

HEALTH & SAFETY AWARD WINNERS PAGE 5

YOUR QUESTIONS ANSWERED PAGE 6

SHARE OPTIONS PAGE 7

THE MARCONI HISTORY OF WIRELESS PAGES 8 & 9

SPECIAL FORTE OFFER PAGE 16

HENLEY - THE MAN AND HIS WORK PAGE 16



The GEC Newspaper October 1995

EEV to keep Hong Kong travellers informed

EEV, Chelmsford has won a substantial order to supply passenger information boards for the new Hong Kong airport at Chep Lap Kok, the world's most prestigious airport project.

The order was awarded to EEV by GEC Hong Kong, the overall prime contractor for the airport's flight information display system.

of Chinese and Roman characters. All but the gate displays incorporate high resolution graphic panels to show airline logos.

The technology chosen for this project is EEV's first minimum twisted nematic liquid crystal displays (LCD). These meet the stringent standards required by the Airport Authority. The LCD signs for Chep Lap Kok will form one of the world's biggest ever signboard orders.

Vic Leverett, marketing director at EEV said "This order represents a major

achievement for both EEV and GEC Hong Kong. The Chep Lap Kok airport project is the most prestigious of its kind and other international airports will be looking to this as a benchmark for their own installations. This augurs well for the future success of EEV's display systems."

EEV has recently notched up some other notable successes.

Three variable message signs (VMS) commissioned by the Swedish National Road Administration are already in operation around

the Gothenburg ring road. Measuring nine metres by four metres high, they provide a high profile illustration of EEV's LCD shuttered fibre optic technology.

Heathrow Airport

A smaller VMS, at London's Heathrow Airport tunnel approach road, keeps motorists informed of traffic flow on the M4 and M25. EEV has also won an order for two information boards for the new Great Victoria Station in Belfast.



Visualisation of the large check-in summary signboard at Chep Lap Kok, Hong Kong.

146 boards

EEV will supply 146 multi-line information boards consisting of 82 gate displays, 6 main arrival boards, 48 internal reclaim boards, 2 main arrival routeing boards and 8 check-in summary boards. Each board will show a mix

Equipment orders for Matra Marconi Space

MATRA Marconi Space (MMS), Stevenage has recently won several significant orders for its state-of-the art technology.

An order came from Britannia Operator, an oil company alliance, to supply an integrated onshore-off-

shore digital communications network.



An artist's impression of HMS Ocean.

Britannia

The order will provide Britannia with comprehensive communications.

In addition, MMS will provide system design, rack integration, testing, installation and commissioning.

Investment

MMS's director of ground systems, Bob Waterhouse said, "Since our acquisition of the Ferranti International satellite communications and microwave business last year, we have invested heavily in factory facilities. Our concentrated efforts have paid dividends."

HMS Ocean

MMS will fit the UK's largest warship, the new helicopter carrier HMS Ocean, which is currently under construction, with SHF satellite communication terminals. The order, awarded by Vickers Shipbuilding & Engineering in Barrow in Furness, is to upgrade an existing satellite system and integrate it with HMS Ocean's new command and control communications suite.

Short order

The UK MoD has ordered four satellite communications terminals to meet an urgent operational requirement.

continued on page 3.

SEE INSIDE FOR EXCLUSIVE OFFERS ON CREDA & CANNON APPLIANCES FOR ALL TOPIC READERS

www.rochesteravionicarchives.co.uk

News in Brief

GEC

The Rt Hon Richard Needham MP is joining the Board as a non-executive director, and will be full-time with responsibility for export promotion after the next general election.

CMC

Canadian Marconi Company has received follow on orders from leading airline Cathay Pacific for a further 15 CMA-2102 high gain antenna subsystems for installation on nine A330-300 and six B747-300 aircraft.

EGT

GEC ALSTHOM's subsidiary, European Gas Turbines (EGT) has won an order to supply generation sets to a dairy on the North Island of New Zealand. Gas turbine equipment will be installed in a new combined heat and power plant at the Bay Milk Dairy in Edgcombe which processes milk products.

