

Inventique®

The newsletter of Wessex Round Table of Inventors

June 2006

10am Friday 23 June INNOVENTION 2006 Intech, Winchester

Next WRTI meeting WEDNESDAY 14 JUNE

Guest speaker Anne Duncan, CEO of Yellowfin Ltd, will talk about the high-tech marine propulsion company in room HC 017, Herbert Collins Building, Southampton Solent University, commencing at 6.30pm.

● www.wrti.org.uk/events
Map: www.streetmap.co.uk (SO14 ORP)

Cheltenham Science Festival

DOZENS OF TOPICS, including the science of Formula One motor racing, the psychology of scientists, and Darwin and Design? will be exhibited or debated at the Cheltenham Science Festival, which runs from 7-11 June.

● www.cheltenhamfestivals.com

PRODUCT DESIGN-FEST

BOURNEMOUTH UNIVERSITY'S four-day *Festival of Design & Innovation 2006* opens on Thursday 29 June with a gala evening hosted by Johnny Ball, the popular television science presenter.

The event gives the region's business and innovation community a perfect opportunity to meet tomorrow's entrepreneurs by presenting the first public viewing of over 150 new designs and prototypes – all with commercial potential. Industries covered include the automotive sector, engineering, environmental, health, household and sport & leisure.

Three's company...

WRTI MEMBERS TO EXHIBIT AT INNOVENTION SHOW

WRTI MEMBERS Andrew Dack, Leigh Heard and Frank Landamore will be displaying prototypes of their product ideas at this month's 15th annual *Innovention* competition and exhibition, which takes place on Friday 23 June at Winchester's INTECH technology centre.

Over 130 exhibitors will present their latest innovative products, processes or marketable ideas at the event, which opens at 10am. A prize pool totalling £20,000 will be awarded to the innovations judged most likely to succeed within the two separate categories for

business entries and lone inventors.

Organised by the South Hampshire Enterprise Agency (SHEA) and open to companies and entrepreneurial innovators from Hampshire, Dorset and the Isle of Wight, *Innovention 2006* is southern England's premier showcase for innovation, providing a unique opportunity to parade new products before the region's investors, customers and media.

First Prize Award winner at last year's show was WRTI member Joe Silver (www.lifelock.co.uk). ■

● www.shealtd.co.uk

Tel: 02392 449449 innovention@sehea.co.uk

All the products are designed by Bournemouth University students as part of their final year projects, and many have been produced using the rapid prototyping facilities housed in the university's Prototype & Virtual Manufacturing Centre (which is also available for commercial use by companies and individuals).

Three recent Bournemouth graduate projects have achieved commercial status with support from the university: the BioLogic ZorinPump™ (sold by Phil Robinson to Dahon California Inc, the world's largest producer of folding bicycles); the LoftLift™ – designed by Dan Quare and currently in development

with Irish-based loft ladder experts Stira; and the Quick Pitch™, a pop-up tent designed by Franziska Conrad and manufactured under licence by outdoor equipment company Gelert.

The Festival runs from Thursday 29 June to Monday 3 July (closed on Sunday 2 July) on the Talbot Campus, and is supported by Aimhigher, Avonwood Developments Ltd, Business Link Wessex, DEK Printing, Hamworthy Plc, the Institute of Directors, Southwest Regional Development Agency and Sunseeker International. ■

● **Admission to the Festival is free, but online booking is required:**
www.bournemouth.ac.uk/festival

Wessex Round Table of Inventors meet at 6.30pm on the second Wednesday of each month at Southampton Solent University, East Park Terrace SO14 ORP

VIEW FROM THE CHAIR

SIR CHRISTOPHER COCKERELL was a classic inventor and had loads of patents, 35 of which represented his significant contribution to the development of radar. As he didn't benefit financially from this, he set up as a boat-builder on the Norfolk Broads – where, in the early 1950's, and with the aid of a vacuum cleaner and a coffee tin, he came up with the idea of a way of reducing friction in water by elevating a boat on a cushion of air. The hovercraft was born.

In a sadly all-too-familiar way, Cockerell had to fight to get his invention of the ground. The government classified the idea and then didn't fund it, so he had to pawn the family silver to make prototypes until he created the first practical hovercraft in 1959.

"Some of the hovercraft saga was fun, but most was incredibly frustrating," he later said. He spent years fighting the government over payments and licences.

In the end, of course, his hard work led to the development of huge, 100mph cross-channel car ferries, patrol craft, marsh and swamp craft and leisure craft (which, rather ironically, sell very well in other countries but are less popular in the UK).

