management capacity and enhanced European defence capabilities.”<sup>9</sup> This was later reaffirmed in a Treasury document as a “Joint target with Foreign and Commonwealth Office”, with the addition that:

From 1 April 2003, this subsumes SR2000 Target 4, “Working with Nato Allies, implement the decision of the Nato Washington Summit, including the new Strategic Concept and the Defence Capabilities Initiative, and help adapt Nato to the new strategic environment.”<sup>10</sup>

Nevertheless, concerns that Prime Minister Blair is abandoning the “special relationship” have not been shared by the wider community of defence analysts, and the political evidence of the “Framework agreement”, the change in policy towards Nato and Britain’s participation in the European Defence Agency are often discounted. Some commentators even assert that the Atlantic alliance has never been stronger, citing the UK’s continued support of the US in the Iraqi war coalition, her partnership in the Joint Strike Fighter (JSF) project and the work on securing compatibility between military voice and digital communications systems, respectively Bowman and the Joint Tactical Radio System.

However, it was Winston S. Churchill who, in his 1946 “Iron Curtain speech”, defined the relationship as the fraternal association of the English-speaking peoples. “This means a special relationship between the British Commonwealth and Empire and the United States,” Churchill declared, adding:

This is no time for generalities, and I will venture to be precise. Fraternal association requires not only the growing friendship and mutual understanding between our two vast but kindred systems of society, but the continuance of the intimate relationship between our military advisers, leading to common study of potential dangers, the similarity of weapons and manuals of instructions, and to the interchange of officers and cadets at technical colleges.<sup>11</sup>

By reference Churchill’s definition, the health of the “special relationship” can be measured not only from the outward manifestations of “fraternal association” but by the tangible evidence of “the similarity of weapons...” and related issues. That is the task of this paper. It looks beyond the rhetoric at the evidence of the past success of the “special relationship” – to be seen in similarities in equipment used by US and British armies. For instance, the main battle tanks of the British and US armies are essentially the same in performance and capability and the armoured infantry carriers are virtually identical.

In the business of war, and indeed all the business of life – to adopt Wellington’s phraseology – form follows function. The shape of equipment is defined by the purpose and the purpose by the thinking. If the equipment in different armies looks the same, it is reasonable to assume that the thinking must be the same. Similarly, if armies have hitherto fielded similar equipment and significant divergences then appear, this might reflect new divergences in thinking. Thus, the premise is that, while a “high-level” examination of Anglo-American relationships may yield confusing signals, an examination of procurement policies and of the equipment now being chosen for the armed forces of the two nations may give us a more reliable and accurate picture.

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<sup>9</sup> <http://www.archive2.official-documents.co.uk/document/cm55/5571/5571-09.htm> 2002 Spending Review PSA

<sup>10</sup> Quarter 4 Report to HM Treasury, Progress Against Spending Review 2002, Public Service Agreement Targets (April 03-March 06) as at 31 March 04. See: [http://www.mod.uk/linked\\_files/issues/finance/psa4qtrrpt\\_apr03-mar06@310304.pdf](http://www.mod.uk/linked_files/issues/finance/psa4qtrrpt_apr03-mar06@310304.pdf)

<sup>11</sup> [http://www.nato.int/docu/speech/1946/s460305a\\_e.htm](http://www.nato.int/docu/speech/1946/s460305a_e.htm)

## Background

The armed forces in Britain, many European nations and the United States are undergoing a transformation which amounts to a major revolution in military technology. Based around a concept generically known as “net-centric warfare”, it is akin in scale and importance to the transition from the single-shot weapon to the machine gun. It aims to meld the power of military hardware with the sophistication of information and communications technology in order to dominate the battlefield and ensure rapid victory.<sup>12</sup>

There are four drivers of this change. First is the end of the Cold War, which removed the threat of a mass armoured invasion of Europe by the USSR. Secondly, new threats have emerged, specifically failed states and global terrorism. They require armed forces which can be deployed rapidly over long distances, able to act on arrival with minimal preparation, and able to sustain intensive operations without fixed supply lines. Third, with the end or scaling down of conscription in many developed nations, and shrinking defence budgets, armies are smaller and there is a need to do more with less manpower resource. Fourth, in developed nations, there is a low public tolerance for casualties.

The combination of these elements require Western armed forces to undergo restructuring and re-equipment for what is generically known as “expeditionary warfare”. Forces are deployed by aircraft rather than ship which generally limits the weight of armoured vehicles to 20 tons, compared with the 60-70 ton Main Battle Tanks (MBT) currently used.<sup>13</sup> This means more than just the provision of new vehicles. To deliver the same effective punch as traditional platforms, while also affording the same degree of protection that will ensure low casualties, designers need to provide the attributes of MTBs at a third or less of their weight. From a purely engineering stance, this is impossible.

The solution has been to employ highly sophisticated technology, which has been combined into the single all-embracing system known as net-centric warfare. The underlying theory is that enemies can only become a threat if they can engage their own weapons, so the idea is to saturate the battlefield with highly sophisticated equipment to detect enemies before they can close to range, and then destroy them with stand-off or long-range weapons before they can do any damage.

Detection equipment will be mounted on a variety of platforms, from satellites to high-flying, dedicated intelligence gathering aircraft, AWACS, combat aircraft, helicopters and unmanned airborne vehicles (UAVs). On the ground, there will be armoured reconnaissance vehicles and even robots, but all combat elements will also acquire data on enemy movements and feed them into the system. Where naval elements are involved, they too will gather intelligence.

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<sup>12</sup> For a general discussion of the issues, from a US perspective, where the process is described as “force transformation” see: <http://www.iwar.org.uk/rma/resources/transformation/military-transformation-a-strategic-approach.pdf>. For a more detailed (595 pages) exposition, see: <http://www.iwar.org.uk/rma/resources/ebo/effects-based-ops.pdf>

<sup>13</sup> The limit is set by the effective payload of the C-130 Hercules. However, the US may upgrade its C-17 fleet to give aircraft the ability to land on unprepared airstrips. Equally, the EU forces will be deploying A400Ms, with their higher load-carrying capacity. Thus, the weight limit may not hold.

The problem is that this system generates more raw data than traditional structures can process. Neither can they communicate results in time for the intelligence to be acted upon. Therefore, computers and software of unprecedented sophistication have been developed which can integrate, process and analyse the data streams. The results are then distributed by an equally sophisticated, high-capacity communications network, to which all formations are linked, down to individual unit – and sometimes to each soldier. An essential part of this system is the identification of all friendly forces (or “blue” forces as they are known in military jargon), plus targeting information and weapons guidance to enable precision delivery of ordnance.

All units in a network receive a constantly updated flow of “real time” information on the position of all friends and foes, giving them a unique (and unprecedented) overview of the battlespace, known as “enhanced situational awareness”. In as much as parts of the communications system have similarities with the internet, components of which are actually used by the military, it has been described as “the internet goes to war”.

The technology promises to allow an overall reduction in armed forces, in anticipation of which Britain has already reduced its Army establishment, reorganising and amalgamating famous regiments. For instance, the Devonshire and Dorset Regiment, which dates back to 1685, and the Royal Gloucestershire, Berkshire and Wiltshire Regiment, formed ten years ago but whose origins go back more than 300 years, are set to be amalgamated. The King’s Own Royal Border Regiment, dating back to 1680, is also looking vulnerable to amalgamation or disbandment.<sup>14</sup>

However, there is a huge initial cost involved in re-equipping. For a mid-sized power like Britain - which has neither the economic capacity nor tax revenue to develop its own systems independently - some form of co-operation is vital. It also makes economic sense as the costs of development can be spread over larger quantities of equipment than are required by the British Army.

Unfortunately, there are emerging two competitive, and to a great extent incompatible systems aimed at implementing net-centric warfare – espoused respectively by the United States and by Europeans. It is the contention of this paper that Blair was faced with a choice between the America and Europe systems and, at St Malo in 1998, chose the latter. To support this contention, firstly, evidence will be introduced to demonstrate that there is indeed a division between systems. Then, through details of its procurement decisions, it will be shown that the British government is consciously electing to join the European camp.

## **The seeds of division**

Intriguingly, the best evidence of the divide between Europe and the United States is to be found not on Earth, but in space. If this is the “final frontier”, it is also the frontier between the rival systems.

In many respects, this is unsurprising as net-centric warfare relies on space assets, including communications satellites, “space radar” and ground surveillance satellites.

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<sup>14</sup> *The Times*, 24 November 2004.

And, while the United States has a long lead in the military exploitation of space, European nations are making catching up a priority. Already, there is a European Union Satellite Centre in Torrejón de Ardoz, Spain. It will operate, through the European Space Agency, the Global Monitoring for Environment and Security (GMES) earth observation satellites. These are supplemented by other satellites, including the joint French, Italian and Spanish Helios systems, the German SAR LUPE system and others. They are being combined into a single network as “the first step towards an eventual autonomous European capacity in strategic imagery”.<sup>15</sup>

The EU also aims to use communication satellites provided by member states, including the UK’s Skynet,<sup>16</sup> the French Syracuse network and Nato assets. The latter are secured under the “Berlin Plus” agreement between the EU and Nato, of 17 March 2003, which allows the EU to use Nato’s collective capabilities and assets.<sup>17</sup> Some traffic will be passed through commercial satellites as well.

Communications apart, the key system is known generically as the “global positioning system” or GPS. First introduced by the US in 1995 in the form of its Navstar programme, it has two key functions. It provides positioning data for mobile units, making possible sophisticated “command and control” needed for net-centric warfare, and it forms the basis of all-weather precision guidance for a wide variety of munitions. In this way, GPS is the core system in net-centric warfare.

Currently, accurate global satellite positioning is provided only by the United States, which makes the service freely available to all users. Military applications and GPS-related technologies are co-ordinated through Nato.<sup>18</sup> However, the European Union is now well advanced in its plans to launch a rival system, Galileo. Projected to be fully operational by 2008, this has considerable implications for the United States, for Nato and for British forces. Without dwelling on all the implications (some of which are addressed later),<sup>19</sup> the relevant issue at this juncture is how the availability of this system affects the ability of British forces to work alongside the US.