GEC ALSTHOM

GEC ALSTHOM has been selected to supply 16 diesel hydraulic-powered railcars to Finnish Railways with an option for a further 16. The railcars will be built by GEC ALSTHOM Transporte at its Barcelona factory and will contribute to the rapid expansion of Finland's regional rail services.

Marconi Instruments

The headquarters of Marconi Instruments has moved from its St Albans premises to Stevenage in Hertfordshire.

Woods of Colchester

Woods of Colchester has beaten off two major foreign competitors to win an order to ventilate clean rooms as part of a £100m development at the GEC Plessey Semiconductor factory in Plymouth.

Sinai turnkey project for GEC ALSTHOM

GEC ALSTHOM has won an order worth 7.5 million ECU for an irrigation pumping station required for the development of land in the North Sinai region of Egypt.

GEC ALSTHOM BERGERON

The turnkey project will be managed by the company's French subsidiary, GEC ALSTHOM BERGERON and covers the delivery and commissioning of the hydraulic, mechanical and electrical equipment.

It includes the supply of ten large concrete volute pumps with a total power of 16 MW and a capacity of 432,000 cubic metres per hour. This will be the first application of this technology for such a scheme in Egypt.

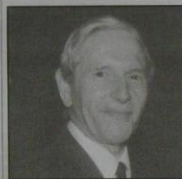
The station will be built at Katia for the Ministry of

Public Works and Water Resources as part of the El Salam project.

GEC ALSTHOM BERGERON has already constructed 11 pumping stations for the Wadi El Nuqra project in upper Egypt and supplied similar concrete volute pumps in other parts of the world.

Sadly departed...

William Douglas Morton



DOUG Morton, who died at the age of 71, was educated at Cambridge University, gaining a first class degree in engineering. After completing his graduate apprenticeship he moved to GEC as manager of the Traction Division, Witton

Works and soon after became general manager. When AEI and English Electric merged, he was given the task of rationalising their power activities. In 1970, he became managing director of GEC Telecommunications. He left GEC in 1982, as a main board director, to become group chief executive of Aurora. He was a keen sportsman and played rugby for his university and Warwickshire County.

1986 vice chairman of GEC Telecommunications. His services to export were recognised in 1971 with a CBE. He became president of the European Conference of Telecommunications Industries in 1980.

James Donald Watt



Jim Watt, who died at the age of 65, joined GEC in 1950. During his graduate apprenticeship he became involved with the installation and commissioning department. In 1968 he set out to create a Radio Protection group, and in 1970 became manufacturing manager. His knowledge of the business and his ability to run the manufacturing unit attracted a stable management team for over 20 years. Jim devoted a lot of spare time to his village activities as parish councillor.

John Melville Price CBE



Mel Price, who died at the age of 71, was educated at Cardiff University. He played a key role in establishing the Transmission Division, becoming manager in 1960 and five years later, commercial director. In 1970 he became assistant managing director and in

Sea Owl flies for the first time



THE first of 44 Lynx Mk8 helicopters has been accepted into operational service by the Royal Navy. GEC Marconi Sensors' passive identification device, known as Sea Owl, has now been installed. This provides a steerable, stabilised system which allows infra-red tracking and passive target identification by day or night and in poor weather conditions.

Tribute for Videojet

VIDEOJET Systems International, UK was recently acclaimed for the continued support it has given to the Volunteer Reserve Forces.

At a special presentation at the Royal Tournament in London's Earls Court, a delegate from Videojet was presented with a certificate from Colonel Richard Kinsella-Bevan, the chief executive of the National Employers' Liaison Committee at the Ministry of Defence.

Colonel Kinsella-Bevan is responsible for leading the team charged with fostering support amongst companies throughout the country for their employees who are members of the Territorial Army and the Volunteer Reserves of the Royal Navy, Royal Marines and Royal Air Force.

Buying a NEW Car?

HUGE DISCOUNTS OFF manufacturers' list prices OR L or M reg at low prices

PLUS

- Part exchange easily arranged
- Full manufacturer's guarantee
- Delivery anywhere in the UK, mainland
- Free service and guarantee work carried out locally to you.