Christopher Cockerell died in 1999, but he's a great inspiration to inventors and a fabulous memorial exists to him in the form of the Hovercraft Museum at Gosport. A group of enthusiasts got together in 1986 at HMS Daedalus and have collected, preserved and restored over 60 craft; some are small, others merely big and a few absolutely enormous. The museum preserves the history of this invention from day one – yes, the coffee tin – to today, and WRTI members enjoyed a great trip there last month (thanks, Warwick!).

Do make a point of visiting on the next Open Days (2-3 September).

Sincerely, Richard

● www.hovercraft-museum.org

RICHARD LITTLE, WRTI Chairman

INVENTORATOR Anne Duncan

Growth culture...

INNOVATION STARTS WITH THE STAFF, SAYS YELLOWFIN'S CHIEF EXECUTIVE



IT IS DIFFICULT for world-class companies to prosper, or for SMEs to survive, without innovation creating the ideal conditions for growth.

My company, Yellowfin Limited, has from the outset tried to instil and incorporate the values of a culture of innovation into its working practices by supporting employees' innovative ideas and encouraging them to be independent and break down barriers to progress.

To ensure that the 20-strong workforce functions as a unified team, forging ahead regardless of obstacles, we have tried to eradicate routines and overlap between departments wherever possible. All employees are involved at the project start and work towards a common objective; they are each given tasks and responsibilities, and targets may be adjusted by majority consent (one of our slogans is: 'Let's not do it your way or my way – let's do it the best way').

The whole team is encouraged to take risks and use innovative processes. Some staff appear more naturally creative than others, but they all contribute to the project and ensure that they 'own' the timescales, deadlines and targets to be achieved.

Ideas without action are worthless, however, and it is not easy to create a no-blame culture: if innovation is to thrive, staff must feel they can make mistakes without

repercussions and reprimands.

The success of Yellowfin's Variable Surface Drive (VSD) and its innovative culture is largely due to the entrepreneurial attitude and unflinching commitment of its founders. The smart drive unit represents a leap forward in technology (it is twice as efficient as the average drive on the market, has pinpoint control and exceptional docking capabilities) and is intended to bring 'fun on the water' within reach of everyone, as well as providing cost, environmental and many other benefits.

The prime driver of Yellowfin's commercial success within its \$6bn addressable market is the strength of its relationships with its customers, distributors, manufacturers and suppliers: they are the key to the company's long-term success. And without excellent communication, marketing strategies and distribution channels, neither innovation nor innovative products would succeed.

Within a five-year product development programme such as ours, one of the biggest de-motivators is the long timescale, of never quite being able to see or reach the final goal: we constantly scale one mountain only to find that others lie ahead. But the analogy is well chosen, because only the extraordinary power of a unified, talented, properly-prepared team which sticks together and keeps going with determination, commitment, patience and endurance will ever reach the top. ■

© Anne Duncan 2006

● Anne Duncan is CEO of Yellowfin Limited.

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DATA PROTECTION ISSUES - 5

Continued from last month

Processing of an individual's data has to be fair and lawful under the Data Protection Act, and there are four golden rules to follow. The most useful conditions, broad enough to cover most business processing activities, are set out below:

Rule 1

A company may process personal data where the data subject has consented to the processing; it is necessary for a company to process personal data for the purpose of entering into, or performing, a contract with the data subject; the processing is necessary to enable a company to comply with a legal obligation (other than an obligation imposed by a contract); or is necessary to ensure that a company complies with a statutory duty (imposed by legislation for instance); or the processing is necessary in the legitimate interests of a company, provided the rights and freedom of data subjects are not prejudiced as a result.

Rule 2

A company may process sensitive data where the data subject has given his or her explicit consent to the processing; the processing is necessary to exercise or perform any legal right or obligation which

ROSANNA COOPER CLARIFIES THE LEGAL POSITION FOR INVENTORS AND ENTREPRENEURS

is conferred or imposed upon the Company by law in connection with employment; the processing is necessary to protect the vital interests of the data subject or another person; the information has been made public as a result of steps deliberately taken by the data subject; the processing is necessary for legal purposes including taking legal advice and establishing, exercising or defending legal rights; or the processing is of information relating to the data subject's racial or ethnic origin, religious beliefs or other similar beliefs, or physical or mental health or condition, and is carried out for the purposes of monitoring equality of opportunity.

Rule 3

Where information is obtained directly from the data subject, the Company must ensure that, so far as practicable, the data subject is provided with, or has made readily

available to him, a data protection notice, which should be provided before any information is obtained.

The data protection notice should describe: the identity of the data controller; the purposes for which the data are to be processed; and any further information necessary in the circumstances to ensure the processing is fair (including a description of any third-party recipients to whom the Company intends to disclose personal data and the purposes for their processing, for instance.)