Although high-level interoperability concerns have been largely resolved and the two systems do not interfere with each other, significantly, both produce high-accuracy encrypted military signals. Receiving equipment needs the correct deciphering chips and equipment designed to work solely with Navstar cannot be used for Galileo, and *vice-versa*. Here, there is scope for considerable conflict as there is ample evidence that Galileo is intended to permit independent operations of the ERRF. Not least is the EU’s White Paper on Space, which states unequivocally that, “to be credible and effective,” the ESDP must be “based on autonomous access to reliable global information so as to foster informed decision-making.” It goes on:

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<sup>15</sup> [http://europa.eu.int/comm/space/news/article\\_2262.pdf](http://europa.eu.int/comm/space/news/article_2262.pdf)

<sup>16</sup> The UK has also provided one of three EU military headquarters Command Information Systems (CIS), creating a Permanent Joint Headquarters for EU military operations, in Northwood, North London.

<sup>17</sup> <http://www.nato.int/docu/pr/2002/p02-142e.htm>

<sup>18</sup> Such as the Joint Direct Attack Munition ( JDAM), a low-cost guidance kit that converts existing unguided free-fall bombs into accurately guided “smart” weapons. The JDAM kit consists of a new tail section that contains an Inertial Navigation System/Global Positioning System.

<sup>19</sup> See also an exploration of the issues in: North RAE, Galileo: the political and military implications. Bruges Group, London: <http://www.brugesgroup.com/mediacentre/index.live?article=221>

Space technologies and infrastructures ensure access to knowledge, information and military capabilities on the ground that can only be available through the capacity to launch, develop and operate satellites providing global communications, positioning and observation systems.<sup>20</sup>

Furthermore, French defence minister Michèle Alliot-Marie has confirmed that Galileo will be available for French military use.<sup>21</sup>

Clearly, the intention is for the ERRF to be Galileo-enabled. This poses a problem for forces working with Navstar and particularly for the UK which relies on the Bowman digital communications system. This is progressively being introduced into service with an integral GPS “appliqué” to allow the user immediate position and navigational data.<sup>22</sup> To cope with Galileo, either Bowman will have to be dual-equipped, adding to its complexity and cost, or a choice will have to be made between systems.<sup>23</sup>

Wholly unresolved is the problem of system integration, as to whether equipment configured to integrate encrypted Galileo data could also accept a Navstar feed, and *vice versa*. If there are technical problems in so doing, then the British commitment to work within the ERRF would require the fitting of Galileo-enabled equipment, which could permanently exclude it from working alongside the US.

## The truck enigma

Despite the obvious military applications of Galileo, British ministers continue to maintain that Navstar remains the Nato standard and that British armed forces are committed to its use. The deployment of Galileo, therefore, cannot be taken as *prima face* evidence of a UK lurch into the European camp, even if the government – through European Union and European Space Agency funding – is contributing an estimated £400 million to the project. However, over the longer-term, as the UK’s partners in the ERRF progressively switch to Galileo, it is hard to see how Britain can remain outside the system.

An indication as to how the UK might be drawn in comes with a recent decision by the MoD to re-equip the Army’s entire medium transport fleet with trucks built by the German-owned and Austrian-based MAN-Nutzfahrzeuge company. The contract, the biggest in 25 years, is worth £1.1 billion and covers the initial supply of 5,000 cargo and recovery trucks, with an option for further vehicles.<sup>24</sup>

The award was difficult to understand as MAN was bidding against US truck-makers Oshkosh and Stewart and Stevenson, both suppliers to the US Army and Marines. The latter firm had teamed with UK firms LDV Limited, Multidrive Limited and Lex Defence and intended to build the trucks in Birmingham, giving the contract a high British-built component. The firm Multidrive is a specialist in off-road industrial vehicles and

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<sup>20</sup> [http://europa.eu.int/comm/space/whitepaper/pdf/spwhpap\\_en.pdf](http://europa.eu.int/comm/space/whitepaper/pdf/spwhpap_en.pdf)

<sup>21</sup> *DefenseNews*, 27 December 2004.

<sup>22</sup> <http://www.global-defence.com/2000/pages/bowman.html>

<sup>23</sup> Recently, the Royal Netherlands Navy decided to equip its Marine Cops with the Bowman system. A key deciding factor was the interoperability it provided between the Netherlands and UK forces, as well as interoperability with other allied forces. See: <http://www.deagel.com/news2/?p=ns000162sl>

<sup>24</sup> <http://www.mod.uk/dpa/news/pn2004/oct04/truck.htm>

contracted to develop the Future Cargo Vehicle for the US Army.<sup>25</sup> The other unsuccessful competitor, Oshkosh Truck Company, based in Wisconsin, has a British subsidiary in Llantrisant, Wales, and other British industrial partners. This company already supplies wheeled tankers and tank transporters to the British Army.

The indications are that the MoD may have selected inferior and possibly more expensive vehicles, and certainly those with the lowest domestic manufacturing component.<sup>26</sup> What might have made the difference, though, is that the parent company, MAN AG also produces a sophisticated electronic fleet management system, called “Telematics”. It has been incorporated into the German military programme, enabling the vehicles to be integrated into what it calls a “NetCentric Logistics” concept.<sup>27</sup> Lacking any other obvious rationale for buying MAN trucks, the suspicion is that the MoD procurement is a precursor to buying this system to manage combat logistics for the ERRF.

While this is entirely speculative, it is not without foundation. Net-centric warfare can be of greater intensity, consuming prodigious quantities of stores and combat formations may be widely dispersed and constantly on the move, away from fixed communication routes. Timely delivery is extremely problematical.<sup>28</sup>

However, even in conventional operations, there is good evidence that UK combat logistics are not entirely adequate.<sup>29</sup> This is despite – in the main – UK forces having been deployed in static positions, such as in the Gulf, where they were centred around the main port facility at Basra, with each brigade being spread over a very limited geographic area.

US forces, on the other hand, were ranged throughout Iraq, with units of some Divisions operating over 100 miles ahead of their main formations.<sup>30</sup> From this, they have concluded that, in order to exploit the full potential of net-centric warfare, selected combat support and combat service support units must be equipped with the same systems issued to combat units.<sup>31</sup> The British Army Directorate of Development and Doctrine also seems to have recognised the need for change, having been working on a new specification for logistic services, which it calls “directed logistics”, heavily dependent on information technology and “linked closely to that of Command.”<sup>32</sup>

The MoD, in response to the “lessons learned” from the Iraqi operations, has sought to reform its logistics. Building on an earlier reorganisation of the logistics services, it has initiated a £4 billion programme known as the Future Defence Supply Chain initiative.

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<sup>25</sup> [http://www.multidrive.co.uk/content/generic/company\\_news/press\\_releases/nov02\\_uktruckdesign.htm](http://www.multidrive.co.uk/content/generic/company_news/press_releases/nov02_uktruckdesign.htm)

<sup>26</sup> For instance, the NAO reported that the vehicles were not capable of meeting “Defence Planning Assumptions” nor “capable of operating in world-wide climatic conditions”. See: [http://www.nao.org.uk/publications/nao\\_reports/03-04/03041159\\_II.pdf](http://www.nao.org.uk/publications/nao_reports/03-04/03041159_II.pdf) On the other hand, Oshkosh gave evidence on the Defence Committee on the capability of their vehicles in adverse climatic conditions. See: <http://www.parliament.the-stationery-office.co.uk/pa/cm200304/cmselect/cmdfence/465/4042009.htm>

<sup>27</sup> <http://www.militarytrucks.man-mn.com/en/Company/Company.jsp>

<sup>28</sup> <http://www.ccss.nl/resources/TransatlanticTransformations.pdf>

<sup>29</sup> From the first Gulf War, through KFOR to the current deployment in the Gulf, there have been consistent reports of failure. See: <http://www.aeronautics.ru/nws002/bbc012.htm>; *The Daily Telegraph*, 1 August 2002 and *The Sunday Telegraph*, 17 July 2005: [http://news.bbc.co.uk/1/hi/uk\\_politics/3401879.stm](http://news.bbc.co.uk/1/hi/uk_politics/3401879.stm); and [http://newswww.bbc.net.uk/1/low/uk\\_politics/3309611.stm](http://newswww.bbc.net.uk/1/low/uk_politics/3309611.stm) – plus Defence Committee reports: <http://www.publications.parliament.uk/pa/cm200304/cmselect/cmdfence/57/5714.htm>

<sup>30</sup> [http://www.oft.osd.mil/library/library\\_files/document\\_389\\_Final\\_Cleared\\_US\\_UK\\_Coalition\\_Combat\\_Ops\\_in\\_OIF.pdf](http://www.oft.osd.mil/library/library_files/document_389_Final_Cleared_US_UK_Coalition_Combat_Ops_in_OIF.pdf)

<sup>31</sup> *Op cit.*

<sup>32</sup> [http://www.army.mod.uk/img/doctrine/Forging\\_the\\_Future\\_Army.pdf](http://www.army.mod.uk/img/doctrine/Forging_the_Future_Army.pdf)

However, this is devoted to cost saving through inventory reductions and better control,<sup>33</sup> as do other MoD scheme dealing with asset management and vehicle availability.<sup>34</sup> The only sign that the MoD has even thought about combat logistics comes in one reference to “logistic planning tools” in a software application to be integrated into Bowman.<sup>35</sup> This suggests that there is no current British plan to develop the highly sophisticated, integrated logistic systems needed for net-centric warfare.

US forces in Iraq have also been plagued with shortages, untypical of an army famed for its logistics. By contrast, though, the Pentagon is reacting to the problems. As an integral part of the FCS, extraordinary effort is going into a programme called “focused logistics” which will be fully integrated with the combat command structure.<sup>36</sup> In respect of the UK, therefore, we have a “dog that did not bark”. Yet, it seems inconceivable that the development of net-centric warfare is not matched by parallel initiatives in logistics.