For a quote on the new car you are considering buying - contact:

Richard Proto
National Automobile Discount Scheme,
80-84 Railway Terrace,
Rugby, Warwickshire
CV21 3EZ.
Tel: Rugby (01788) 542465.

STOP PRESS European Woman of Achievement 1995

CONGRATULATIONS to Dr Eileen Read, director and general manager of GEC-Marconi Infra-Red, Southampton, who has won the prestigious European Woman of Achievement award. *Topic* will cover the story in detail next issue (December).



Topic is the newspaper for all GEC employees. It aims to be a link between all the company's operations, keeping them informed and aware of each others' interests and employees' activities.

Editorial: Claire Astle, Rachel Oliver

Topic Office, GEC, 1 Stanhope Gate, London W1A 1EH.
Tel: 0171 493 8484 G-Net Access: + 783 388 / 389
Fax: 0171 491 0708
Next issue: December 1995
Copy date: November 21st 1995

News in Brief

CMC

Carmen L Lloyd has been appointed president and chief executive officer of Canadian Marconi Company. He replaces Dr James E Soos, interim president and chief executive officer since April this year.

EGT

GEC ALSTHOM's subsidiary, European Gas Turbines (EGT) has won an order to supply gas turbines for the largest undeveloped gas field in the North Sea. The order is for two RLM5000 gas turbine compressor drivers for the Britannia Field which is located 130 miles north east of Aberdeen.

GEC ALSTHOM

GEC ALSTHOM and the Romanian turbogenerator manufacturer, GENERAL TURBO, have set up a joint company known as GEC ALSTHOM GENERAL TURBO. The new company will be 51 per cent. owned by GEC ALSTHOM and will specialise in turbogenerator refurbishment.

GEC-Marconi

GEC-Marconi's Support Division, Donibristle has recently won a contract to supply eight core automatic test equipment gets to GEC-Marconi Underwater Weapons Division in support of its Spearfish Reconfigurable Integrated Test Solutions programme.

Matra Marconi Space

Matra Marconi Space has become the prime contractor for the HOT BIRD 4 satellite by Eutelsat. This follows on from the company's prime contractorship for the HOT BIRD 2 and 3 satellites.

OBITUARY

The Hon Mrs Irene Rose CBE, died recently aged 94. She was the youngest daughter of GEC's first managing director, Lord Hugo Hirst.

More orders for Matra

Continued from page 1.

The terminals must be supplied in a short timescale - only 60 days. Supplied in lightweight, portable flight containers, the terminals are particularly effective for tactical deployment and incorporate automatic satellite tracking.

COMSAT

MMS has also recently won a further order from

the US company COMSAT Mobile Communications, for the supply of satellite communications sub-systems incorporating enhanced automatic frequency control.

COMSAT Mobile Communications is the largest signatory within Inmarsat which is about to launch its third generation of satellites, the payloads of which are currently being built by MMS, Portsmouth.

Ministerial visit at Marconi



PICTURED above (left to right): Ray Mathews, managing director, GEC-Marconi Radar and Defence Systems (GMRDS), Dynamics Division; David Tennet, managing director, GMRDS, Defence Systems Division; Peter Brown, managing director, GMRDS; Sir Geoffrey Pattie MP, Simon Weinstock, GEC director, and Dr Ian McBean, GEC director, welcoming James Arbuthnott MP (centre), the new Minister of State for Defence Procurement, on his recent visit to GEC-Marconi, Stanmore.

Motor Insurance

Special Discount Available Highway Direct Limited

Please write or telephone your nearest office.
Quote lines at Chatham are open until 7 pm
Monday - Thursday.
We shall be pleased to help you.

Highway Direct Ltd,
21 Lochrim Place,
Edinburgh,
EH3 9QT
Telephone 0131 229 2121

Highway Direct Ltd,
Hilton House,
Stockport,
Cheshire SK1 3NA
Telephone 0161 476 2157

Highway Direct Ltd,
195/203 New Road,
Chatham,
Kent ME4 4QB
Telephone
01634 847858/848691

Highway Direct Ltd,
St Brandons House,
29 Great George Street,
Bristol,
Avon BS1 5QT
Telephone 01179 290081

Highway Motor Policies at Lloyds

GEC-Marconi S3I wins multi-million pound MoD contract

NEWLY formed company, GEC-Marconi S3I, Frimley, has won a multi-million pound contract from the Ministry of Defence to supply the control system for the Rapier air defence system.

