ELECTRONICS INDUSTRY ASSOCIATION

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m e d i a r e l e a s e

Garden Lights Shine on their Creator

(Electronics Industry Annual Excellence Awards, presented Friday night 3rd November, Sebel Playford Hotel, on North Terrace, Adelaide)

On Friday 3rd November during the Electronics Industry Association (EIA) annual gala dinner, newly elected EIA President Peter Charlesworth presented the winner of the prestigious **EIA Gold Cup for Excellence in Engineering and Commercialisation** to **Integrated Electronic Solutions (IES).** A South Australian based company, IES specialise in the design and manufacture of microelectronic components for consumer products such as kettles and hair straightners. Their products include integrated circuits (silicon chips), thick film hybrids (ceramic substrate) and surface mounted printed circuit board assemblies and modules.

A perpetual trophy, the Gold Cup has been awarded annually since 1984 to a company that performs best overall in taking an innovative idea successfully through product development and manufacturing to national and global markets. IES were awarded the **Gold Cup,** for the design and commercialisation of an integrated circuit used in a range of lighting products (including garden solar lamps) in North America. First production orders were placed in 2004 for three million circuits, increasing to a total of 20 million to date. Extensive market analysis, appropriate pricing, clever engineering and sound product development enabled IES to produce a circuit than enabled unrivalled long running times, brightest light output, a reduction in solar cell size and battery capacity thereby outperforming and undercutting the cost of competitor products.

The winner of the **Telstra EIA $10,000 Engineering Excellence Award** was **Tony Stevens of Ellex Medical**. Ellex were able to create and deliver a world class product within 12 months whilst achieving cost, performance and quality objectives. This was achieved even though the engineering team was only recently recruited with practically no exposure to the development of laser products. The product is the Integre Duo and used by ophthalmologists during laser eye surgery in most retinal photocoagulation procedures. So far 25 Integre Duo's have been supplied to market.

The winner of the **EIA Export Excellence Award** was **Quest** Retail Technology. Quest is a 100% Australian owned company and is the largest developer and manufacturer of Point of Sale (POS) systems in Australia with over 40,000 POS terminals installed throughout 20 countries. Quest recently installed and commissioned the largest and most comprehensive single POS installation in the world with over 800 POS terminals at the Dolphins Stadium in Miami. On top of this Quest installed and commissioned 15 major league venues in North America during 2006; and developed and released Quest Enterprise Manager – a web based management tool for remote sites and franchises.

Anthony Kittel, Managing Director of Redarc Electronics won the **Legend Excellence in Entrepreneurship Award**, for his research, design and manufacture of a range of electronic voltage converters, inverters, power supplies, battery chargers, electrics brake products and associated automotive products for the transportation industry. A major expansion project is underway at Redarc's Lonsdale premises. Support for this expansion has been provided from the Structural Adjustment Fund for South Australia. The new purpose built factory will allow the company to continue to upgrade and develop its product range and is expected to create 62 new direct and indirect jobs. Redarc Electronics turnover is forecast to exceed $12 million by 2012 and with exports comprising 20% of sales revenues by then.

The **EIA Award for Service to the Electronics Industry** was won by **Paragon Advisory.** They were judged best Service Provider for the high standard of customer service they provide in servicing high tech companies with specialised requirements. One such example is how they worked with KEE Technologies to improve sales and market knowledge. In addition to an investment of $1,500,000 from Paragon to open up an overseas sales office, Paragon worked collaboratively with KEE Technologies to improve the growth of turnover and staff and ultimately the sale of the business which is expected to result in the maintenance of all jobs with KEE and an SA R&D production base.

A new award introduced last year was created to recognise the **Electronics Graduate of the Year.** Judges were so impressed with two of the nominations that the award was split in a dead heat between the top two finalists this year. Judges were unable to find anything to separate these two outstanding candidates. Jason Turner from Redarc and David Blockow from Tenix Defence were awarded joint **Advertiser Electronics Graduates of the Year.** Jason has been working at Redarc for less than 12 months after graduating from Flinders University with a Computer Systems Engineering degree. One of Jason's most valuable contributions to Redarc has been some project work that has never been attempted in Australia before. This has involved the design, development and implementation of an interface device which allows an automated manual truck transmission to communicate and function in a vehicle fitted with a manual transmission. Jason presented a working prototype and then supplied the customer with some custom made tools to fine tune the prototype.

The other winning graduate – David Blockow has shone in the area of tracking systems in his role as Graduate Engineer at Tenix Defence. David joined Tenix after completing a Bachelor of Maths and Computer Science degree at Adelaide University almost three years ago. Since then David has been the engineer primarily responsible for the design and development of tacking systems and multiple projects including target tracking using an electro-optic camera stabilised on an unmanned aerial vehicle; networking of ship borne radar systems and sensor networking of heterogeneous sensors for surveillance work.