It is, of course, possible that the MoD has not considered the needs of combat formations, or has passed responsibility to the EU, although there is no evidence of the latter. Deployable logistics are regarded as national responsibilities. However, in some cases, “lead nations” specialise in certain functions,<sup>37</sup> an approach is endorsed by the government. It argues that, since future operations would almost always be multinational, it does not “...need to hold sufficient national capabilities for every eventuality.”<sup>38</sup> It could be that combat logistics has been delegated to another member state. Here, of all European forces, the German Army is most advanced. The *Bundeswehr*, for instance, now provides logistics for all German armed services.<sup>39</sup> Looking to Germany to manage combat logistics for the ERF seems logical.

Herein lies the linkage with Galileo. Any combat logistics system will rely intrinsically on satellite positioning and it seems inevitable that the German system will use the Galileo signal when it is available. Since a logistics system must be “linked closely to that of Command”, the need for interoperability may require that command systems are also Galileo-enabled. One can see a situation where the UK is inexorably drawn into a Galileo dominated network.

## The “Panther” procurement saga

Since Galileo has yet to be deployed, its rôle in EU military operations can only be speculation, although the intention of the EU to use this system could not be clearer. Likewise, although the UK purchase of its fleet of trucks from a German supplier represents a divergence from the US, whether the UK intends to adopt the potentially more significant electronic logistics system is not known. This too lies in the realm of speculation and, even if it does happen, any changeover will take a considerable time.

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<sup>33</sup> [http://www.mod.uk/publications/iraq\\_futurelessons/chap8.htm](http://www.mod.uk/publications/iraq_futurelessons/chap8.htm); [http://news.mod.uk/news\\_headline\\_story.asp?newsItem\\_id=3413](http://news.mod.uk/news_headline_story.asp?newsItem_id=3413); <http://www.baesystems.com/newsroom/2003/oct/071003news1.htm>; *DefenseNews*, 25 July 2005.

<sup>34</sup> <http://www.mod.uk/wfmip/>

<sup>35</sup> [http://www.army.mod.uk/bowman/bowman\\_system.htm](http://www.army.mod.uk/bowman/bowman_system.htm)

<sup>36</sup> [http://www.army.mil/2010/focused\\_logistics.htm](http://www.army.mil/2010/focused_logistics.htm)

<sup>37</sup> <http://www.policybrief.org/PPNhulse/Book/European%20Defence%20Nov%202000.pdf>

<sup>38</sup> cited in: <http://www.policybrief.org/PPNhulse/Book/European%20Defence%20Nov%202000.pdf>

<sup>39</sup> *Ibid.*

However, there is incontrovertible evidence of a major divergence between the UK and US military in the land-based provision of what is known as “intelligence, surveillance, target acquisition and reconnaissance” (ISTAR). The evidence is encapsulated in the procurement of a single vehicle type known as the “Panther”.

Prior to the St Malo agreement, the UK had been locked into an ambitious joint project with the US to provide a common system for ISTAR provision. This was a significant part of the Strategic Defence Review, considered “crucial to retaining a technological edge over potential adversaries.”<sup>40</sup> Central to this is the ability “to gather information about an opponent and use it to maximum effect.” That capability was to be delivered by “a new generation of battlefield reconnaissance vehicles”, a project known as Tracer,<sup>41</sup> which, as late as 2001, the MoD defined as “the land-based component” of the ISTAR capability.<sup>42</sup>

Tracer was, in fact, a joint US-UK venture, originated in 1996 after both governments had decided to seek a new, advanced solution to battlefield reconnaissance, following a British-funded feasibility study completed in 1994. In January 1998, a memorandum of understanding was signed between the US and the UK governments establishing the US Future Scout and Cavalry System (FSCS)/UK Tactical Reconnaissance Armoured Combat Equipment Requirement (TRACER) programme. The target date for operational introduction was 2007.

The British Army intended to replace its Scimitar and Sabre light tanks currently used for close battlefield reconnaissance. The limitations of these vehicles has long been acknowledged by the MoD, not least their cramped accommodation and the fact that the increasingly sophisticated equipment required in the modern battlefield had been added piecemeal, creating ergonomic difficulties which reduce fighting efficiency.<sup>43</sup>

On the other hand, the US Army was using the M998 (Humvee) for close battlefield reconnaissance, along with the M3A3 Bradley and latterly the Stryker. It had recognised that using light utility vehicles for close reconnaissance - a tactical concept born in the 70s – was no longer adequate for the modern battlefield. They had insufficient mobility, equipment and “survivability”. Even the up-armoured M1114 Humvee was regarded only as an interim solution.

Contracts were awarded in January 1999 and, to bring the concept to fruition, two competing consortia were formed: SIKA International, comprising Lockheed Martin and BAE Systems; and LANCER, led by GEC-Marconi and United Defense (both of which were later to be acquired by BAE Systems). At inception, though, both consortia had US and UK companies, to enable equitable work sharing between the industries of both nations.

In February 2000, however, the project was cancelled when the US Congress shifted funding from the FSCS to a more ambitious, all-embracing concept known as the Future

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<sup>40</sup> Available online at: <http://www.mod.uk/issues/sdr/index.htm>

<sup>41</sup> *Ibid*, paras. 80-81 and 148.

<sup>42</sup> House of Commons Defence Committee - Appendices to the Minutes of Evidence: Letter from the MoD, 10 April 2001: <http://www.parliament.the-stationery-office.co.uk/pa/cm200001/cmselect/cmdfence/463/463ap02.htm>

<sup>43</sup> For an illustration of the problem, see: <http://www.ams.mod.uk/ams/content/docs/hfiweb/data/powerpt/tracer.pdf>

Combat System (FCS).<sup>44</sup> The British government chose not to join in this venture. Despite an expenditure of £131 million on FSCS,<sup>45</sup> it decided to develop its own version of FCS, which became the Future Rapid Effects System (FRES).

Crucially, at the time of the Tracer concept definition, thought had been given to the possibility of European collaboration, but the MoD concluded:

It is assessed that there is currently no opportunity for a European collaborative programme on TRACER, owing to different national doctrine concerning the use of reconnaissance forces and the force mixes that are employed.<sup>46</sup>

Significantly, this statement indicated a doctrinal divide between UK and other EU member state forces and reaffirmed commonality in doctrine between US and UK forces. This, in itself, is hardly surprising. Throughout their recent histories, both militaries have fought outside their own territories and have thus been structured as expeditionary forces. The continental land forces, on the other hand, have as their primary task the defence of their own or neighbouring territories.

Although not recognised as such, the launch of the separate FCS and FRES projects was a parting of the ways between the US and UK military establishments. Nevertheless, it was not until February 2001 that evidence of this became public when the MoD announced it was seeking bids for a “Future Command and Liaison Vehicle”.<sup>47</sup> Having abandoned Tracer, the MoD now declared that this was intended to replace (amongst others) the Scorpion/Sabre light tanks, to provide armoured reconnaissance – precisely the tasks which Tracer was intended to perform.<sup>48</sup>

Four vehicle types were selected for the assessment phase – one British, one French and two South African – but, after the shortlist had been closed, another was entered at the specific request of the MoD. This vehicle, later to be called the Panther, was to win the contract for 401 vehicles at a cost of £166 million, amounting to £413,000 each. At the time of the final award, on 6 November 2003, and subsequently, the MoD indicated that the vehicles were to be British-made. Only after intense questioning in the UK Parliament did the defence minister concede that they were to be built in Italy by Iveco Defence Vehicles.<sup>49</sup>

As significantly, the vehicle was based on a 1977 design, originally intended to compete for the emerging light utility vehicle contract that was eventually to become the “Humvee”. Although unsuccessful, it was redeveloped, taking on its final form in 2002, whence it was adopted for “command and liaison” and close battlefield reconnaissance. In effect, the MoD, having cancelled joint development of an advanced reconnaissance vehicle, had gone “retro” and bought an Italian-built vehicle based on a 1970s tactical concept, essentially performing the role of an M1114 up-armoured Humvee. Had the MoD bought the M1114 – at a unit cost of £100,000 - it could have saved £313,000 per vehicle. Yet neither the M1114 nor any of its derivatives were entered in the competition.

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<sup>44</sup> <http://www.rand.org/publications/DB/DB358/DB358.part2a.pdf>

<sup>45</sup> Hansard, 18 Dec 2002: Column 809W.

<sup>46</sup> House of Commons Defence Committee - Appendices to the Minutes of Evidence, *op cit*.

<sup>47</sup> [http://news.mod.uk/news/press/news\\_headline\\_story.asp?newsItem\\_id=1171](http://news.mod.uk/news/press/news_headline_story.asp?newsItem_id=1171)

<sup>48</sup> <http://www.mod.uk/dpa/news/pn2003/nov03/contract.htm>

<sup>49</sup> Hansard, 27 Jun 2005: Column 1199W.

Then, as an indication perhaps that the “national specialisation” philosophy is being implemented (at least partly), on 18 April 2005, the German arms manufacturer Rheinmetall Landsysteme announced a co-operative agreement with Iveco Defence Vehicles to market the Panther – renamed the “Caracal” after the Afro-Asian cat. The intention is to enter it into a forthcoming *Bundeswehr* procurement competition for a surveillance and reconnaissance vehicle.<sup>50</sup> Italy, it seems, is to become the European specialist in the production of light armoured reconnaissance vehicles with now, potentially, three European armies operating the same equipment.

