

UK shines at sim show



The 16th annual International Training and Education Conference and exhibition (ITEC) was held in Amsterdam in April. IAN STRACHAN* reports.

Compared to other countries, the UK had more organisations in the exhibition, more papers in the conference, and more people attending except for the host country. The event was the 16th annual International Training and Education Conference and exhibition (ITEC) which was held at Amsterdam's RAI exhibition centre from 26-28 April. Conference activities included 101 papers presented in four different streams on subjects varying from e-learning through training by simulation, to training in the live environment. Special events included tutorials and presentations on subjects such as data interchange for simulations, training for operational readiness, and training for maintenance personnel. Conference papers came from the UK (40), USA (29), Germany (14), The Netherlands (six) and then France, Czech Republic,

Norway, Canada and Sweden. The exhibition occupied two of the halls at the RAI centre and a total of 143 companies and organisations were represented. Exhibitors included 41 organisations from the UK, followed by the USA (40), Germany (20), The Netherlands (ten), Sweden and Switzerland (six each) and France, rather surprisingly, with only five. Other exhibitors were from India and Turkey as well as European nations. In terms of people participating, the overall numbers at the conference sessions and in the exhibition halls totalled between 4,500 and 5,000 (figures are still provisional as this is written) of which about 34% came from The Netherlands, then UK (28%), Germany (13%), France (8%). Other countries represented included many from western Europe and also others such as Australia, China, Egypt, India, Israel, Japan, Pakistan, Russia,

Singapore and South Korea. They came from no fewer than 56 countries, an impressive number and perhaps indicative of the interest in the subject in many different quarters. These numbers are lower than the sister event held in the USA in Orlando at the end of each year but are respectable nevertheless. It may be that for some people and companies, a smaller, tightly focused event, can be more productive than a larger and therefore a more impersonal one. What follows is a summary and, in particular, only some of the keynote addresses are reported.

US training

Traditionally these events open with a morning devoted to senior keynote speakers who give their perspective on training technology today. The principal speaker was four-star General Donald G. Cook, commander of US Air Force Air Education and Training

Command (AETC). This command has a throughput of some 225,000 students per year and operates 29 types of aircraft that fly about 600,000 hours annually, about 40% of the USAF total. The annual AETC budget is over \$7bn and it operates from about 1,600 sites. These impressive figures show the significance of the presence of its commander at this European training event. General Cook talked of training for very long B-2 stealth bomber sorties such as 44-hour missions that were flown from the USA to targets in Afghanistan. He praised the B-2 flight simulator and said that realistic long-duration simulator sorties had preceded operational ones and had included a 50-hour simulator session. General Cook mentioned the Level D concept and said that it worked in a number of military simulators, such as that for the C-17 Globemaster III (made by Flight Safety International [FSI]). He said that 26 simulator sorties preceded the three air rides needed for pilot qualification on type and it is understood that one of

An estimated 4,500 and 5,000 visitors attended the conference and exhibition.



suited to this area. Another expanding simulation area was maintenance where, as a result, overall training had been reduced by 50% and pass rates improved by 30%.

General Cook said that another advantage of training by simulation was that fewer re-tests were required before passes or qualifications were achieved. Summing up, he said that, as militaries downsized and technologies expanded, it is inevitable that the tasks of the individual would not only have to expand but would become more complex. He concluded by hoping that events such as ITEC would help in training to com-

future there would be fewer aircraft types but these would deliver a greater effect. Future key areas included interoperability and coalition operations. Training would become even more a day-to-day activity of all of the RAF and he said that more traditional mind-sets would have to be changed. Comparing older aircraft with new types such as Typhoon and JSF, older ones were more difficult to fly and operate whereas new ones had fly-by-wire controls and 'carefree handling'. Such future aircraft would need different 'skill sets'. With fewer problems in basic aircraft handling there was opportunity to utilise the

fielded, Tornado GR3 making up the remaining two-seat 30%. AVM Ponsonby suggested that any slack in pilot workload should be taken up by cognitive skills and more perception of the battlefield situation. He said that simulation could help in training for this future situation. In general, more synthetic training would be used, ranging from aircrew selection to front line. "Synthetics will play a huge part in the future," he said. This would include mission rehearsal and the simulation of enemy forces to understand their capabilities and counter them. AVM Ponsonby concluded by saying that the RAF of the future would be highly involved in simulation technologies. In this context, the author attended a conference in London in February on military flight training and RAF Typhoon conversion was said to involve 55 hours flying and 62 hours simulation, a simulator-to-aircraft ratio of 53/47%. What the steady-state front line Typhoon squadron simulator-to-aircraft ratio would be in peacetime training remained to be seen but was almost guaranteed to be higher than in the past.

Sim maker viewpoint

Evans and Sutherland (E&S) vp sales and marketing, David B. Figgins, gave a manufacturer's viewpoint (E&S, based in Salt Lake City, is a leading company in the image generation and visual database area). Figgins said that export controls had proved to be a real pain, particularly when several nations were concerned in the manufacture of hardware and the production of software including databases. US rules on simulator databases were said to be restrictive even when the database origins was from another nation and a US company was simply doing work on it. Slow security clearances were criticised and a typ-



General Cook speaking at the show.

these is on the 'jump seat' rather than at the controls. He said that this training led to 199 out of 225 C-17 pilots (88%) passing qualification tests at the first attempt.

