

Debate: Is Digitisation Dead?

In our last edition we published a contentious paper by Dr Jim Storr entitled 'The Failure of Digital CIS', and this was accompanied by papers from five experts commenting on and extending Storr's arguments. Since these papers were published, two more experts have given us their views – one rejecting Storr's arguments that there has been human failure within the digitisation programme, and the other extending the debate on the human aspects.

Confusing Land Digitisation with Bowman

From: David Lynam

Head of Information Services Department in the Government Communications Bureau and former Director of Equipment Capability (CCII) in the MoD.

With the exception of Brigadier Andy Bristow, the authors of the series of articles concerning Land Digitisation in the October 2009 issue of *RUSI Defence Systems* make the common mistake of confusing Land Digitisation with the Bowman Programme. Land Digitisation required much more than Bowman and Bowman was very much more than just a radio programme. It is true to say that the majority of the £4Bn quoted for Land Digitisation was for Bowman, but also that the smallest proportion of that money went on the actual radios.

Contrary to the suggestion from Dr Storr, the issues of Bowman and Land Digitisation were all around technology and finance

Contrary to the suggestion from Dr Storr, the issues of Bowman and Land Digitisation were all around technology and finance, and as critical subsets and consequences, risk and integration issues. It was these pressures which drove the human component of acquisition, not, as seen through the blurred vision of 20/20 hindsight, some inadequacy or timidity of the staff concerned. By the time Bowman was re-competed, it had already been decided to roll up the Vehicle Internal Communications Distribution System (VICDS), the Vehicle External System (VEDS), and the User Access Terminal into the project such that it now became a major vehicle installation programme with tens of thousands of vehicles and hundreds of installation variants. It required, over four years, to have over one third of the Army out of the order of battle (ORBAT) at any one time, such that Ministers were asked to accept there would be no major deployment during the period of installation. The fact that installation has been achieved whilst two major operations have taken place is close to miraculous.

Risk and Cost

It is not surprising that at the time the system was risk averse, as the immense risk in this undertaking had already raised costs to such an extent that the proposal on the table before re-competition was for a 'Bowman Lite', which would have provided considerably less capability than that currently delivered and now considered inadequate. The only way the project could be brought under control was by the 'evil' spreadsheet of delivery, and nailing the risk elements.

We had to draw the line in the sand somewhere and just get on with it. That is the true human component of Defence Acquisition

Of course we knew that the Army had no idea how many vehicles of what type it owned and that projects such as Battle Group Thermal Imager had to integrate and had their own project plans (I personally sat with the project managers of both) – but we had to draw the line in the sand somewhere and just get on with it. That is the true human component of Defence Acquisition, to actually have to make the tough risk-based decisions with a huge range of competing factors and be held to account for them at the time.

Dr Storr makes the point at the end of his piece that to recognise that what can go wrong will go wrong is the first step – the first step to what? Those of us who have had to make these decisions daily acknowledge this truism, but also have had to find a pragmatic way forward despite it. To have lived the time is to know it.

Whilst Bowman had a budget, as described above, this was under intense scrutiny as the costs kept rising. Falcon – actually the key element to Land Digitisation as the digital replacement for Ptarmigan and the true data hauler between Corps and Brigade – was largely unfunded and there were huge competing priorities from more conventional Army weapon system programmes (many of which either no longer exist or still have not come to fruition).

Selling the Concept

So, did we oversell the concept to keep our funding when even the bedrock project Bowman was under pressure? In part, yes – it was what had to be done. Easy to dismiss as politicking now, but at the time, and I would argue it is still true today, we believed that Land Digitisation as a concept was the right way to go. Did the operational analysis (OA) stand up? No, not in detail, but it is not surprising that an HQ which had perfected map and pencil over decades would not easily move to a digital way of working overnight or even over the duration of several exercises – even the US DOD reports stated that Digitisation did not make a bad HQ good, as it tended to drown in data.

Yet the principle that Land Digitisation is the right way to go, clearly articulated by Andy Bristow, remains sound – to connect weapon systems to sensors to command systems and across nations to give better situational awareness and hence better and more timely decision-making. It is currently proving its worth in Afghanistan and, frankly, if overlays were sufficient, just why is Blue Force Tracking so important? The fact that High Capacity Data Radio (HCDR – a misnomer recognised at its inception) is not providing this only adds to the evidence of how technology was and remains a key factor in this equation.

Geeks and Users

Lastly to one of the key tenets of the range of articles that “fair cop it was the geeks wot done it and us poor army blokes was stitched up”. Nothing could be further from the truth as the Army and the fighting services were in complete control. The one exception is a little remembered part of the Bowman project, in which the Personal Role Radio (PRR) was spun out of the project by some inspired Joint techies and delivered in rapid time whilst ignoring the protestations of the Director of Infantry who wanted the NBC detector placed where the PRR sits on the body armour of today.

Nothing could be further from the truth as the Army and the fighting services were in complete control

GP3 was the epitome of best practice with spiral development controlled by extensive user groups. Of course we considered closing it down, but it represented a major step forward in the understanding of C2 requirements within the land battlespace. The problem that it suffered was that it was developed separately from the infrastructure upon which it was to run, and it was just not possible to size the infrastructure as we were still developing our approach to applications and hence their demand for such requirements as bandwidth

and processing power. Yet again we had to move forward, accept that the laws of physics constrained what Bowman, with all its variants including HCDR, could deliver and look to other projects such as Falcon/Cormorant and even Skynet, deployed by commanders to whatever level of command, and even equipment platforms such as Watchkeeper, to meet the information exchange requirements. It was this issue of the complexity and the limitations of IT infrastructure where the concerns of the technologists were not given due weight in the more strategic approach to Land Digitisation. However, the Army was clear on how it wanted to develop the concept, and not incapable of stating its requirements. Far from it, in fact, as the progress Land Digitisation has made since is testimony that the basic underlying doctrinal precepts stand firm.

Technology, risk and finance remain the critical factors and it is up to the human element to chart a path through this maze of complexity

Digitisation Has Not Failed

From my perspective Land Digitisation has not failed, not least because it is still ongoing. I do not know where the idea that it was to be delivered by 2005–8 comes from. It could not be delivered until at least both Bowman and Falcon were in service, and my recollection of the dates showed exploitation of the delivered infrastructure from 2010 to 2015, when many of the weapon and sensors entered service and C2 practices had also evolved. This was to be an evolutionary programme taking opportunities to connect and integrate to operational effect as they occurred. In fact, Land Digitisation and NEC as concepts have made tremendous strides during the last two campaigns. Not, I accept, in the wide and deep Army as envisioned, nor necessarily even with the endorsed equipment, but then what Army equipment programme or doctrine has escaped unscathed from the lessons of recent conflict?

Technology, risk and finance remain the critical factors and it is up to the human element to chart a path through this maze of complexity. What is required is courageous, well-trained career officers, previously proud to be known as the weapon staff, able to make risk-based decisions and made up of all disciplines and with mutual respect, such that a geek with operational experience is as respected as an operational officer with an interest in technology. Study history well and learn the lessons, but mark you do not learn the wrong lessons by not understanding the context or the constraints under which the actors laboured. ■