FLUID TALK

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Industrial Evening at E-Central

Members were treated to an evening of amazement and fascination recently when attending the Computer Graphics and Visualisation Centre at E-central (in Royal St, East Perth).

Ken Fowle, Project Manager for Research and Development, and his team are part of IVEC (the Interactive Virtual Environment Centre). IVEC began as an initiative of the Western Australian Government and CSIRO as part of their agreement in 1997 to build the Australian Resources Research Centre (ARRC). In June 2000, IVEC was set up as an unincorporated joint venture of Central TAFE, CSIRO, Curtin University, and the University of Western Australia (UWA) with CSIRO as Centre Agent.

Part of IVEC's objectives is to enhance the uptake of high performance computing and visualisation in Western Australia through a focus on the application of interactive Virtual Environments (VE) into major industries such as: mining & petroleum, medical training and research, architecture & construction, multimedia, education and urban planning.

What all this actually means, is that through this agreement, technology has been developed to give organisations (both government and non government) the ability to use high performance computers to run and practice highly specialised 2D and 3D virtual situations before committing to them in reality.

Ken explained that the system incorporates the use of incredibly high-powered computer hardware which has applications across many industries. "For example, we were approached by a consultant who wanted to run some calculations with a mining application. To complete the run, it would have taken him 8 – 10 days running his computer 24hrs a day – and his client wanted 3 runs. Accessing our system could have substantially reduced this time (subject to conditions) thus: Through our onyx computer at TAFE we could have halved this time, accessing our server would have halved the time again, accessing the IBEC computer at Curtin could have halved *that* time, and accessing the super computer in Canberra may have reduced the entire time down to half an hour – for the 3 runs" he said.

Part of the incredible technology located in the Centre is the Haptic (force-feedback) Workbench. The workbench creates realistic "virtual" objects by combining 3D images with a sense of touch, allowing users to interact with the objects in a realistic way. Not only do they see a realistic object, but they can "feel" it too. The Workbench consists of a mirrored 3D system for viewing the images, and a robotic arm, which provides the touch feedback.

Wearing 3D glasses, the user sits at the workbench and takes hold of an instrument at the end of the robotic arm. In the image they see, this tool can take the form of a syringe, or a scalpel or anything the system programs it to be. Powerful, miniature motors control the way the robotic arm responds to movement of the tool. This creates resistance, giving the user the sensation that they are really touching, or slicing through an object.

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Presidents' Prologue

By Tim Bailey

The year of 2001 ended sadly for the fluid power industry with the death of Bob Randell. A large gathering of fluid power industry people attended Bob's funeral and a notice was inserted in ' The West Australian ', on behalf of the membership of the FPS of WA, expressing our sympathy and condolences to Bob's family. On the day before the funeral, a large bouquet of flowers were delivered to Bob's wife, Sue, also on behalf of the membership of the FPS of WA. An obituary to Bob appears elsewhere in this newsletter.

You will recall receiving a notice in mid-February which was an invitation for us to attend an evening at the Computer Graphics and Visualisation Centre at E-Central (formerly AMTC Central in East Perth) on February 27th. About 15 people attended and the general consensus was that since the evening was so interesting, we should repeat it later in the year. The three-dimensional computer graphics demonstration and the hands-on interactive computer display were extremely interesting and very pertinent to our industry. Keep a lookout for the notice and don't miss it next time!

We are planning on holding the Annual General Meeting at the Royal Freshwater Bay Yacht Club in July. The club is a magnificent venue and the committee, as always, will make it a very pleasant evening. Please give consideration to standing for committee - particularly if your interest is in pneumatics. I am looking forward to a flood of nominations!

You will also recall receiving regular comments in this column about our continuing efforts to match the curriculum matrix, of the FPS of WA, to the CSU system under which tertiary training is now conducted in Western Australia and our concern that the points allocation for some fluid power units is unfair. In our pursuit of correcting both of these situations, we now understand that the TAFE system, in Western Australia, is only using the points system up to certificate four level and the ' old ' module system is still in use beyond that level - and looks like being retained. We understand the reason for this as being the difficulty in converting some modules to the CSU system.

We find the situation very disconcerting, if this is the case, as it means that millions of dollars of taxpayers' funds were committed to a system which was not properly thought out. Furthermore, it has caused frustration amongst TAFE staff and students - not to mention industry and organisations such as ourselves. Whilst there appears to be benefits in the CSU system, the change could almost come under the heading of ' change for the sake of change ' which is usually the hallmark of the ascendancy of one empire and the decline of another. When will we ever learn?

Enclosed with this newsletter is a membership application form which I urge you to give to someone who you feel should be a member of our society. Our present membership level is 76 but, given the size of our industry, there is no reason why this figure should not be 100 or greater. Your help in increasing membership will make your society more representative of the industry and strengthen the Society's ability to represent you to industry and the government.

With best wishes to you for a successful year.

Tim Bailey.

Events Calendar

Wednesday 1st May 2002
General Committee Meeting
AMTC Wembley

Committee Members meet for Monthly General Committee Meeting.

Sunday 8th September 2002
Annual Golf Day
Peninsula Golf Course

Members are invited to play 18 hole round of golf followed by a BBQ lunch.

The above events will be confirmed to members by correspondence.

Industrial Evening at E-Central

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This basic technology makes it possible for medical, dental and veterinary students to learn and practice procedures on "virtual" patients, before conducting them on real patients. When users perform the procedure correctly, they can really feel the needle pop through skin and pass into the vein, and then you can see it fill with blood. This realism is crucial for acquiring the precise dextrous skills that are needed. It will be of great benefit to anaesthetists and those involved in emergency medicine.