Meanwhile, the US government had pursued the FSCS concept, now within the framework of FCS. In November 2001, Lockheed Martin and SIKI International rolled out the first “technology demonstrator” and, after successful trials, development continues on what has become the “Reconnaissance, Surveillance and Target Acquisition” (RSTA) mission equipment package.<sup>51</sup> This is a remarkable light tank – similar in principle to the Scimitar/Sabre - bristling with sensors. In countless ways, it is different from the Panther “armoured SUV” which is, in theory, supposed to perform the same task for the British Army.<sup>52</sup>

The importance of this “technology gap” can be seen from experience of the second Gulf War when the Americans lent some British formations “Blue Force Trackers”. The use of the equipment was described in detail in a US post-operations study, from which it emerged that British forces failed to exploit the full capabilities. In many instances, they were reluctant to use it at all. In measured tones, the report notes wryly:

The UK land forces have largely used paper charts and voice communications as their primary means of gaining situational awareness for many years – the existing combat net radio having been deployed for around 30 years. Therefore, their tactics, techniques and procedures (TTPs) have been thoroughly optimized for this environment and everyone is well trained and experienced in war-fighting this way. As a result, there is little incentive to change and indeed a fear that new and unproven systems may reduce combat effectiveness - at least in the short-term while its intricacies are mastered.<sup>53</sup>

Some British formations abandoned use of the equipment altogether and resorted to the more familiar use of liaison officers on the ground.<sup>54</sup>

The MoD’s conclusions on coalition operations reflected this experience, noting that:

Regular training and cross-fertilisation with US forces are required to promote interoperability when UK forces are deployed in a US-led or backed coalition. Achieving interoperability requires extensive information sharing between the US and UK. A Combat identification (Combat ID) concept of operations should be available early in the preparation phase of an operation. Doctrine and peacetime training need to reflect the Combat ID requirements of coalition operations.<sup>55</sup>

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<sup>50</sup> <http://www.rheinmetall-detec.de/index.php?lang=3&fid=3030>

<sup>51</sup> <http://www.lockheedmartin.co.uk/news/150.html>

<sup>52</sup> In January 2002, a competitive model, the Lancer, was also unveiled by United Defense, also in partnership with BAE Systems. See: [http://www.uniteddefense.com/pr/pr\\_20020130.htm](http://www.uniteddefense.com/pr/pr_20020130.htm)

<sup>53</sup> US/UK Coalition Combat Operations during Operation Iraqi Freedom, US Department of Defense, 2 March 2005. See: [http://www.ofc.osd.mil/library/library\\_files/document\\_389\\_Final\\_Cleared\\_US\\_UK\\_Coalition\\_Combat\\_Ops\\_in\\_OIF.pdf](http://www.ofc.osd.mil/library/library_files/document_389_Final_Cleared_US_UK_Coalition_Combat_Ops_in_OIF.pdf)

<sup>54</sup> *Ibid*, para 5.5.

<sup>55</sup> [http://www.mod.uk/linked\\_files/publications/iraq/opsiniraq.pdf](http://www.mod.uk/linked_files/publications/iraq/opsiniraq.pdf)

The report went on to note that the US was expected to continue to play a leading role in world affairs for the foreseeable future and remain the predominant military superpower. Thus, said the MoD, “if the UK is to join the US in future operations, we shall need to continue to be close to US policy-making and planning and, subject to affordability, be able to operate with its technological dominance and military doctrine.” Crucially, it added, “This will require a clear understanding of, and involvement in, emerging US military and political concepts and doctrine. To this end, it will be essential to continue to sustain liaison with high levels in the Pentagon and key US headquarters.”

Here, there is an obvious reference to two elements required to make coalition operations work effectively: technical and doctrinal interoperability. Yet, with the US adopting RSTA packages, and the UK the distinctly low-tech Panther, a technological gap between the US and the UK is becoming evident.

However, it is now becoming apparent that the Panther is not going to be the main land forces reconnaissance tool, with the MoD having decided to place the “Watchkeeper” UAVs at the centre of its land reconnaissance capability.<sup>56</sup> Furthermore, in early July, the MoD announced it was considering upgrades to its armoured vehicle fleet, delaying their retirement to beyond 2020.<sup>57</sup> This means that close battlefield reconnaissance will be provided by three assets: an obsolescent light tracked vehicle, the Panther and “Watchkeeper”. Inevitably, given the limited capability of the ground platforms, the burden of intelligence gathering will fall on the UAV.<sup>58</sup>

The way UAVs will be used by the British points up another major divergence between the UK and US. Current systems are usually allocated to Command headquarters, while US forces have the theoretical capability to distribute UAV sensor products throughout the network. However, UAVs demand considerable bandwidth (the rate at which a system can carry information) and, at certain times, the demand exceeds that available by a factor of 20:1, particularly between Brigade and Battalion. This alone has slowed the networking programme and is now considered the single most important limiting factor. In the US, considerable effort and expenditure is going into solving the problems,<sup>59</sup> with the eventual intention that UAVs should equip FCS company-size units and even platoons.<sup>60</sup>

In the case of the UK, the Army is relying for its battlefield communications on the Bowman system, backed by the armed forces own Skynet 5 satellites. This prompted a comment from Lord Astor of Hever who remarked that, “bandwidth of communications will be at least as important as bullets.”<sup>61</sup> He then expressed his hope that the defence minister had allowed for generous bandwidth on Skynet 5. UK high-level strategic communications, he added, had collapsed at key points during the (second) Iraq war because of equipment failures and inherent structural weaknesses in the UK’s military networks.

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<sup>56</sup> [http://news.mod.uk/news\\_headline\\_story.asp?newsItem\\_id=1849](http://news.mod.uk/news_headline_story.asp?newsItem_id=1849)

<sup>57</sup> *DefenseNews*, 11 July 2005.

<sup>58</sup> 18th July 2002, [http://news.mod.uk/news\\_headline\\_story.asp?newsItem\\_id=1849](http://news.mod.uk/news_headline_story.asp?newsItem_id=1849)

<sup>59</sup> Defense Science Board Study on UAVs and ECAVs, *op cit*. For a discussion on the “Army bandwidth logjam”, see also: <http://www.iwar.org.uk/rma/resources/cbo/summary.htm>

<sup>60</sup> *DefenseNews*, 1 August 2005.

<sup>61</sup> *Lords Hansard*, 13 Jan 2004: Column 528.

As to Bowman, this is a “family” of radios ranging from a hand-held set to more capable equipment issued to higher levels of command. For those higher levels, there is the “high capacity data radio” which provided “the primary means for the transfer of large amounts of operational data between Bowman equipped HQs in the field.”<sup>62</sup> Additionally, higher commands are to be issued with the “Falcon” communications system, produced by BAE Systems “designed to equip senior commanders with the most advanced and powerful network for controlling combat operations at corps, divisional and brigade level.”<sup>63</sup> This will have more than fifty times the data capacity of the system it replaces, providing the infrastructure to support the Army command systems. The Bowman tactical system will feed information into Falcon, which will link back to UK headquarters in real time using Skynet 5. Says the MoD, “The Falcon network will permit transmission of large amounts of data, including real time video, between Army Headquarters.”<sup>64</sup>

Clearly, the MoD is addressing the problem of Brigade level and above communications, but it is also clear that it has no intention of improving bandwidth capacity below that level. The equipment tells its own story. Field sets from the Bowman family can handle data at a rate various quoted at 500 Kbs to 2 Mbs.<sup>65</sup> High performance UAV’s can deliver data at a rate of between 45 and 600 Mbs. Networked FRES formations will not be able to accommodate UAV sensor traffic. Along with data from other battlefield intelligence-gathering assets, it will be processed at Brigade or above and orders will be transmitted downwards to operating echelons. Thus, the advanced equipment being introduced will simply reinforce the already established, hierarchical structure.

The US system, on the other hand, with its highly sophisticated RSTA “mission equipment package” and more generous bandwidth allocation to lower levels, allows for a completely different doctrine. Firstly, as regards the RSTA “packages”, these are issued to much lower formations and are organic to them. Secondly, their sophisticated information-gathering equipment can gather far more data than less well-equipped platforms (like the Sabre or Panther). Third, as part of a fully networked system, they have access to data from all other intelligence-gathering assets in the area of operation, including aircraft and UAVs, other RSTA platforms and ground combat units. Fourthly, and most critically, the equipment has a powerful data processing capability and crews carry out situational analyses which would, traditionally, be undertaken higher up the chain of command.

Thus, relatively junior field commanders have the facility to make autonomous command decisions, in response to high-quality intelligence, and execute actions without waiting for instructions or authorisation from higher levels of command.<sup>66</sup> In this, there is also a cultural difference. Command decisions are often made autonomously at a lower level in US forces than is customary in the British Army.

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<sup>62</sup> <http://www.esys.co.uk/case/archive/bowman.htm>; <http://www.global-defence.com/2000/pages/bowman.html>

<sup>63</sup> It will equip the main headquarters and supporting elements of the ACE (Allied Command Europe) Rapid Reaction Corps (ARRC). See: <http://www.baesystems.com/newsroom/2003/sept/100903news1.htm>

<sup>64</sup> <http://www.mod.uk/dpa/news/pn2005/july05/tfcs.htm>

<sup>65</sup> <http://www.afcea.org/signal/articles/anmviewer.asp?a=503&z=111>

<sup>66</sup> <http://www.iwar.org.uk/rma/resources/crs/RL31425.pdf>

The upshot is that similar-sized formations of British and US forces will increasingly fight in different ways. US formations will rely on organic intelligence gathering, processing and analysis – supplemented by data from theatre assets - and will be able to launch operations faster, in a more flexible manner. They will also be able to handle more tasks, over a wider area of operations than their British equivalents. UK land forces, therefore, will not develop net-centric warfare on the US model. This much is acknowledged by Nick Witney, CEO of the EDA. He predicts that net-centric capabilities will probably be focused more on the individual soldier.<sup>67</sup>

## The floodgates open

So far, three issues have been examined: Galileo; the MAN trucks procurement; and the “Panther”. Each of these illustrate the possibility (and actuality) of divergences emerging between UK and US forces. By the same token, there is now evidence from the equipment procurement decisions of the MoD of convergence between the UK and the armed forces of (some) EU member states.

The most obvious sign of this is the Panther procurement, which is now performing the same role in the British and Italian Armies and, potentially, the *Bundeswehr*. But the lightly-armoured and lightly armed 4x4 reconnaissance vehicle concept – otherwise known as the “scout car”, long discarded by the British and US – is still very much in evidence in Europe.

Nowhere is there any evidence of the development by any European manufacturer of the US “RSTA equipment package” concept. Perhaps this is unsurprising as this equipment makes demands on bandwidth similar to those of UAVs and the Europeans simply have not developed the communications infrastructure. Nevertheless, from a situation where the MoD had earlier assessed that there was no opportunity for a European collaborative programme on TRACER, “owing to different national doctrine...”,<sup>68</sup> British tactical reconnaissance concepts are crystallising on the model emerging in Europe. This is reflected in the agenda of the EDA, Amongst its first four “flagship projects” is the development of “long-endurance UAVs”.<sup>69</sup>

Significantly also, the Steering Board of the EDA recently called for “more collaboration on new armoured fighting vehicles”, eyeing the expected 10,000 units – worth €30 billion – to be built for European forces over the next decade. To that effect, EU ministers are carrying out a study into the exemption from EU procurement directives.<sup>70</sup> Currently, member states are able to invoke Article 296 of the Treaty of the European Communities to exempt defence equipment from EU procurement rules, on national security grounds.