Rule 4

Where the personal data have been obtained from a third party, the data controller must serve a data protection notice when data are first processed by the controller.

Security Obligations

The DPA imposes stringent security obligations on data controllers. Your organisation is obliged to take appropriate measures to safeguard against the unauthorised or unlawful processing of personal data and against accidental loss or destruction of, or damage to, personal data.

An organisation must also ensure the reliability of staff who have access to personal data, and that they are aware of the requirements of the DPA. ■

Concludes next month

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● Dr Rosanna Cooper is a partner at RT Coopers, a commercial law firm focusing on inventors and business start-ups.

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PROCTER'S GAMBLE

Procter & Gamble has operated one of the greatest research and development operations in corporate history. But as the company grew to a \$70 billion enterprise, the global innovation model it devised in the 1980s was not up to the task. CEO A G Lafley decided to broaden the horizon by looking at external sources for innovation. P&G's new strategy, called Connect and Develop, uses technology and networks to seek out new ideas for future products. "Connect and Develop will become the dominant innovation model in the twenty-first century," according to the authors, both P&G executives. "For most companies, the alternative invent-it-ourselves model is a sure path to diminishing returns."

This excerpt from a March 2006 Harvard Business Review article focuses on the company's assessment of its aging innovation process and the development of the 'Connect and Develop' strategy.

● Source: Harvard Business School
www.workingknowledge.hbs.edu/item.jhtml?id=5258&t=innovation

STARFISH, SEA URCHINS, brittle stars, sea-lilies and sea-cucumbers belong to the family known as Echinoderms. They have a bony skin through which poke large numbers of hydraulic tube feet. When you're down on the beach this summer, turn a starfish over in a rock-pool and you'll see lots of these feet, several millimetres long, waving apparently aimlessly around.

If you leave the starfish long enough, it will curve the tip of one arm round so that its tube feet can attach to the underlying rock of the pool, and pull itself back to its normal position. But try dropping a small piece of food (a winkle taken out of its shell, for instance) onto the tube feet, and you'll see them convey the food to the mouth, which is in the middle of the area where the arms meet. Now drop a tiny stone, or the ex-winkle's shell, onto the tube feet and the tube feet reject it, casting it to one side. Can the tube feet distinguish between food and shell dropped next to each other?

Conveying the concept

These and other observations suggest the concept of a two-dimensional conveyor. With embedded sensors this could be used to sort, dismantle or assemble objects.

It is possible to arrange one-dimensional linear conveyors to distribute objects (though they can't sort or assemble objects). The surface of the conveyor could be made of starfish-like tube feet using composite hydrogels (but possible

only under water and a bit slow); or cylindrical rollers as used in airports for loading cargo into the hold of aircraft; or spherical rollers like computer trackballs; or segments of carpet with the nap pointing in different directions (four segments in a unit with the nap mutually orthogonal – vibrating the segments to make something move in one direction).

Or... develop a Sorting, Transporting And Re-configurable (STAR) carpet.

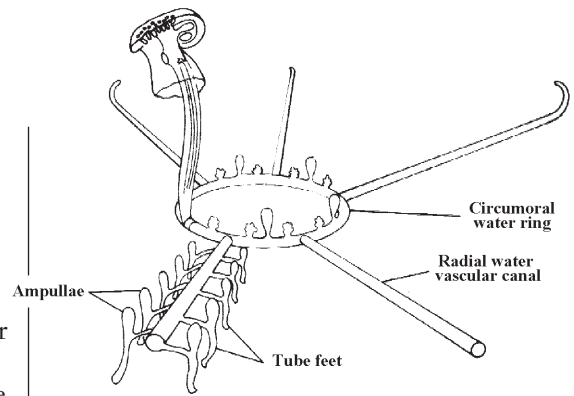
In accordance with Professor Vincent's commitment to the principles of Open Access, the ideas presented here are freely available. In demand as a lecturer and consultant to industry, he welcomes consultation or research enquiries by companies and entrepreneurs.

Adapt and surprise

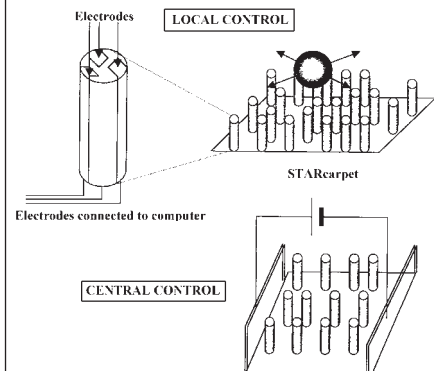
A brief study showed that the STARcarpet takes up much less space than an array of unidirectional conveyors, and is far more adaptable. Adding an extra sorting stream, for instance, requires an extra conveyor belt in a unidirectional system, but needs only a change to the sorting and directions of transport across the

Julian F V Vincent is Professor of Biomimetics at the University of Bath. Biomimetics is the concept of taking ideas from nature and implementing them in another technology, such as computing, design or engineering.

