

## In brief

To subscribe to our range of RSS feeds..... for Tactical Data Links and UAV news, go to [news.synthesys.co.uk](http://news.synthesys.co.uk)

**New Link 22 Training Course and handbook now available....**Contact [tony\\_castle@synthesys.co.uk](mailto:tony_castle@synthesys.co.uk) for details.

**Visit the SyntheSys stand at the IDLS in Copenhagen....**don't miss Jon McDonald-Gibson's presentation on VMF on 19<sup>th</sup> September.

**SyntheSys lead pre-feasibility study into the future of RAF Coltishall....**as an unmanned systems' centre.

**Congratulations to our Senior Consultant David Powell...**who has been awarded Chartered Status of the British Computer Society.

## Something to say?

If you would like to comment on articles in this newsletter, please contact us as shown below :

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# SyntheSys newsletter

## SyntheSys Participated in the NATO C3 Board Exhibition – May 2006

SyntheSys was selected to participate in the NC3B Exhibition – “Information Sharing within a Networked Enabled Environment” – held in NATO HQ at the end of May 2006. Being one of only twenty-eight organisations selected from all those with any connection to NEC within the NATO, PfP and EPAC communities reinforced the growing recognition of the contribution that the Company has made, and continues to make, in the Tactical Data Link (TDL) environment.

SyntheSys exhibited our approach to TDL Interoperability (IO) assurance, called SPIRIT, which draws heavily from the commercial world's systems engineering processes. A TDL is after all a communications system and the commercial world has been producing these systems for many years with remarkable success. Look at the mobile telephone industry and imagine how successful the industry would be if a Nokia (for example) mobile phone could not talk to a Motorola phone (again, only an example). Select any two mobile phone types and the same relationship is valid! How did the industry achieve this degree of IO from the start? The answer is the application of a comprehensive systems engineering practice. SPIRIT ensures the same approach to the TDL environment. Indeed, SPIRIT can be applied to any application or system with complex interfaces.



The Exhibition was open to visitors to NATO HQ which made for even more interesting discussions! The highlight of the two days must be shared between two remarkable events that showed just how far the world has changed in recent years.

On the first day I found myself talking about systems engineering to a gentleman from the Macedonia Mission to NATO. A new definition of IO immediately sprang to mind – an ex-RAF fast jet navigator explaining systems engineering practices and how they relate to TDLs to a Macedonian, with neither fluent in the other's language (perhaps, fluent is too strong a word!) but at the end both managing to understand each other.

On the second day, however, a more earth shattering event happened. Towards midday a

gentleman with a strong Slavic accent came up to us and started to engage us in conversation about who we were and what we did. Starting to talk about TDLs and IO it became clear very quickly that perhaps we did not necessarily comprehend each other. After a short while, that interval being taken up by a quick discussion about Link 16, the gentleman gave us his business card. He was in fact a visitor from ROSOBORONEXPORT - the Russian Defence Export office!

A quick pinch re-assured me that I was still in NATO HQ but a trip to the NATO Information office might be in order!

*Extract from an article by David Clarke. The complete article can be read at: [news.synthesys.co.uk](http://news.synthesys.co.uk)*

## David & the LION



The recent awarding of a support contract to SyntheSys has resulted in one of our employees becoming known locally as 'Mr LION'.

SyntheSys regularly utilises the Link Interoperability Network (LION), on behalf of its customers, to connect a national platform to other national and international platforms for LINK IO testing.

Dave Clifford has been working with LION since 2000 and has amassed a wealth of knowledge about the system operations and capabilities. He produces the Test Plans and Procedures for all the international tests conducted using LION, operates the equipment during the tests and then analyses the results;

in addition he is currently using the LION equipment to test new connection devices which will enable platforms to communicate more efficiently.

“The LION equipment is utilised on the behest of the client to test for potential IO anomalies, gather data on identified problems and to test solutions. In addition, potential anomalies are notified to both national and international platforms to which LION connects, so that these may be rectified.”

## Training Update

The last couple of months have seen us successfully complete both Link 16 and VMF training courses. The Link 16 course in early April at Branston Hall, Lincoln, included attendees from the NATO Programming Centre (NPC), Glons, Belgium. NPC personnel will be responsible for much of the initial testing of the NATO Air Command and Control System (ACCS), which will include an integrated Link 16 capability.

Our VMF course, held at the Institute of Directors in Bristol, between 9<sup>th</sup> and 11<sup>th</sup> May, was attended by individuals from both the RAF and the British army. The updated course was well received, and generated much food for thought.

A VMF based course was also given to members of the Weapons Data Link community at Eglin AFB, Florida, USA.

Applications are now being taken for the following planned courses:

**9-11 October 06 Introduction to Link 16**, Crowne Plaza Hotel, Prague, Czech Republic

**11-13 October 06 Introduction to VMF**, Crowne Plaza Hotel, Prague, Czech Republic

**24-26 October Introduction to Link 16**, Institute of Directors, Bristol

**7-9 November Introduction to VMF**, Branston Hall Hotel, Lincoln

Further details may be found at [www.synthesys.co.uk](http://www.synthesys.co.uk)

Synthesys has also been selected to provide VMF training to personnel from the Australian Defence forces and the German Navy. These courses will be held in Canberra and Koblenz respectively.

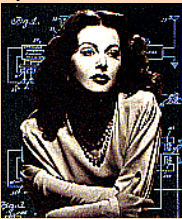
We are pleased to announce that we are now able to offer –

**“An Introduction to Link 22”.**

This newly completed course, which will last 2 days, is available on request. The information, which is based on STANAG 5522 and ADatP-33, will give the student a sound theoretical understanding of this emerging Data Link.