The ministerial “initiative” follows on from a raft of position papers produced by the EU Commission, the first in January 1996 which addressed the “challenges facing the European defence-related industry”, calling for “a contribution for action at European

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<sup>67</sup> *DefenseNews*, 27 June 2005.

<sup>68</sup> House of Commons Defence Committee - Appendices to the Minutes of Evidence, *op cit*.

<sup>69</sup> [http://ue.eu.int/uedocs/cmsUpload/050707-EDA\\_Briefs\\_Industry\\_on\\_Technology\\_Demonstration\\_Studies\\_for\\_Long\\_Endurance\\_UAVs.pdf](http://ue.eu.int/uedocs/cmsUpload/050707-EDA_Briefs_Industry_on_Technology_Demonstration_Studies_for_Long_Endurance_UAVs.pdf)

<sup>70</sup> <http://ue.eu.int/uedocs/cmsUpload/050523EDAPressRelease.pdf>

level”.<sup>71</sup> This was followed in December 1997 by a communication on “implementing a European Union strategy on defence-related industries”,<sup>72</sup> and in March 2003 by a “Green Paper” offering firm proposals on “an EU defence equipment policy”.<sup>73</sup>

The “Green Paper” was followed in September 2004 by another, this one on defence procurement.<sup>74</sup> The Commission wrote of “growing convergence of national security interests in the context of European foreign, security and defence policy,” which “could facilitate application of Community instruments” on procurement. Meanwhile, it advocated increased co-operation between member states, hoping that “voluntary” co-operation would lead to more rationalised procurement. But it was preparing a “big stick” in an attempt to make sure it would happen anyway.

In fact, in addition to the “Framework Agreement” between the Six, there had already been a voluntary agreement in November 1996 by France, Germany, Italy and the UK, to establish OCCAR (*Organisation Conjoint de Cooperation en matiere d’Armement*). This was formalised by Treaty on 28 January 2001 by the OCCAR Convention.<sup>75</sup> In May 2003, Belgium became the fifth OCCAR member and Spain may also join.

One early project was the MRV (Multi-Role Armoured Vehicle), initially an Anglo-German programme signed in November 1999 for the development of a family of “next generation” armoured utility vehicles. It was joined by the Netherlands in 2001 but, in July 2003, the UK pulled out, losing £48 million in the process,<sup>76</sup> when it decided to pursue the FRES concept. MRV – by then renamed the “Boxer” – at 31 tons per vehicle, was too heavy for the C-130 Hercules.

Another OCCAR project, its “flagship”, to which the UK is now fully committed, is the Airbus A400M, a tactical and strategic airlifter, built by a consortium representing the UK, Germany, France, Spain and Belgium. With a maximum payload of 37 tons, it can carry more than the Hercules, but less than the 70 tons carried by the C-17 Globemaster. Once the A400M is available, the RAF is to be equipped with 25 aircraft at an expected cost of £2.4 billion, eventually replacing its 51 US-built C-130s as well as the C-17s, marking a major shift from American equipment.

As importantly, common equipment may become a precursor to a common organisation. France and Germany have established a “European Airlift Transport Coordination Cell”, operating out of Eindhoven in Holland, which will evolve into the European Air Transport Command, probably in 2008.<sup>77</sup> The German Federal Ministry of Defence will then wind up its own Air Transport Command.<sup>78</sup> France has also committed to pool to airlift resource.<sup>79</sup> Undoubtedly, there will be pressure on the UK to join this “command”. If that happens, control of the RAF’s strategic and tactical airlift capability will be subsumed into an EU-controlled organisation.

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<sup>71</sup> [http://europa.eu.int/comm/internal\\_market/publicprocurement/docs/defence/com96-10\\_en.pdf](http://europa.eu.int/comm/internal_market/publicprocurement/docs/defence/com96-10_en.pdf)

<sup>72</sup> [http://europa.eu.int/comm/internal\\_market/publicprocurement/docs/defence/com97-583-final\\_en.pdf](http://europa.eu.int/comm/internal_market/publicprocurement/docs/defence/com97-583-final_en.pdf)

<sup>73</sup> [http://europa.eu.int/eur-lex/en/com/cnc/2003/com2003\\_0113en01.pdf](http://europa.eu.int/eur-lex/en/com/cnc/2003/com2003_0113en01.pdf)

<sup>74</sup> [http://europa.eu.int/comm/internal\\_market/publicprocurement/docs/defence/green-paper/com04-608\\_en.pdf](http://europa.eu.int/comm/internal_market/publicprocurement/docs/defence/green-paper/com04-608_en.pdf)

<sup>75</sup> <http://www.occar-ea.org/C1256B0E0052F1AC/vwContentFrame/N254SMVV967SLEREN>

<sup>76</sup> <http://www.mod.uk/publications/performance2003/chap26e.htm>

<sup>77</sup> <http://www.isis-europe.org/ftp/download/reportdefence.pdf>

<sup>78</sup> <http://www.eng.bmvg.de/C1256F1200608B1B/CurrentBaseLink/W268SHT2252INFOEN>

<sup>79</sup> <http://www.ambafrance-us.org/news/statmnts/2003/elyseedefense.asp>

The MoD has also recently announced that the Future Strategic Tanker Aircraft (FSTA) programme, worth £13 billion, is to be fulfilled by a consortium which includes the French aerospace contractor Thales. It will supply European-built Airbus A330-200s, in preference to the bid submitted by the UK's BAE Systems and Boeing.<sup>80</sup> Then, there is the Eurofighter, armed with Storm Shadow/SCALP-EG air-launched cruise missile and next-generation air-to-air Meteor missiles, both designed by a French-led consortium.

The Meteor was, in fact, seen as a test of Blair's European credentials, offered as an alternative to the battle-proven missile produced by the US defence giant Raytheon, costed at £1 billion as against the Raytheon missiles at £500 million. The contract was subject to intense lobbying from the US, France and Germany, the transatlantic divide being summed up by Manfred Bischoff, chief executive of DaimlerChrysler Aerospace AG, who declared: "A European aircraft needs European armament...".

In the event, despite opposition from his own Chancellor, Blair opted for the Meteor, with a target date for introduction of 2005 – to coincide with deliveries of the Eurofighter. However, the project was delayed and is not expected to come into service until at least 2012. As a stop-gap measure, therefore, the MoD spent £200 million on Raytheon missiles, making Meteor £900 million more expensive than the US option, the overall cost (including buying the Raytheon missiles) having risen to £1.4 billion.<sup>81</sup>

Add to that the two proposed Royal Navy aircraft carriers, which, even before they have been built, have been committed to support the ERRF. With France joining the project, to provide its own new carrier under a joint building programme, the ships will have a commonality of 80-90 percent.<sup>82</sup>

The UK is also co-operating with France in designing the next generation of 40mm multi-purpose guns. These will be fitted to Warrior upgrades and will undoubtedly arm FRES platforms. Jointly funded by the French and British governments, they are part of the MoD's "Objective Future Cannon Programme", they use a revolutionary new type of ammunition. Additionally, the British and French are working on new turrets to house these guns.<sup>83</sup> Of special relevance here is that there is no Nato standard for the ammunition. Currently, the US and UK carry common inventories, allowing cross-supply if the need arises. The possibility of US and elements of EU forces carrying entirely different ammunition stocks now arises, reducing still further opportunities for interoperability.

Furthermore, the Commission – through its 2004 "Green Paper" on defence procurement - has suggested common, EU-wide military standards through its own standards body, CEN, rather than through Nato. By mid-July 2005, it announced that it would shortly unveil a web-based handbook of its own standards for the procurement of military supplies. Displaying an arrogance not untypical of EU officials, Jan Van Herp, CEN's

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<sup>80</sup> <http://www.mod.uk/dpa/news/pn2005/airtanker.htm>

<sup>81</sup> *International Herald Tribune*, 10 February 2000; *The Daily Telegraph*, 15 May 2000; <http://www.parliament.the-stationery-office.co.uk/pa/cm199900/cmselect/cmdfence/528/52804.htm>

<sup>82</sup> *DefenseNews*, 11 July 2005.

<sup>83</sup> <http://www.dtic.mil/ndia/2005garm/wednesday/duckworth.pdf>

director of information systems and special projects stated that, in future, the EU would expect Nato to be “coming to us” to help it mesh its standards.<sup>84</sup>

However, since its inception, Nato’s harmonisation programme has been the glue holding the alliance together. It may not take kindly to EU attempts to usurp its functions – especially in areas of newly emerging technologies where the US will rightly expect to be fully involved in deciding standards. The situation may come to a head when, to pursue one of the EDA’s long-term goals of rationalising Europe’s armoured fighting vehicle sector, CEN’s next priorities include standards covering armoured fighting vehicles. It is highly unlikely that the US will meet or even seek to meet these standards.<sup>85</sup> The spectre of a breakdown in common standards between the US and EU forces is very real.

Returning to the FRES programme, the MoD is looking at the Swedish-built “SEP” platform for its vehicles.<sup>86</sup> This has been developed by the Hägglunds company - a subsidiary of BAE Systems - for the Swedish army. It has evolved into a family of vehicles close to British Army requirements,<sup>87</sup> to which effect “preliminary co-operation agreements” between governments and industry in Sweden and the UK are in place.<sup>88</sup>

On this, there are conflicting signals. In late August, the US and UK were reported to be preparing to sign a Memorandum of Understanding on co-operation on interoperability between FRES and FCS.<sup>89</sup> At the same time, the MoD awarded a “risk reduction” contract to the US firm General Dynamics, to evaluate the FRES platform, while negotiations have also been under way with BAE Systems on the SEP platform.<sup>90</sup> Thales, the French defence group, and Lockheed Martin of the US are competing to provide the electronics for the vehicle and are both expected to be awarded similar contracts to demonstrate their technologies.<sup>91</sup>

Confusing the issue still further, the MoD has already announced a contract for “defensive aids suites” for the project. The term describes “a group of integrated sensors and counter-measures for self-defence of armoured fighting vehicles and other military platforms,” capable of providing “automatic or semi-automatic response to threats, thereby increasing survivability without the weight burden of additional armour.” The contract went to a Swedish firm, Akers Krutbruk Protection.<sup>92</sup>

Then there is the armour, which may be based on a concept known as “electric armour”. This relies on composite materials, within which is sandwiched a conductive layer through which a high voltage charge is passed, sufficient to vaporise certain types of anti-tank rounds. While formal bids from two companies to develop the armour for the MoD have been received, these have not been named.<sup>93</sup> But it appears that the British and US systems may be different, in that US teams have demonstrated a “multi-hit” protection

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<sup>84</sup> *DefenseNews*, 18 July 2005.