The Haptic Workbench was developed in the Advanced Computation Systems Co-operative Research Centre in Canberra – a collaboration between CSIRO, the Australian National University, Compaq, Fujitsu, SGI, StorageTek and Sun Microsystems. For further information about IVEC and the Haptic workbench, visit IVEC's website at www.ivec.org or the CSIRO website at www.csiro.au.

The evening provided members a real insight into how far technology has come and a peek into where technology is going. The evening was so successful that a second evening at E-central is planned for later in the year. Don't miss this second opportunity to discover this amazing technology for yourself.

Experiencing the fascinating world of 3D on the Haptic Workbench.

Ken Fowles pointing out the benefits of the 2D and 3D virtual reality software on the huge barco rear projection projector.

Transeals Seal Maker System

Transeals recently commissioned the first "Seal Maker" system to be installed in Australia. The Seal Maker system incorporates CAD/CAM software specially developed for hydraulic and pneumatic cylinder seal design, with a CNC lathe adapted for machining flexible plastics and rubber. The system allows Transeals to manufacture complex flexible seals up to 580mm outside diameter in house, to complement their inventory of hydraulic cylinder seals, which is the largest in Western Australia.

After extensive evaluation of technology available from Europe and North America, Transeals decided on the Seal Maker system from Austria. Bradley Pitcher, who managed the evaluation of various systems said "In Seal Maker I believe that we have acquired the most suitable technology for our needs and found a partner we can work with to refine the system to suit the needs of the Western Australian market".

Seals are manufactured from a standard range of polyurethanes, synthetic rubbers and hard plastics. After commissioning the first Seal Maker system in January 2002, an SML600 with a capacity from 5mm ID to 580mm OD, Transeals found that there was more market demand that they had anticipated and quickly ordered a second system, an SML420 with a capacity from 5mm ID to 420mm OD to double production capacity.

"When we started talking to customers about the new system there was a perception that we would be using the system to reduce stock levels", said Brad Pitcher. "In reality, Transeals is budgeting for a more comprehensive and valuable inventory in 2002 than in any previous year. We expect the capacity of our two Seal Maker systems and our older manual systems being used almost exclusively for special seal designs and sizes, not reduction of staff inventory. The driving force is improved product and service, and faster delivery times.

Robert Maxwell Randell
November 29th., 1948 - December 11th., 2001

Bob Randell passed away on December 11th, 2001, after a short period in hospital. Bob, his wife Sue and their son Jason, ran both *Technical Australia* and *Randell and Associates*.

Randell and Associates is the organisation that has brought many fine young people from apprentice level to technician level with a sound understanding of the principles involved in Fluid Power.

Bob was passionate about his work and always had the best interests of his apprentices at heart as well as the Fluid Power Industry he loved. Many of us, in the Fluid Power Industry today, have attended lectures at a TAFE college to learn about Fluid Power from Bob. He was highly respected by his students and also by the employers with whom Bob worked diligently in persuading them that they should invest in their own and their apprentices' future.

Bob started his teaching career at Fremantle TAFE in 1975 and was known to almost everyone in the Fluid Power Industry for many years. His TAFE career came to an end at Wembley TAFE after one of the many public service upheavals. At that point, Bob decided to set up his own company to specialise in doing a professional job of educating the up and coming people who represent the future of our Industry.

Those of us, who had Bob look after our apprentices, know he did an excellent job and that his focus and attention was always in making sure that the knowledge base of his apprentices was well grounded. This often meant late nights of extra study, at Bob's premises, for some of them.

We will greatly miss his educated opinion on training and his input on the future of our Industry. Our thoughts go to his wife Sue and his three children John, Tracey and Jason.

K-One Fluid Power to Enter the Local Market
A new fluid power business, K – One Fluid Power, has opened its doors. Located at Unit 1, Number 1, Dampier Road, Welshpool, K-One is a privately owned and managed West Australian company. It will be the sole Australian and New Zealand Distributor for the complete Kawasaki product range.

The Kawasaki Product range will be sold and marketed through a yet to be established distribution network throughout the Eastern States of Australia and New Zealand.

K – One Fluid Power will supply to the general reseller market direct in West Australia. The Company's intention is to create a level playing field where the end user has a choice to purchase direct from the Importer and pay a premium or purchase from there preferred / local reseller and gain their expertise and the support services that they provide.

Tyco Acquires Pressure Dynamics
Following months of intense negotiations Tyco Services acquired on the 8 Feb 02 the business assets of Pressure Dynamics. Resulting from the acquisition Simon Devitt (MD) and Terry Beal (WD) have downed tools and retired. Rob Courtney (FC) and Andrew Devitt (IT) will remain on a contract basis until the end of May. Stuart Coleman will continue as Manager responsible for both Tyco Motion and Control Group Engineering & the day to day management of Pressure Dynamics. Greg Haig has been appointed Senior Project Engineer Oil / Gas Group and Deputy Manager of Pressure Dynamics.

In the near future a retirement party is planned for the former directors who have worked together at Pressure Dynamics for over twenty three years. All past and present employees together with key clients and long term suppliers will be invited to what should be a most memorable occasion.

Movers & Shakers

- Shane Rossi has moved on from State Manager of Kempe Fluidair to take up the role of National Products Manager for the Kempe Supply Group. Malcolm Nash from Austral Engineering Supplies Takes over from Shane Rossi as the new manager at Kempe Fluidair. Kempe Fluidair would also like to welcome aboard John Ruby who has joined the team from Radcoflex.
- Ian Lavington has left Commercial Hydraulics and joined Hydraulic Resources in Midland.
- Micron Australia has closed down their Western Australian operations. Ian Whitaker will continue to support the local clients through his own company Shellian Hydraulic Services. Ian will also act as the Western Australian agent for Micron Australia Service Exchange components.

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