

Inventique®

The newsletter of Wessex Round Table of Inventors

February 2004

Geoff revs up his new diesel engine

LIGHTER, CHEAPER DEVICE SHOULD RUN AND RUN

GEOFF THOMSON revealed details of his latest invention, the Thomson Engine, to fellow WRTI club members at the Southampton Institute last month.

Geoff, who founded Microdata, a company producing portable electronic data-recording equipment, demonstrated a working model of his device, which incorporates unique design concepts to produce a new, lighter diesel engine.

The Thomson Engine is only one-third of the weight of a normal diesel engine, and can be configured so that it is almost entirely free of vibration. Moreover, it is both easier to start and cheaper to manufacture than existing types, has obvious applications in the power-generation and transport industries, and appears a particularly attractive concept for the light aircraft market.

Here is the news

The big surprise came when Geoff announced that in one sense his engine is not 'new' at all: it is a modern variation of the well-known but virtually forgotten free-piston engine. This has been defined as being 'an engine in which the

power is taken out by media and not by shaft'. Geoff demonstrated that this definition can no longer be considered accurate.

It's a gas, man

The free-piston diesel engine concept was developed in 1934 by Raul Pateras Pescara, a Spanish engineer living in Paris. Power for the device came from the exhaust, which was then fed into a turbine. Pescara engines were manufactured by Ford, GM, Renault, Sigma and others.

Pratt & Whitney spent millions of dollars after WW2 developing the concept for aircraft engines, but

Geoff Thomson's revolutionary idea improves the power-to-weight ratio of a diesel engine, greatly reduces its vibration and is cheaper to make.



© MARY THOMSON

without today's more sophisticated electronic control technology the project stalled even before the big gas turbines arrived on the scene.

More recently, work on large free-piston engines rated at 1000hp per cylinder has been undertaken by the Norwegian engineering company Kvaerner ASA.

"I would be delighted to talk to WRTI members wishing to know more about my device," Geoff said. "In total confidence, of course."

The Thomson Engine (patent applied for) is currently being assessed by Trevor Baylis Brands. ■

● **Contact:** old.offlicence@virgin.net

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email: dragonsden@bbc.co.uk

Next WRTI meeting

**WEDNESDAY
11 FEBRUARY**

**Guest speaker
Dave Skertchly
of Product
Technik will
present an
illustrated talk
on composites.**

Wessex Round Table of Inventors meet at 6pm on the second Wednesday of each month at Southampton Institute, East Park Terrace SO14 0RP



VIEW FROM THE CHAIR

I HAVE KNOWN Chris George of Sycamore Innovations Management (SIM) for about five years, so I was not at all surprised at the quality of the WRTI presentation he gave last month illustrating eight projects he is working on with David Croucher, his business partner. The projects were certainly diverse, ranging from a tyre devulcanising machine to a tricycle for disabled children, and from a microwave-powered sludge disposal device to a massive wave energy system.

SIM often use The Virtual Company concept to gain grant aid. Also noteworthy is the fact that Chris is a keen advocate of corporate venturing – what I call the small/big scenario – where the small company uses its skills to take projects to ‘proof of concept’, when it then becomes attractive to a major licensee who will protect it in the marketplace. A truly fascinating talk.

I must also congratulate Geoff Thomson, who gave an insightful presentation on his free-piston engine, adroitly dealing with many challenging questions raised by club members. We all felt this interesting format (of members’ presenting their ideas) should certainly be repeated.

Unfortunately I have to end on a sad note. Many of you remember the presentation given to us in October by Peter Milner, describing his constant velocity transmission system. Tragically, Peter died on Christmas Eve. He confided the terminal nature of his illness to me when he visited, so it was amazingly courageous of him to turn out in such circumstances.

I know the club will join me in offering our most sincere condolences to his wife, Kit, and family.