<sup>85</sup> *Ibid.*

<sup>86</sup> <http://www.army-technology.com/projects/sep/>

<sup>87</sup> [http://www.armada.ch/05-2/complete\\_05-2.pdf](http://www.armada.ch/05-2/complete_05-2.pdf).

<sup>88</sup> [http://ir.baesystems.com/bae/shareholder\\_info/communications/2005/2005-03-01/#p4](http://ir.baesystems.com/bae/shareholder_info/communications/2005/2005-03-01/#p4)

<sup>89</sup> *Defense Daily*, 25 August 2005

<sup>90</sup> *Defense News*, 30 August 2005

<sup>91</sup> *The Financial Times*, 25 August 2005.

<sup>92</sup> *Hansard*, 19 July 2005 : Column 1529W.

<sup>93</sup> *Hansard*, 12 July 2005: Column 862W.

capability which has not been (publicly) claimed by the British.<sup>94</sup> Again, the technology gap seems to be widening.

That divide may be even greater than appears. When the EDA's Nick Witney observed that "Europe's network-centric capabilities will probably be focused more on the individual soldier...",<sup>95</sup> he was describing a philosophy remarkably similar to that adopted by the French Army. It is working on a system which aims to deploy "network-centric soldiers, wearing special clothing with integrated armour, portable electronics – including GPS and communications – and special observation equipment, integrated with the personal weapon."<sup>96</sup> The thinking is remarkably similar to that behind the MoD's "Future Integrated Soldier Technology" (FIST) programme. It is perhaps no coincidence that it is being run by French-owned Thales UK.<sup>97</sup> Crucially, the project also focuses on information control, space-based assets (including surveillance satellites) and observation UAVs and UCAVs (Unmanned Combat Air Vehicles).

In terms of UAVs, another point of divergence emerged when the MoD announced the contract for Watchkeeper. It chose the Israeli-designed Hermes 450, to be built by the UK division of Thales, in preference to a rival bid from the US contractor Northrop-Grumman.<sup>98</sup> When it comes to the next generation, such vehicles will not only be used for passive reconnaissance. They are being designed for attack – as is the current "Predator" model deployed by US forces, which has successfully fired "Hellfire" guided missiles in combat conditions. In the attack role, the equipment is known as a UCAV.

In this whole area of technology, France is taking the lead. This was decided under the European Capabilities Action Plan agreed by member states as a means of reaching the 2010 "Headline Goal". Its first project is the European reconnaissance air system called "Euromale".<sup>99</sup> With the participation from Greece, Italy, Spain, Sweden and Switzerland, it also has a programme named "Neuron" for a high-tech, "stealthy" UCAV. Announced in June 2003, the French government has allocated €300 million for the first phase.<sup>100</sup>

So far, Britain is not included. In a situation which has some parallels with the Tracer project, however, the UK had been working for the last seven years with the US on UCAV development, on a £10bn project called the "Future Offensive Air System" (FOAS). This was intended to produce operational systems by around 2018 when the RAF's fleet of Tornado GR4s is expected to reach the end of its operational life.<sup>101</sup> Then, in June 2005, the British government pulled out of the project, even though the "definition phase" was not due for completion until 2008.<sup>102</sup> Sources are suggesting that the reason was the increasing reluctance of its US partner to transfer military technology (which will be discussed in the next section). The MoD was unlikely to "get what it wants".

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<sup>94</sup> <http://www.dstl.gov.uk/pr/press/pr2002/01-07-02.htm>; <http://www.defense-update.com/features/du-1-04/passive-armor.htm>

<sup>95</sup> *DefenseNews*, 27 June 2005.

<sup>96</sup> [http://www.assembly-weu.org/en/documents/sessions\\_ordinaires/rpt/2005/1899.html](http://www.assembly-weu.org/en/documents/sessions_ordinaires/rpt/2005/1899.html)

<sup>97</sup> [http://news.mod.uk/news/press/news\\_notice.asp?newsItem\\_id=3069](http://news.mod.uk/news/press/news_notice.asp?newsItem_id=3069)

<sup>98</sup> *DefenseNews*, 25 July 2005

<sup>99</sup> <http://www.dassault-aviation.com/gb/actualite/actualite/article.cfm?id=2108>

<sup>100</sup> *C4ISR Journal*, 24 July 2005.

<sup>101</sup> <http://www.airforce-technology.com/projects/foas/>

<sup>102</sup> <http://www.ukdf.org.uk/millibrief/M35.DOC>

For the time being, the MoD has scaled back its work in this area, but is now considering whether to join to French “Neuron” programme.<sup>103</sup> Another realignment, potentially at least, is in the making, which may become a major rift as the French – through EADS – have signed an agreement with the Russian MiG company to develop UCAVs.<sup>104</sup> Given that the Russians are still a major armaments supplier to the Chinese, one cannot imagine the US being anxious to share their technology with the British if they are working with the French in this area.

Back on the ground, to the basic personal weapon, currently the British Army is equipped with the much-maligned SA80, which was phased into service between 1986 and 1993. It has since been modified and will remain in service for some time but, in due course, it will require replacement. However, the manufacturer was the then state-owned Royal Ordnance which has since been acquired by what is now BAE Systems. Production facilities have been closed down and its ownership of the small arms manufacturers, Heckler & Koch has been divested to Heckler & Koch Beteiligungs GmbH, located in Oberndorf, leaving the UK without an indigenous small arms manufacturer. There seems a high probability, therefore, that in a decade or so, when the MoD looks for a new weapon, it will be both designed and manufactured in Europe.

Similarly, although a ten-year contract for small arms ammunition was awarded to BAE Systems in 1999, under a “Framework Partnership Agreement”, there seems to be no bulk ammunition manufacturer in the UK either. Even for our most basic requirements, we seem to be reliant on foreign manufacturers.

Going up the scale, the Army is to be equipped with the short-range anti-tank missile known as the “Next Generation Light Anti Armour Weapon”. It is of Swedish design, from Saab Bofors Dynamics, manufactured in “collaboration” with British companies. French owned Thales Air Defence is the major UK partner. The procurement contract was announced in 2002 and the weapon is due to enter service in 2006/07.<sup>105</sup>

The medium range weapon seems to defy the trend. This is the US-designed Raytheon/Lockheed Martin “Light Forces Anti-Tank Guided Weapon System”, known as the Javelin. It was first issued to US forces in 1996 and ordered for the Army by the MoD in January 2003, to replace the 20-year-old Milan missile.<sup>106</sup>

Nevertheless, the Javelin was chosen only after the failure of “Trigat”, a European missile programme initially involving France, Germany and the UK, with Belgium and the Netherlands joining later. Developed by the Euromissile Dynamics Group, a consortium of companies from the three nations, by June 1999 substantial delays had been experienced. Although the UK was prepared to proceed to production, other partners did not and, concerned that the UK would be dangerously exposed when Milan stocks ran down, in July 2000, the MoD reluctantly withdrew from the project, sustaining a loss estimated at £109,314,000.<sup>107</sup> With that, the MoD had no option but to buy an off-the-shelf system, leaving the Army without a missile for nearly six years.

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<sup>103</sup> *DefenseNews*, *op cit*.

<sup>104</sup> *Defense News*, 22 August 2005.

<sup>105</sup> [http://www.mod.uk/dpa/news/pn2002/may02/anti\\_tank.htm](http://www.mod.uk/dpa/news/pn2002/may02/anti_tank.htm)

<sup>106</sup> <http://www.army-technology.com/projects/javelin/>

<sup>107</sup> *Hansard*, 28 Jul 2000: Column 913W; [http://www.mod.uk/linked\\_files/dpa\\_ar2001\\_notes\\_to\\_agency\\_accounts.pdf](http://www.mod.uk/linked_files/dpa_ar2001_notes_to_agency_accounts.pdf)

Nor indeed was this the full extent of the loss. Another project in the same stable was a missile system to arm the UK's Apache attack helicopters. Instead of the battle-proven US-built Longbow/Hellfire Weapons Systems, the MoD had decided to go "European" and procure the LR (Long Range) Trigat. That project also collapsed, with an estimated loss of £205,010,000, when the MoD finally decided to go ahead with the US weapon. Altogether, therefore, the grandiose project cost the British taxpayer over £314 million.<sup>108</sup>

For the Army's heavier weapons, the MoD is working on a re-equipping the artillery through a programme named the Future Artillery Weapon Systems. This includes "next generation weapon platforms", target acquisition systems and complex software designed to interact with the whole system." The programme involves a 10-year equipment budget of some £1.5 billion spread across some 15 different projects.<sup>109</sup>

Some equipment, such as a targeting system which is to be integrated into Bowman, and rocket artillery, has already been selected. Contracts have been awarded to US firms as there are no suitable European products available. Not so the gun, however, a light, 155mm howitzer. In 1998, the UK entered into co-operation with the US on their howitzer development, "to allow us to benefit from information generated by the US programme". The howitzer was then expected to enter UK service in 2007.<sup>110</sup> In the year 2000, MPs were told that "the United Kingdom continues to work closely with the United States..."<sup>111</sup> but by early 2004, references to the United States were omitted with no decision expected before 2006.<sup>112</sup> Meanwhile, trade sources were openly stating that the French-built "Caesar" howitzer was being evaluated for the British Army.<sup>113</sup>

As to the ammunition, a project team is working on "smart" munitions and another has been assembled to deal with Guided Artillery Ammunition (GAA). This comprises the US Giant, Raytheon, Royal Ordnance Defence, and the German defence contractor, Rheinmetall.<sup>114</sup> One of the favourites is the SMART 155 shell produced by GIWS – a Nürnberg-based subsidiary of Diehl Munitionssysteme and Rheinmetall DeTeC.<sup>115</sup>

Another of the 15 projects is the Mobile Artillery Monitoring Battlefield Radar. This has been built by the Swedish electronics giant Ericsson and mounted on a Swedish Hägglunds BV 206 vehicle.<sup>116</sup> Then there is COBRA (COunter Battery RADar), a collaborative programme between Germany, France and the UK. The radar is being built by Euro-Art in Munich, Germany and the first deliveries were made to the French Army in 2004.<sup>117</sup> The MoD aims to acquire up to ten sets, at a cost of "at least" £10 million each.<sup>118</sup> The National Audit Office puts the cost at £177.8 million, a unit cost of at least £17.8 million.<sup>119</sup> By contrast, Indian armed forces purchased eight of the equivalent

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<sup>108</sup> *Op cit.*

<sup>109</sup> <http://www.mod.uk/dpa/ipt/faws.htm>

<sup>110</sup> *Hansard*, 4 Feb 1999; Column: 740.