The Rapier missile system provides short range surface to air defence to RAF airfields worldwide. GEC-Marconi's secure computer based command and control system will be used for its local control. The Rapier control system will provide a secure, rapid data messaging and alerting system. It will integrate Rapier missile units deployed around airbases with outlying command posts.

"This is an important contract for us," said Dr Tidu Maini, the company's managing director, "Not only does it confirm our ability to compete and win against international competition,

but it also underpins GEC-Marconi S3I's lead in the development of data entry devices and data communications, particularly for harsh battlefield conditions."

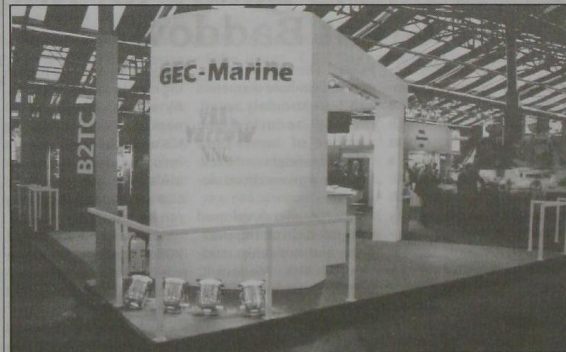
The system hardware will comprise computing, communications and display equipment located at the command posts, with each missile unit equipped with a ruggedised battlefield standard data entry and communications device.

GEC-Marconi S3I has also won a substantial order from the Royal Artillery for the supply of 18 battlefield meteorological systems (BMETS).

BMETS

BMETS is a mobile, self-contained passive system designed to measure detailed climatological data in the atmosphere above army operational areas. An electronic system carried by a hydrogen balloon passes information to the ground processing equipment which also tracks the balloon by theodolite. The data is then passed on to the Royal Artillery's C3I system. A major part of the processing for BMETS is provided by the company's new laptop computer which works with combat net radio.

GEC-Marine on display



VSEL, Yarrow Shipbuilders and NNC exhibited together for the first time under their new company name, GEC-Marine at the British Army and Royal Navy exhibition in Aldershot.

GEC-Marine manufactures all types of surface ships and submarines and both army and naval armament. It has a wide capability for the production of nuclear and conventional power, high integrity process plant, the construction of marine facilities, environmental consultancy and decommissioning.

EGT venture in South America

GEC ALSTHOM's subsidiary, European Gas Turbines (EGT) has won a substantial order to supply Typhoon gas turbines to the San Jorge oil field in El Trapiel, Neuquen, western Argentina. This follows the delivery of two units earlier this year.

The order is for three 4.9 MW Typhoon generating sets incorporating GEC ALSTHOM generators.

Thanks to the flexibility of the fuel control system, the Typhoons will be able to burn gas from the oil field efficiently despite a high carbon dioxide level of 30

per cent. Two TB5000 generating sets have also recently been supplied by EGT to Sullair who will build, own, operate and maintain the gas turbine plant for ten years on behalf of the field operator, Petrolera San Jorge.

INNOVATION

Hazardous areas made safer by Avery Berkel

A first in industrial multi-function weighing systems

Avery Berkel has developed Loadstar Ex, the first high performance instrumentation range to be fully approved to operate in 'hazardous' environments.

The new Loadstar Ex range is designed to perform safely in areas involving explosion hazards, volatile materials or combustible dusts.

It comprises three new indicator systems which utilise intrinsically safe circuits. These produce no sparks or thermal effects which would be capable of causing ignition. Previously, instrumentation was kept in flameproof housing in order to reduce such risks of explosion.

Avery Berkel's industrial marketing manager Don Moss, commented on the rising concern across industry for health and

safety of personnel and plant. "Manufacturing efficiency has driven the demand for high performance weighing equipment but, at the same time, more areas which were previously regarded as safe in the context of fire or explosion hazards are now being reclassified as hazardous under European safety regulations." He continued, "With full functionality and full trade approvals we are confident that the new Loadstar Ex range is a welcome development for all chemical and process industries."