EIA President, Peter Charlesworth said that the standard of award applicants was outstanding across all categories this year. "Individuals and companies who applied for awards this year demonstrate that the electronics industry is burgeoning with talented individuals and companies that have the market savvy to succeed in tough overseas markets," said Mr Charlesworth.

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Summary of Winners & contact details:

EIA Gold Cup for Excellence in Engineering & Commercialisation: John Simpson, IES, 8348 5206 john.simpson@ies-sa.com.au

The EIA-Telstra $10,000 Engineering Excellence Award: Tony Stevens, Ellex Medical 8104 5241 tstevens@ellex.com

The EIA Export Excellence Award: Quest Retail Technology, Tim Stollznow, 8234 2311, tim.stollznow@quest.com.au

The EIA – Legend $5,000 Entrepreneurship Award: Redarc Electronics Pty Ltd, Anthony Kittel, 818 65633 askittel@redarc.com.au

The EIA Award for Service to the Electronics Industry: Paragon, Geoff Thomas, 82710 160 geoff@paragonadvisory.com.au 0418 850 654

The Advertiser Electronics Engineer Graduate of the Year: Jason Turner, 81865633 engineering@redarc.com.au AND David Blockow, 8300 4782 david.blockow@tenix.com

Each year the EIA also gives an award to the best student at each tertiary institution and these are the winners and their contact details

These are the details about what projects each student worked on:

Adelaide University Student Winners
Mr David Fairlie-Jones and Mr Zhining Lim

"Clock Tree Insertion" - aimed to develop a software tool that improves the distribution of an integrated circuit's clock signal. The tool was intended to assist existing place and route tools within the tool chain of the project's industrial sponsor.

The primary aim of clock signal distribution was to deliver the clock signal to every clocked cell such that it arrives at each cell as close to simultaneously as possible. This was done by creating a clock tree, that is, a network of buffer cells that balance the path length and load on each clocked path. Other objectives for the network were maintaining the signal shape and limiting the overall time taken to deliver the signal to the clocked cells.

TAFE SA – Torrens Valley Campus Student Winner
Mr Vus Andrushenko

"Automation Ignition Controller" – is a distributor-less ignition system that replaces the conventional distributor in cars and allows you to program the advance curve you believe best suits your engine.

By having the ability to vary the advance curve, this allows you to get the most from an engine and suit it to different fuels, for example LPG and petrol with different octane levels.

The system uses a PIC 16f84 processor that receives inputs from three hall effect sensors, where it determines the revolutions per minute of the engine and ignites the ignition coils at the appropriate time as per the program set by the user, by using dual output coils and the wasted spark method two coils are all that are necessary for a four cylinder engine.

University of South Australia Winner
Mr Guy Morris

"A Study of Electromagnetic Interference between a Phased Array Radar and Electronic Support Antennas on a Maritime Platform" - The aim of the project was to detail a technique for the Computational Electromagnetic Modelling (CEM) of antenna's onboard a maritime platform using the Uniform Theory of Diffraction and the Reciprocity Theorem for antennas.

A destroyer class warship, generic phased array radar (common to this class of ship) and generic Electronic Support antennas were used as the examples of the maritime platform and onboard antenna systems. The CEM tool FEKO and MATLAB were used for the production and analysis of data.

Flinders University Winners
Mr Travis Bessell & Mr Matthew Randell

Development of a ZigBee Based universal remote console for home appliances - This project involved the development of a ZigBee-based Universal Remote Console that has the ability to control all household appliances, with universal design principles included to allow operation by anyone.

The remote control was based on a commercially available personal digital assistant, which featured universal design principles such as switch scanning, high contrast dynamic buttons as well as audible output capability. This included the design of a function graphical interface, full ZigBee communication and a ZigBee to Infrared conversion technique to control current appliances. The ZigBee remote control, including all wireless transceivers, were developed in less than a year and was demonstrated controlling lights, TV and DVD player at a University Open Day.

TAFE SA Regency Campus Student Winner
Mr Andrew Moser

"Honey Extractor Automation System" -

Andrew is now based in Melbourne and unfortunately cannot be here last tnight to receive his award. Peter Berry of TAFE SA accepted the award on Andrew's behalf.

His project is entitled Honey Extractor Automation System and here is a brief description:
The system is designed to increase the extracting efficiency of a honey extractor. It is based on the measurement of the centrifugal force by a strain gauge sensor applied on the honey frames. The measurement is sent over a wireless link using a purpose designed protocol to a microcontroller which then controls the speed of the motor. The system has a user interface which allows fine tuning and manual settings if needed.
The prototype was tested in a simulated environment and it is now implemented in the actual extractor in Mildura, at the Moser and Hinks honey business.