<sup>111</sup> *Hansard*, 7 Apr 2000, Column: 603W.

<sup>112</sup> *Hansard*, 9 Feb 2004; Column 1174W.

<sup>113</sup> <http://www.defense-update.com/products/c/caesar.htm>

<sup>114</sup> <http://defence-data.com/eurosatory2002/page1001.htm>; <http://www.rps.com/products/gaa/>

<sup>115</sup> <http://www.defense-update.com/products/s/smart.htm>

<sup>116</sup> [http://www.mod.uk/dpa/news/pn2004/jan04/battlefield\\_radar.htm](http://www.mod.uk/dpa/news/pn2004/jan04/battlefield_radar.htm)

<sup>117</sup> <http://www.eads.net/frame/lang/en/1024/content/OF0000000400004/0/31/29615310.html>

<sup>118</sup> [http://www.dr.mod.uk/info\\_cobra.htm](http://www.dr.mod.uk/info_cobra.htm)

<sup>119</sup> [http://www.nao.org.uk/publications/nao\\_reports/00-01/0001300.pdf](http://www.nao.org.uk/publications/nao_reports/00-01/0001300.pdf)

Raytheon Firefinder systems for \$140 million (£77m), suggesting that the UK could have acquired ten sets for £96.3 million, at a saving of £81.5 million.

Nor has Royal Navy escaped the “curse” of Europeanisation. One striking example is the “Common New Generation Frigate” – the so-called Horizon project - a collaboration between France, Italy and the UK. Formalised in 1992, the UK eventually pulled out in April 1999 after failure to agree a common specification, the “unfocussed management” and the high price,<sup>120</sup> with an estimated loss of £537 million.<sup>121</sup>

The project had its genesis in 1985, with the ill-fated Nato frigate replacement programme, which was abandoned in the early 1990s, after US and the UK had withdrawn. The then Conservative government set up the Horizon project, made up of two separate but linked components – the basic platform (ship), and the missile/radar complex. The platform was a common venture, and the British elected to design their own radar, but the missile system – known as PAAMS (Principal Anti-Aircraft Missile system) – was to be French-built. The system comprises two parts, the missile itself, called the Aster, and the “Sylver” launcher. Aerospatiale Matra is responsible for the missiles and Alenia Marconi Systems for the launchers, actually built by DCN of France.

When the UK pulled out of the platform component, it continued with PAAMS. Because it was still committed to the missile system, there was no prospect of collaborative development on the platform. By default, the MoD was left with no option but to commission a British design. A “fixed price” contract was awarded to BAE Systems in April 2000 for twelve Type 45 Destroyers, scheduled to enter service by the end of 2014, the entire programme budgeted at about £6 billion, including PAAMS.<sup>122</sup> Over term, however, considerable delays occurred and the first ship is not due for commissioning until September 2008. The MoD has only confirmed orders for six ships and the Defence Procurement Agency puts their price at £6 billion, double the original cost.<sup>123</sup>

In theory, the Aster missile is the most advanced in the world and the combination of the British radar and the missile gives the ships world-beating performance. But they are designed to deal with advanced Soviet systems which were on the drawing board when the Aster was first envisaged, but since have not materialised. Existing systems are more than adequate to deal with any known threats. Against that, is the proven US system, the world-class AEGIS Combat System based on the Arleigh Burke DDG-51 platform, of which over 50 models have been built, making it a mature and trouble-free alternative.

As importantly, the current French launch system is capable of handling only anti-aircraft missiles. The US system can also fire Tomahawk cruise and ASROC anti-submarine missiles, making the Arleigh Burke class truly multi-purpose. Yet, to save money, the Type 45s are not to be fitted with Sonar detection equipment. Our Navy is to be equipped with a single-purpose ship which, in a campaign where there is no significant air-threat, will be of little use. Purchase of the US ships, at a cost of £600 million per platform, would have saved the British taxpayer £2.4 billion and given a better all-round capability.

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<sup>120</sup> <http://navy-matters.beedall.com/cngf.htm>

<sup>121</sup> [http://www.nao.org.uk/publications/nao\\_reports/9900613full.pdf](http://www.nao.org.uk/publications/nao_reports/9900613full.pdf)

<sup>122</sup> <http://www.baesystems.com/programmes/sea/type45/newsarchive/200400news1.htm>

<sup>123</sup> <http://www.mod.uk/dpa/projects/type45.htm>

Finally, in this section, we return to an issue with which we started: military doctrine. In December 2004, the Belgian Royal Institute for International Relations published a report entitled: “Audit of European Strategy”. Amongst other things, its authors took the view that:

In order to increase the harmonisation of doctrine among EU members, a doctrine centre is necessary. A European Defence College could bring together military and civilian personnel from all EU countries in order to promote a common strategic culture that incorporates new doctrines and concepts. A common culture is also an indispensable component of a common strategy for Europe. Since European operations do exist, a common doctrine should underpin them.<sup>124</sup>

In fact, this had already been decided by the WEU Assembly sitting on 3 December 2003. Reacting to a report arguing for the development of a “security and defence culture in the ESDP,”<sup>125</sup> it unanimously adopted a recommendation that the EU should:

Engage in an active policy of exchanges between European military schools, and establish a European defence college with a multinational, joint services intake with the aim of promoting higher training for officers and developing a common approach to a civil and military response to operations conducted in the ESDP framework.<sup>126</sup>

Then, on 13 June 2005, the General Affairs Council – in between “shelving” the EU Constitution - agreed the Presidency report on the ESDP. Marked “*limite*” (and made public only by the Danish parliament),<sup>127</sup> it reported that “EU training in the field of ESDP” was already under way, with courses organised for 2005 to 2007. The pilot “high level” ESDP course ended in March, and an orientation course on the ESDP had also been organised. On that basis, said the report, “the arrangements for the functioning of the European Security and Defence College have been defined. The necessary conditions to establish the College have been fulfilled.”

Churchill who had set such great store in the “interchange of officers and cadets at technical colleges” would have immediately appreciated the significance of this. The EU is fostering its own “special relationship”, spreading its doctrine throughout the armed forces of the member states.

## **Broader political influences**

In addition to the pull of the “Europeanisation” programme, there are other influences at play which are tending to push the UK in the direction of Europe. In this, a single project is coming to epitomise the strains that are emerging, combining all the political and economic elements. That project is the “next-generation” F-35 Joint Strike Fighter.<sup>128</sup>

Led by the US, this is nevertheless a truly international project. In January 2001, the UK signed a memorandum of understanding to co-operate in the development of the aircraft, electing for a short take-off and variable landing variant to equip its two proposed

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<sup>124</sup> <http://ipc.org.uk/fsblob/363.pdf>

<sup>125</sup> [http://assembly-weu.itnetwork.fr/en/documents/sessions\\_ordinaires/rpt/2003/1816.html](http://assembly-weu.itnetwork.fr/en/documents/sessions_ordinaires/rpt/2003/1816.html)

<sup>126</sup> [http://www.assembly-weu.org/en/documents/sessions\\_ordinaires/txt/2003/741rec.pdf](http://www.assembly-weu.org/en/documents/sessions_ordinaires/txt/2003/741rec.pdf)

<sup>127</sup> <http://www.eu-oplysningen.dk/upload/application/msword/dc7f9a09/1003205.doc>

<sup>128</sup> <http://www.jsf.mil/>

carriers. It was joined by Australia, Canada, Denmark, Italy, Netherlands, Norway, Singapore and Turkey.<sup>129</sup>

What makes this aircraft different - and brings it into the realms of high politics – is its extremely advanced computer technology. In this, the design, like that of many modern combat aircraft, is such that it is physically not possible for a human to fly the machine. It relies on a sophisticated computer, which interprets the pilot's commands before transmitting them to the control surfaces – the so-called “fly-by-wire” concept.

The maker of the F-35, the US aerospace giant Lockheed Martin, has taken this concept further and integrated mission functions into the computer system, in effect turning the aircraft into an enormously sophisticated flying computer. Therein lies the problem. To drive a computer requires software and an estimated 2.5 million lines of computer code,<sup>130</sup> increasing eventually to 4.5 million<sup>131</sup> – the so-called source codes - have to be written to make the system operable. For security and obvious economic reasons, the manufacturers (and the US government) have been unwilling to disclose these codes to their partners in the programme.

On the other hand, potential users, and especially the UK government, are demanding access to these codes, to give them operating autonomy. The analogy is buying a desktop computer – which has an operating system like *Windows* – and being unable to repair it if it goes wrong. That is fine if you can get a “man” in to fix it, but unacceptable if it drives combat-critical systems which are under the control of another nation. There is also the possibility – some think likelihood - that the software contains embedded “sleeper viruses” which can be activated by remote control (over a satellite link) to make an aircraft inoperable in the event of it being used for purposes of which the US government does not approve.