In the past, the range of weighing system functions

was limited to little more than weighing. Each model in the Loadstar Ex range offers different levels of functionality: from a weigh-only digital indicator to a sophisticated multi-purpose indicator system with on-board software to control all weighing-related operations.

Control

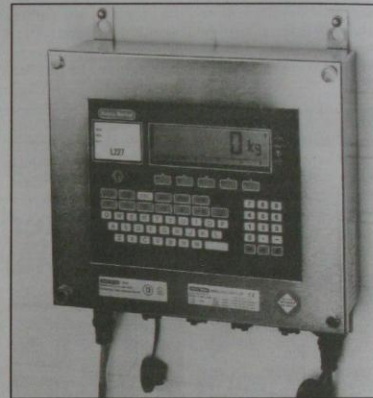
As standard, each indicator stores and recalls tare values, the weight of a container when it is empty.

External control of valves, feeders and other devices can be carried out by

Loadstar Ex. This includes automatically adjusting the quantity of material fed into a container to control the consistency of each batch.

For standard applications, the complete weighing installation is located in the hazardous area where it is needed.

Communication within and outside the hazardous area is achieved by fibre optic transmission and all Loadstar Ex models are compatible with a wide range of industry-standard printers, PLCs (programmable logic controllers) and computers for comprehensive data collection.



Loadstar Ex, the new multi-function indicator from Avery Berkel, has full approvals for trade weighing in hazardous areas, such as those which are potentially explosive.

New developments from Great Baddow

TO satisfy increasing demands for advanced components and systems, the GEC-Marconi Research Centre (MRC) at Great Baddow has developed a family of interconnect technologies which are both versatile and readily producible.

MICROTRACE printed circuit boards (PCBs), are far denser than conventional

PCBs. The signal tracks, gap and via-hole diameters can be extremely small, thereby reducing the number of layers and hence the weight and thickness for a given circuit design.

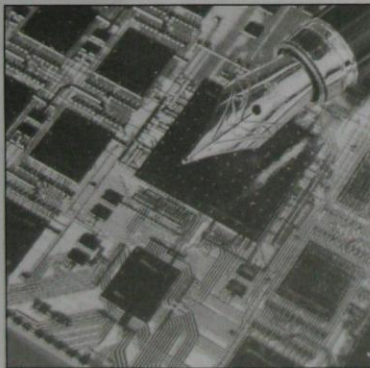
MRC has also developed integrated circuit (IC) packaging and multichip modules (MCMs). Modern IC packages become increas-

ingly compact while requiring ever more connections. By removing individual packaging and combining ICs and other components into hybrid circuits or multichip modules, the size and packaging density can be reduced.

MCMs and MICROTRACE PCBs therefore offer various benefits in system performance, miniaturisation and lower cost.

There are many technical benefits in using substrates and packaging techniques in systems. Improvements can be seen in packing density, high speed performance, thermal management and reliability, the integration of different functions and power consumption. Other benefits include the ability to handle low, medium and high power densities, while remaining cost-effective.

For further information contact the enquiry desk at Marconi Research Centre, tel: 01245 473331 x2204, G-Net Access+ 333 2204.



A pen helps to show the small scale of the MICROTRACE PCB.

Safety comes first on Canadian buses

THE Canadian Marconi Company (CMC) has signed an agreement with Delco Electronics Corporation of Kokomo, Indiana giving CMC exclusive distribution rights throughout Canada for the Forewarn detection system.

Forewarn is an innovative product designed to enhance the safety of children riding on school buses. This object detection system, which engages whenever the bus' stop-arm is extended and the bus is stationary, uses microwave radar technology to detect movement within certain danger areas surrounding a school bus.

There are two primary danger areas around a bus, one to the front of the vehicle, and the other on the kerb side underneath the bus. Forewarn covers both areas through a microwave sensor which is affixed to the front bumper and to the bus' side. If a moving child is detected, the system warns the driver with

both audible and visual signals. A display in the driver's 'cockpit' will beep whilst a red signal lights up.