Sincerely,

David

PROFESSOR DAVID NICHOLAS MBE, Chairman

INVENTORATOR Joff Wild

Licence to succeed

INTELLECTUAL PROPERTY EQUALS SERIOUS CASH

IT WAS NOT the concept of the Dual Cyclone vacuum cleaner that made James Dyson a multi-millionaire, but his decision to bear the cost of taking out patents on his developments. These allowed him to build up his business, then go to court to see off the challenge of rival products.

Now, with core patents beginning to expire, is it any coincidence that Mr Dyson is relocating his manufacturing capability to south-east Asia? As its position changes, his company will soon be facing competition in a market that was previously all its own. When it can no longer shut out rivals, it will be far more reliant on price to maintain market share. And it is far cheaper to make vacuum cleaners in Malaysia than in Swindon.

Deal yourself in

Yet while many have used intellectual property to keep competitors out of markets, it would be wrong to see IP rights as purely exclusionary. For some, the route to success does not lie in keeping their rights to themselves but in licensing them out.

Nowhere has this strategy been more successful than at IBM. The company now generates over \$1.5bn of income a year as a result of licensing out its IP, an estimated 85% of which goes straight to the bottom line. In the UK too, companies can make serious money from licensing. BT, for example, agreed a deal with Silicon Valley-based IP Value in 2001 under which the US company has the sole right to license BT’s patents in the

US. By 2006, the deal is forecast to earn BT \$100m a year.

It is not only the largest companies that can operate in this way. East Anglian company Cambridge Display Technology (CDT), originally spun out from the university in the 1990s and now employing 150 people, owns patents covering technology relating to light-emitting polymers in display applications. Instead of building products itself, however, CDT has chosen to license to others. And, says chief executive David Fyfe, its licensing skills go further still.

“We have managed to negotiate deals with the likes of Seiko, Epson and DuPont which give us the right to sub-license their proprietary technology,” he explains.

This allows CDT to act as a one-stop shop for its customers. It is a huge advantage, Fyfe believes. “There is nothing that intimidates companies more than having to negotiate licensing agreements with many parties,” he says.

In a sector characterised by multinationals and consolidation, CDT’s patent portfolio keeps it competitive. “Our business is built on patents. They allow us to tiptoe among the elephants,” says Fyfe. “I have no problem getting in to see executives at the highest level of very big corporations. For me that is a clear marker for how important we are to this sector.” ■

Concluded next month...

● Joff Wild is editor of Intellectual Asset Management magazine. www.iam-magazine.com

This article is reproduced from the Financial Times Understanding Entrepreneurship supplement, 12 November 2003, by kind permission of editor James Pickford.

www.ft.com/entrepreneurship

WRTI is seeking a Membership Secretary and a Treasurer. Interested members should email: secretary@wrti.co.uk

EU DESIGN REGISTRATION

THANKS TO harmonisation of European Community laws, a design proprietor can now register a design throughout the fifteen EU Member States by filing a single Community Design Registration application, *writes Dr Rosanna Cooper.*

The EU definition of a design has also been broadened, so protection can now be sought for the appearance of functional designs, including the whole or parts of products, packaging, graphic symbols, typography, logos etc.

There are two forms of community design: registered and unregistered.

Registered Designs

For a design to be afforded protection, it must be new and have an individual character.

A design is new if no identical design, or designs whose features differ in material detail, have been disclosed to the public (the prior art) anywhere in the world before the date of filing the application or the date from which priority is claimed.

If the designer promotes or exhibits his or her designs (in order to test markets etc) up to twelve months before filing an application or claiming priority, this would not constitute disclosure.

To meet the requirements of individual character, the design must produce on the informed user (who may be a retail customer) a different overall impression from prior designs. Where minor differences separate the design from the prior art then the scope of protection is limited.

Registration of a Community Design will initially last for 5 years, extendible after that period to a maximum of 25 years.

Unregistered Designs

These must also be new and have an individual character. Protection applies from the date of disclosure of the design in the EU through to marketing or sales. Such designs will be protected for three years.

ROSANNA COOPER CLARIFIES THE LEGAL POSITION FOR INVENTORS AND ENTREPRENEURS

Infringement

The design registration is a monopoly right that confers on a proprietor the exclusive right to use the design and prevent unauthorised persons from making, offering, putting on the market, importing, exporting or using a product in which the design is incorporated anywhere in the EU.