At the British end, the CEO of BAE Systems, which is the industrial development partner, noted: “It is fundamentally important for UK sovereignty that technology transfer should take place related to the JSF to ensure that the UK has the ability to provide sovereign support and to maintain and upgrade the aircraft during its long in-service life.”<sup>132</sup> A £2.6 billion project (\$4.9bn) for 150 aircraft at risk, British officers were also worried. “With any airplane in my inventory, I need the capability rapidly to modify for different circumstances, whether it be its software or hardware,” said Air Chief Marshall Sir Brian Burridge, head of the RAF's fighter force.

Time is now running out. The development phase is coming to a conclusion and JSF partner countries must place orders for the aircraft by late 2006. Without release of the source codes, there is a possibility that the UK will pull out of the programme altogether, with catastrophic results for the aircraft carrier project. Having already retired her ship-borne Harriers, there is no ready replacement. The only possible alternative is the *Rafale*, which has been selected to equip the new French carrier.<sup>133</sup>

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<sup>129</sup> <http://www.airforce-technology.com/projects/jsf/>

<sup>130</sup> <http://www.ausairpower.net/Analysis-JSF-May-04-P.pdf>

<sup>131</sup> [http://www.aviationtoday.com/cgi/av/show\\_mag.cgi?pub=av&mon=0903&file=0903jsf.htm](http://www.aviationtoday.com/cgi/av/show_mag.cgi?pub=av&mon=0903&file=0903jsf.htm)

<sup>132</sup> *DefenseNews*, 27 June 2005.

<sup>133</sup> [http://www.rafale.com.sg/body\\_rafale.html](http://www.rafale.com.sg/body_rafale.html)

While manufacturers on both sides of the Atlantic are keen for the F-35 project to continue, however, the US Congress is less than sympathetic. It is more concerned about European links with China. Despite an EU arms embargo imposed in the wake of the 1989 Tiananmen Square massacre, there is substantial evidence of European armament companies – including British – continuing to sell arms to China.<sup>134</sup>

In October last year, after the EU signalled its intention to lift the arms embargo, Congress refused to allow President Bush introduce a “waiver” to the “International Traffic in Arms Regulations” that govern the issue of export licences for military equipment (including dual-use technology). This was originally included in the 2005 Defense Authorization Act, which agrees the defence budget, but both Houses refused to pass the Bill until the “waiver” had been stripped from it.<sup>135</sup>

The campaign against the “waiver” had been led by Rep. Duncan Hunter, chairman of the House Armed Services Committee, and Rep. Henry Hyde, chairman of the House International Relations Committee. Hunter was particularly concerned at “...the porous nature of the system in which front companies and unscrupulous individuals move technologies to people who one day may be trying to kill not only Americans on the battlefield but Brits and Aussies.”<sup>136</sup>

The British House of Commons Defence Committee regarded the “waiver” as the “touchstone for our relations with our closest ally”.<sup>137</sup> But, with arms manufacture increasingly becoming an international enterprise, and with UK firms and government involved in more and more European projects, the US is finding it increasingly difficult to separate British projects that utilise sensitive US technology from projects involving EU partners and, through them, their technology partners.

Not least of those is Galileo. On 30 October 2003, the EU signed a €200 million partnership deal with China, having also inaugurated the “China-Europe Global Navigation Satellite System Technical Training and Co-operation Centre” (CENC), the previous month.<sup>138</sup> On a project, which has profound military and strategic implications, the EU is formally co-operating with a strategic rival and a potential enemy of the USA. And the UK is an equal partner in the Galileo project.

The Galileo funding paradigm has more profound implications. At a recent Heritage Foundation seminar in Washington, Yossef Bodansky<sup>139</sup> observed that, while EU military appetites for new and increasingly expensive hardware matched those of the United States, member states were unwilling to fund it. China, on the other hand, was hungry for new military technology and was willing to enter co-operative arrangements with the EU, of which the Galileo programme is a model. China, he suggested, would become a paymaster – and beneficiary – of the project to equip the European Army.<sup>140</sup>

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<sup>134</sup> <http://www.sipri.org/contents/expcon/2005-0601chitechtransfer.pdf>

<sup>135</sup> *DefenseNews* 11 October 2004.

<sup>136</sup> *Ibid.*

<sup>137</sup> <http://www.parliament.the-stationery-office.co.uk/pa/cm200203/cmselect/cmdfence/694/694.pdf>

<sup>138</sup> <http://europa.eu.int/rapid/pressReleasesAction.do?reference=IP/03/1461&format=HTML&aged=1&language=EN&guiLanguage=en>

<sup>139</sup> Former Director, Congressional Task Force Against Terrorism and Unconventional Warfare.

<sup>140</sup> <http://www.heritage.org/Press/Events/ev062805a.cfm>

All of this makes the US increasingly reluctant to share technology, yet, without this sharing, co-operation will be increasingly difficult. Moreover, Britain is increasingly seen as an integral part of Europe, rather than a separate entity, and is being treated as such, instead of being afforded special status. As the US treats the UK more like the rest of the Europeans, the more “European” Britain tends to become.

## Discussion

The reality that emerges from this study is that, through this piecemeal implementation of measures, the UK’s armed forces are being harmonised and integrated with those of EU member states. Prior to the 1998 St Malo summit, Britain was still actively engaged in major hardware development partnerships with the US, and was still buying key weapons systems from the US. Since St Malo, most of those partnerships have been terminated. Most new weapons systems have been of European design and, mostly, manufacture. The only US systems being purchased are those where European manufacturers are unable to supply alternatives, or where they must fit with existing equipment, such as Bowman.

Such evidence contradicts ministerial statements reaffirming the UK’s commitment to Nato and the United States. Actions speak louder than words and cannot be so easily blurred. To that extent, integration is being implemented by stealth, amounting to a “secret” realignment of UK defence policy.

At the current pace of procurement, in a little over two decades, most of the major systems in service will be European and very few – possibly including the Joint Strike Fighter, if that project survives – will be of US origin, apart from “legacy” platforms such as the Chinook and Apache attack helicopters. Bowman-related systems will continue in use, but only because development had gone too far to be stopped. British forces will have become wholly integrated into the European Rapid Reaction Force - the New European Army.

This realignment is not without its financial costs. Withdrawal from FSCS cost £131 million, cancellation of MRACV another £48 million and Trigat over £314 million. To this must be added the £126 and £81.5 million “premiums” for the Panther and for Cobra, plus the £537 million costs of the abortive Horizon project, and the excessive cost of the Type 45 project. Then there is the purchase of 900 Storm Shadow/Scalp EG cruise missiles for £981 million (at over £1 million each), when the purchase of the US of the Joint Air-to-Surface Standoff Missile at \$300,000 each would have saved over £830 million.<sup>141</sup>

If the British contribution to Galileo is added – which must be more than £400 million – and the excess costs arising from Meteor, in the order of £900 million, known costs of either withdrawing from US projects or paying for failed, overly expensive (or unnecessary) European projects exceeds £5.8 billion. Furthermore, the UK will be committed to funding the “7<sup>th</sup> Framework” research programme, its defence spending contribution being in the order of £120 million.

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<sup>141</sup> PQ: Hansard, 16 July 2002. Col. 155W; [http://www.fas.org/man/dod-101/sys/smart/docs/n19981120\\_981805.html](http://www.fas.org/man/dod-101/sys/smart/docs/n19981120_981805.html); [http://en.wikipedia.org/wiki/Storm\\_Shadow](http://en.wikipedia.org/wiki/Storm_Shadow)

Then, crucially, there is FRES. The estimated cost is £14 billion, with which the MoD aims to equip three Brigades at £4.6 billion each. On the other hand, the US intends to spend \$120 billion to equip 36 FCS Brigades - £1.8 billion each. Thus, the UK is paying two-and-a-half times more than the US for formations that will not be as well-equipped. The £8 billion plus difference, plus the £5.8 billion lost on other projects, making nearly £14 billion in all, is the hidden cost of Europeanisation.

As to strategic independence, the memory of the 1991 Gulf War lingers, when the Belgians refused to deliver artillery shells to the UK. The “Framework Agreement” recognises this problem and formalises assurances on security of supply, but these are not to be relied upon. In the raft of Commission proposals on the European defence industry are suggestions that the Community should absorb into the *acquis* the power to control intra-community movements of military products.

If this should come to pass, transfers of military equipment between member states will be governed by EU law, over-riding the “Framework Agreement”. The Commission could then prohibit member states from sending war material to the UK, making Britain entirely dependent on her European “partners”. The UK will no longer be able to operate independently as a military power or alongside the United States as a military ally. It will be irreversibly committed to operating within a framework defined by European Union interests. The “special relationship” will be over.

In all this, though, there is one huge *caveat*. The final schism between the UK and the US is decades away. Strangely, the delay will be caused by Bowman which permits interoperability with US forces. Only now being introduced into service, it is expected to last at least 20 years and is far too costly to retire prematurely. As long as the system remains in use and as long as US equipment does not develop in a way that basic interoperability is lost, limited theatre co-operation remains possible.

However, Bowman essentially took 20 years to develop, so planners should already be looking, in general terms, at its replacement. Herein lies the danger. While British authorities may not be so doing, the European Defence Agency is: the hyperactive Nick Witney’s first priority is battlefield communications.<sup>142</sup> Soon a European standard – and then project – will emerge. For it to become the British option, only inertia is required. When the time comes for replacement, the option again will be the US or Europe. With so much British equipment already European, the choice will be virtually automatic. In other words, defence integration will continue unless a decision is taken to stop it.

For Britain, which has always seen itself as the bridge between America and Europe, it is now in the metaphorical position of standing at the centre of Tower Bridge, just as the bridge is being raised. Actually, the metaphor fails. Britain has already leapt to the illusory safety of the European side, but the gap is still narrow and decisions can still be reversed. Soon, however, the distance will be too great and we will, to mix metaphors outrageously, find ourselves on the wrong side of the hill.

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<sup>142</sup> [http://www.forum-europe.com/index.html?http://www.forum-europe.com/news\\_detail.asp?ID=171&frame=yes~main](http://www.forum-europe.com/index.html?http://www.forum-europe.com/news_detail.asp?ID=171&frame=yes~main)