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Above: The hydraulic system of the starfish, showing two rows of tube feet extending down one arm. The ampullae provide local control; there are also muscles in the tube feet.



Above: A gel-based STARcarpet, showing a gel column with three built-in gel electrodes (left), and two ways of controlling the gel columns (right).

STARcarpet – which can be done very quickly and requires no additional hardware.

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ILLUSTRATIONS © / UNIVERSITY OF BATH

NEWS IN BRIEF

● **WRTI INNOVATION AWARDS 2006**, sponsored by the Institution of Mechanical Engineers (IMechE), will be presented for the most innovative final year project at the Project Showcase Exhibition held at Southampton Solent University on Friday 16 June.

Students will be vying for awards in engineering design and product design. The prizes for both categories include a cheque for

£250, one year's free membership of the WRTI, and a scroll to be presented on Graduation Day in Southampton Guild Hall. Deadline for entry is Friday 9 June.

● www.solent.ac.uk

● **WRTI MEMBER BRYAN FLYNN** has received confirmation that his SafeTcone™ invention has obtained Highways Agency approval.

"This is fabulous news, and means so much to us," an exultant Brian

told *Inventique*. "To my knowledge, SafeTcone is the first fully automated cone-laying machine in the world to receive such approval."

● **Brian Flynn, Managing Director SafeTcone Project**
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"No company ever cut its way to greatness" – Sir George Cox

www.wrti.org.uk

THE INVENTORS WEBSITE

CENTRE OF EXCELLENCE Wessex Ventures Limited

Nothing ventured...

REGIONAL PARTNER GUIDING BUSINESS GROWTH

WESSEX VENTURES is headed by a key team of four experienced, successful executives with proven, multi-sector business growth track records – founders Tony Williams and Tim Mynott, Nigel Vaughan and Robert Whitaker all have high-level management skills, experience and expertise, and have all run their own businesses.

The company's services are focused on helping businesses in the so-called 'equity gap' (£100,000 to £1m), from fund-raising and delivering complete business growth solutions (both acquisition- and organic-based), through to selling companies.

Wessex Ventures develop business propositions and prepare investor-ready business plans; find Board support within non-executive director and interim executive roles; generate company assessments and performance enhancement measures;

develop company valuations and sale, and raise capital.

Fund-raising

From early stage ventures through development funding to initial public offerings and rights issues, Wessex Ventures is also skilled at raising larger sums and helping companies achieve an AIM or Stock Market listing.

Fund sources include business angels, investor networks, corporate finance brokers and venture capital firms. The company also works with major banks and the regional development agencies, and is well-positioned to help companies move forward.

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WEBSITE OF THE MONTH

www.tenonline.org

An excellent US site with dozens of informative articles for inventors and entrepreneurs, The Entrepreneur Network (TEN) is a non-profit corporation which has been providing free counselling to inventors and entrepreneurs at pre-startup and early-stage phases since 1988. It differs from most other entrepreneurial websites because its interests tend toward the inexperienced who are trying to start and develop 'lifestyle' business.
Website supplied by Mike Overy.

BOOK OF THE MONTH

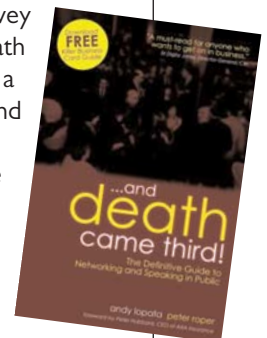
..and Death Came Third!

The Definitive Guide to Networking and Speaking in Public
by Andy Lopata, Peter Roper
Lean Marketing Press 224 pages
ISBN 1905430159 £14.95

A New York Times survey put people's fear of death third after walking into a room full of strangers and public speaking.

"A must-read for anyone who wants to get on in business"

– Sir Digby Jones,
Director-General, CBI.



BUSINESS LINK WESSEX INNOVATION CLINICS

Are you thinking about developing a new product or process? Have you invented something and don't know what to do next? Through its series of free Innovation Clinics, Business Link Wessex provides confidential and impartial guidance on such subjects as investigating an innovative idea, developing a new product or process, working with universities, exploiting inventions and intellectual property rights.

Innovation clinics are held in the Bournemouth, Portsmouth and Southampton regions.

● **Advice Hotline: 08454 58 85 58** innovation@businesslinkwessex.co.uk www.businesslinkwessex.co.uk/events

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