A registered design holder will be protected against deliberate copying and the independent development of similar designs (an unregistered design holder will only be protected against copying). Infringement actions will be heard before a Community Design Court.

Application

An application has to be made to the Office for Harmonisation in the Internal Market (OHIM), or the UK patent Office. On making an application, the proprietor has to include the products with which the designs would be incorporated. OHIM's examination of the

application is not detailed. The application is then published and subsequently registered.

Note that, on registration of a design, a third party may seek to make the registration invalid. If a registration is held to be invalid, it would be so throughout the EU.

Advantages

The main advantages of the new community design registration system are:

- The right to licence the design for the whole or part of the EU.
- The cost savings of filing multiple designs in a single application covering all member states.
- The one-year grace period.
- Keeping applications secret for up to 30 months by deferring publication of the application (thus allowing proprietors time to secure a filing date before launching a new design).

Inventors should take advantage of this intellectual property protection. Note that there may be some overlap between trade mark and community designs protection. ■

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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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HUMORESQUE from Dave Challice dchallic@bournemouth.ac.uk

More answers provided by Year Six during a written test:

- A company wishing to protect its patent persecutes the other company.
- Charles Darwin was a naturalist who wrote the *Organ of the Species*.
- The invention of the steamboat caused a network of rivers to spring up.
- Ancient Egypt was inhabited by mummies and they all wrote in hydraulics. They lived in the Sarah Dessert. The climate of the Sarah is such that all the inhabitants have to live elsewhere.
- Solomon had three hundred wives and seven hundred porcupines.
- The Greeks were a highly sculptured people, and without them we wouldn't have history. The Greeks also had myths. A myth is a female moth. Socrates was a famous Greek teacher who went around giving people advice. They killed him.

EXCLUSIVE

INVENTIQUE GAINS A SNEAK PREVIEW OF A REPORT ENTITLED 'THE IMPACT UPON BRITISH INDUSTRY OF INAPPROPRIATE APPROACHES TO INNOVATION'

Project championship

DESPITE DEVISING countless new and innovative products, British inventors rarely appear to profit from their ideas, *writes Jules May.*

There are spectacular examples of a few inventors becoming rich from their innovations – people such as James Dyson and Trevor Baylis – but for most the reality is that their ideas eat up much more money than they ever make. Few professional or 'serial' inventors – who often have very good ideas indeed – ever make their fortunes.

Step by crucial step

An invention has to pass through several stages before it can become a profitable product or business: conception, development, intellectual property protection, production, marketing, distribution and sales. A device that fails at any one of these stages becomes a failed idea, no matter how clever it is.

Several studies have been conducted to help industry understand how innovation thrives. Perhaps unsurprisingly, it appears that every invention needs to be nurtured by a product champion – invariably not its inventor – who can take a global view of the idea and motivate others to develop it and take it to market.

Contrast this with the lone inventor, who generally doesn't take the broad, business-like view. Many of the inventors interviewed for my report focused almost exclusively on the early, conceptual, creative stages of their idea, only one in ten having taken any meaningful developmental steps unaided. And only one in ten of the inventors who *had* actually developed their ideas had thought seriously about intellectual property protection; very few indeed had taken their ideas to the latter stages of production, sales and distribution.

The lone inventor's plea

Almost with one voice, inventors complained that they felt they were expected to be experts in every field – from production engineering to accountancy – in order get taken seriously, yet their concept was 'taken away' from them as soon as other stakeholders became involved.

An invention is generally handled by a series of experts, each with a keyhole view of the overall problem. Neither the inventor himself, nor any of the experts working on his behalf, has a sufficient grasp of the entire product lifecycle to fill the 'product champion' role. And yet, without such a person, few ideas stand any chance of succeeding. ■

● *This article is condensed from a major report to be published on 1st March by Two Little Ducks, an inventors' support organisation.*

Contact: jules@two-little-ducks.co.uk
www.two-little-ducks.co.uk



BUSINESS LINK KENT has taken out a licence to offer The Virtual Company (TVC) scheme to innovators and entrepreneurs in their area.