On non-pilot aircrew training, navigators were being replaced by combat weapons officers and he said that simulator training was particularly

but the threats of the 21st century and to manage change in what he considered to be the vital elements of personnel, technology and doctrine.

UK perspective

Air Vice Marshal John M. Ponsonby, AOC Training Group, gave an overview of future RAF training. In the

spare mental capacity of pilots in the air.

Another difference was that Typhoon and JSF were single-seaters whereas current Tornados were two-seat. The RAF fighter and ground attack front line was only 30% single-seat now due to the Harrier but would be 70% in the future after Typhoon and JSF were

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ical figure for the USA was said to be of the order of 12 months. These were complicated by the fact that officials in the security clearance process had little idea of what was involved in the modelling, simulation and database areas and, therefore caused unnecessary delays in such clearances.

It was very disappointing that the USA had to withdraw their simulation assets from the NATO First WAVE (Warfighter Alliance in a Virtual Environment) distributed simulation exercises in 2004. Also, at the RAeS May conference on Networked Simulation, it emerged that the reason for the absence of US simulators was that the US found that they had several security accreditation authorities for such simulations. This could not be rationalised in the time available, for use with non-US participants. I understand that this is now being corrected and it should be emphasised that the US contributed to First WAVE in other ways and that it was a highly successful exercise. Figgins also suggested that embedded training in front-line vehicles would also cause security problems because of the sensitivity of vehicle systems and their employment. In terms of procurement and acquisition programmes, the security agencies preferred fewer companies involved in individual bids. There could be a natural security reaction but was unfortunate in terms of what groups of companies could offer to the potential customer.

Figgins said that private finance initiative (PFI) projects could be cumbersome if there were a future need for rapid



Eurofighter Typhoon training aids shown at ITEC: EADS (Munich) flight training device.

change of aspects such as database location (new threat area), weapons, tactics and so forth. The author suggested that the potential for such changes needed to be built in to the original PFI contract. Another problem for potential contractors, Figgins said, was the need to liaise with many different government bodies before their bid could succeed and this was a particular problem with the US DoD. Despite the acknowledged simulation expertise of some well-known international companies, national interests often prevailed and many contracts were awarded to less-than-front-line companies just because they were based in the contracting nation. This was said to dilute front-line simulation expertise (although such companies sometimes produced acceptable results and sometimes caught up with world leaders; and sometimes did not!).

Dave Figgins concluded by saying that more money would help. I was able to suggest during question time that, in view of the vast cost of training using the real vehicle (ship, tank, aircraft) compared to training by simulation (typically 10- to 20-1 for the military, ris-

ing to 42-1 for a Boeing 747), what could be done was to transfer the savings from a small reduction in training on the real vehicle into training by simulation, as long as the Generals, Admirals and bean-counters agreed. Bean-counters would always agree with systems that promised cost reductions. There was really no resistance to this point and it was certainly being done in many areas.

UK wins on paper

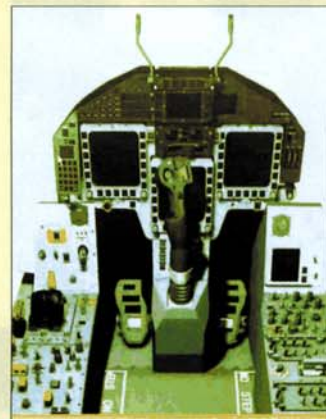
Of the 101 papers in the conference sessions, 40 came from the UK, 29 from the USA, 14 from Germany, six from The Netherlands and five from France. Others were from the Czech Republic, Norway, Canada, Denmark and Sweden. This poses a question over the countries that had



Eurofighter Typhoon flight training device from Reiser Systemtechnik (Germany).

organisations in the exhibition but did not put forward papers. These were Belgium, Canada, India, Ireland, Italy, Spain, Switzerland and Turkey. Particularly, Switzerland had six companies in the exhibition, the same as Sweden, but had no papers in the conference. Companies and organisations taking the trouble and expense of exhibiting should surely also consider submit-

ting forward-looking papers for the conference (which cost nothing for the organisation to submit!) as well as merely manning a purchased exhibition booth, rather than being peer-vetted as were conference papers before being accepted for presentation.



Eurofighter computer-based training by Vega Group (UK).

After a few years of reducing audiences and too many different and sometimes not very popular venues, ITEC seems firmly back on track as the premier non-US event in its field. It is smaller than the equivalent event held in Orlando later in every year, but well complements the US exhibition and conference. Anyone with an interest in simulation and training technology who cannot get to the US event should certainly attend ITEC and, if you can attend both, so much the better. I certainly intend to for the foreseeable future. ♦

***Ian Strachan, FRAeS, is a member of the RAeS Flight Simulation Group Committee. ITEC 2006 will be held at the ExCel exhibition centre in the Docklands area of East London on 16-18 May 2006.**