For more details contact Tony Castle on [training@synthesys.co.uk](mailto:training@synthesys.co.uk)

## Data Links Invented by Hollywood Movie Star



**“Any girl can be glamorous,”** Hedy Lamarr once said. “All she has to do is stand still and look stupid.” The film star belied her own apothegm by hiding a brilliant, inventive mind beneath her photogenic exterior. In 1942, at the height of her Hollywood career, she, along with her co-inventor George Antheil, patented a frequency-switching system for torpedo guidance that was two decades ahead of its time!

Hedy Lamarr married Fritz Mandl, the first of six husbands, in 1933. During their

marriage, Madame Mandl was an institution in Viennese society, entertaining foreign leaders, including Hitler and Mussolini. Her husband specialised in shells and grenades, but from the mid-thirties he also manufactured military aircraft. He was interested in control systems and she clearly learned from this.

The idea of radio control for torpedoes was not new, but her concept of frequency hopping was. A patent was granted on August 11<sup>th</sup> 1942.

## How Green is my Office?

The project brief arrived in the traditional manner – down the telephone line. “I want you to write an article for the newsletter. Something funny, serious, pithy, light and non-controversial yet topical with a dash of gravitas and practicality. And nothing that contravenes Health and Safety legislation.”

The clash of requirements was loud across the lands and the delegated author muttered darkly into yet another mug of tea whilst wracking his enfeebled brain. “Aha,” the author thought after a while, “good name for a pop group but no use as an idea for an article. If the joke about the donkey with five legs and a monkey for a wife is no good, what I need is some inspiration. Maybe a mug of green tea will.....” The author’s thought processes ground to a halt as their progress had been blocked by AN IDEA.

“Mmmm, green.” So this article is about how you can lessen the impact of your office on the environment – how you can, with just a little effort, be a bit more green in your approach. Top tip number one - Use paper made from 100% recycled material - it’s fine for the vast majority of jobs around the office. It is marginally more expensive (around 15%) than the cheapest non-recycled papers but think of your grandchildren and not the stationery budget. Then, as sheets of paper have two usable sides, you can use both of them. If your printer doesn’t do back-to-back printing, you can always put the paper back in the printer tray and use the blank side.

I must introduce a note of caution here in that sometimes you need to remember that you have half-used paper in the printer. Having written to complain to the local council about something they weren’t doing, they rang me. I was momentarily impressed until it became clear that they were not concerned with

addressing my complaint, but rather whether I needed the paper back as it had a draft of a letter to my bank manager on the other side. A wank of smugness came down the phone.... If you don’t want to print on the second side, you can always use it for notes, doodles or for that traditional office pastime – the aeroplane. Having covered both sides of it with print/pictures/tail markings, it can then go into the recycling bin or, if you have a real fire at home, onto that. A stack of A4 paper about half an inch thick (1.27cm to those who don’t think in English) tightly rolled along its long edge and held in place with a small twist of wire glows and chars away quite merrily.

Ah yes – now for the Health and Safety aspect, if you choose to make a paper log and put it on a fire, please remember to let go of it.

Extract from an article by Mark Chappell. The complete article can be read at [news.synthesys.co.uk](http://news.synthesys.co.uk)

## Vikky’s Victorious!

Race for Life is the UK’s biggest women-only fund-raising event and takes place in various locations throughout the UK every year. 5482 women came together and walked, jogged or ran the 5km course at Worcester to raise money for Cancer Research UK. £330,000 was raised from the Worcester race alone.

Vikky, who recently underwent a knee operation, did not let this stop her when her daughter challenged her to take part in the Race for Life.

Together they raised £520! Well done Vikky.



## Competition Winner

Tom Saunders of WBDA won our competition with the limerick below, receiving £50 for the charity of his choice.

‘There was a consultant named Fred,  
On military matters well read,  
From pilotless flight  
On planes built to fight  
To Star Wars defence it is said.’

## Quotation Corner

Ex- President Ronald Reagan:

“I used to say that politics is the second oldest profession, and I have come to know that it bears a gross similarity to the first.”

## Diary Dates

**11 July: IDLS UK Chapter Meeting**

**13-14 July: UV Europe 2006, London**

**17-23 July: Farnborough International Air Show**

**2-6 August: Autonomous Underwater Vehicle Competition, California, USA**

**29-31 August: Unmanned Systems North America**

**19-21 September: International Data Link Symposium, Denmark**

**9-11 October: Introduction to Link 16, Czech Republic**

**11-13 October: Introduction to VMF, Czech Republic**

**24-26 October: Introduction to Link 16, UK**

**23-26 October: EJCC #7, Germany**

**9-11 November: Introduction to VMF, UK**

**14-15 November: Heli-Power 2006, London**

**27-30 November: 25<sup>th</sup> Army Science Conference, USA**

For more information, see [info.synthesys.co.uk/events](http://info.synthesys.co.uk/events)

## Web Links

**Training Venues:**  
[www.crowneplaza.cz](http://www.crowneplaza.cz)  
[www.branstonhall.com](http://www.branstonhall.com)  
[www.iod.com](http://www.iod.com)

**Training:**  
[training@synthesys.co.uk](mailto:training@synthesys.co.uk)

**Hedy Lamarr:**  
<http://www.inventions.org/culture/female/lamarr.html>

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