WRTI chairman Professor David Nicholas MBE (far left) was on hand to introduce the concept – which he devised – to a 100-strong audience at Eastwell Manor, Ashford last month.

TVC case histories were presented by WRTI members who have benefited from the scheme (from second left): Brian Stickley of Talking Tins Ltd, Sam Barzanji of Gravity Pumps Ltd and Brian Flynn of Greentec Ltd.

Business Link Kent's Innovation and Technology Counsellor Simon Warran-Smith also announced the formation of a new inventors' club based at the University of Greenwich.

● www.businesslinkkent.com
info@businesslinkkent.com
Tel: 08457 226655

CENTRE OF EXCELLENCE Wales Innovators Network

The Cardiff Flyer...

WELSH ASSEMBLY'S INITIATIVE IS FORGING AHEAD

STEAMING IN from the west like a dragon with attitude, the Wales Innovators Network (WIN) was formally launched in 2002 with a £600,000 grant from the National Assembly for Wales – and is already blazing a trail for the nation's entrepreneurial inventors.

A measure of its success was seen at last November's British Invention Show in London, where thirteen of the 85 participants were supported by WIN (four of whom went on to gain BIS 2003 Awards).

Spreading the word

Wales Innovators Network operates through four regional clubs located in the north, mid, south-west and south-east. These clubs meet once a month, providing opportunities for members to make contact with like-minded individuals and share skills, knowledge and experiences.

Club meetings include talks by lone inventors (such as Ted Prosser, Inventor of Ronseal's *Paint & Grain* product), professional advisers and potential commercial partners. Members also have access to confidential one-to-one support and advice sessions with Innovation and Technology Counsellors from the Welsh Development Agency.

Each regional club provides laptop computers with internet connection for use by members.

Funds are also available to help progress innovative projects via the Innovation Credit Programme, which provides up to £1,500 as a 50% contribution towards the costs of third-party services and support required to progress an idea. ■

● **Contact: Wales Innovators Network
Plas Glyndwr, Kingsway, Cardiff CF10 3AH
Tel: 08457 775577 Fax: 02920 368230
win@wda.co.uk www.win4wales.com**

News in brief

● **THE WINCHESTER** Festival of Art and the Mind – the first event of its kind in the UK – takes place at the Theatre Royal, Winchester from 5th to 7th of March. It includes classical music, jazz and dance performances, forums on

altered states of mind and debates on consciousness and creativity.

'Angel of the North' sculptor Antony Gormley will also lecture on his latest work, 'Domain Field'.

**Tel: 01962 779 536
garry.kennard@bopenworld.com
www.artmindfestival.com**

WEBSITE OF THE MONTH

www.pgconnectdevelop.com

Procter & Gamble's Connect & Develop website operates an interactive technology marketplace, acquiring and selling technologies in a wide variety of fields and applications from Aerospace to Transportation.

P&G also fosters education and research by donating patented technologies which lend themselves to further development by universities, non-profit research institutions and foundations.

MEMBER SERVICES

Entries in this column are free to WRTI Members, who should mail their details to the Editor (see panel at foot of page).

CONCEPT TO MANUFACTURE. Help with presentation, prototyping, technical & manufacturing issues. Contact: Innovate Product Design, 01722 410 295

ELECTRONICS CONSULTANT with 30 years experience, specialising in wireless and positioning technologies. Contact: Mike Overy, 01420 562378 mike.overy@zen.co.uk

ELECTRONICS ENGINEER Concept to proof of principle. Ex- scientific civil servant. Own lab. Contact: Mike Wright, 01428 722833 mike@fwright21.freereserve.co.uk

INNOVATION CONSULTANT and trainer specialising in TRIZ, author of *How to Invent (Almost) Anything*. Contact: Graham Rawlinson 01403 871 321 Graham@dagr.demon.co.uk

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