"Forewarn will be a welcome addition to the Canadian marketplace," says Jean-Pierre Lefebvre, CMC product manager, security systems. He cautions that, "Although Forewarn significantly increases the driver's awareness of children around the bus, the system is meant to be an auxiliary device. Forewarn gives the driver more time to watch traffic, count children and carry out other vitally important routine safety checks.

"The number one concern of the school bus industry is safe transportation of school children," said Jean-Pierre. "Canadian Marconi is pleased to offer a prod-

uct that greatly contributes to that effort." The system underwent an extensive evaluation program by CMC involving four school boards in the province of Quebec.

CMC sold the first Forewarn units to the Launval School Board of Laval, Quebec.

Radar technology

The Forewarn system features the same Doppler radar technology used on military aircraft such as the F-18. The system has been approved for use in the US and is built by Delco Electronics, a subsidiary of GM Hughes Electronics, a leader in high-volume vehicle electronics.

www.rochesteravionicarchives.co.uk

Safety improvements recognised

THE results of the GEC Safety Award 1995 competition were announced recently. The winners were Yarrow Shipbuilders, Glasgow and GEC ALSTHOM Signalling (GASL), Borehamwood.

The Safety Award competition recognises units that have made the greatest improvement in health and safety practices throughout the year. It is divided into two categories - sites employing fewer than 500 staff, and larger units with over 500.

Small units winner

GASL, which won the small units category, designs, manufactures and installs railway signalling systems.

Following an earlier GEC safety management seminar for directors at Dunchurch, GASL developed its own safety management system. As GASL's business often requires employees to work on customers' premises,

the management system had to encourage local management responsibility, make safety advice readily available and monitor procedures.

A safety council, comprising senior managers, was established to determine company policy and oversee its implementation.

As part of the drive to encourage 'ownership', managers were issued with personal safety responsibility statements. Sites were audited by site managers with verification by the central safety advisor.

The benefits of an effective safety management system include: heightened interest in health and safety issues from all staff, an improvement in the relationship with clients and enhanced prospects of winning orders.

Large units winner

Yarrow Shipbuilders won the large unit category. Recognising the potentially hazardous nature of shipbuilding, the company developed a safety management system, based on existing BS 5750 practices. Initially a steering committee was set up comprising senior managers and safety representatives. Then to ensure effective involvement of the workforce, each operating division developed its own safety committee.

Employees received training to encourage awareness of their responsibilities. The practice of recording and analysing injuries and first-aid treat-



Lord Prior, GEC's chairman with John Penney, managing director (middle) and Conrad Clark, installation director (right) both of GEC ALSTHOM Signalling, Borehamwood.

ments on a weekly basis was introduced. Safe working procedures were updated and regular auditing carried out to ensure that procedures continued to be followed.

These initiatives led to a substantial reduction in re-

portable accidents and the number of days lost through injury.

Other companies in the competition which received commendations were GEC ALSTHOM Turbine Generators in Rugby and GEC ALSTHOM Euro-

pean Gas Turbines.

This year's judges were: Michael Lester, GEC's vice-chairman, John Humphrey, a director at Sedgwick UK, GEC's insurance brokers and GEC's health and safety advisor, Martyn Hayes.



The Yarrow Shipbuilders safety steering committee with the winner's flag.

GEC support for Young Engineer '95

THE National Final of the Young Engineers for Britain competition was held recently at London's Guildhall. This year GEC was a major co-sponsor of the event. GEC has supported the competition for the past 12 years and provided individual prizes.

This important event helps young engineers achieve national recognition and encourages originality in engineering and design skills. The prizes were presented by Richard Page MP, Under Secretary of State for Small Business, Industry and Energy. GEC's Chairman, Lord Prior and other senior GEC staff also attended the prize giving.

The "Young Engineer for Britain 1995" was 17-year old Stephen Mosley, from Eckington School in Sheffield who won the award for inventing an aerodynamic bicycle wheel.

Two girls from Blantyre High School, Glasgow, won prizes for a device for the arthritic, which allows an aerosol to be operated by the whole hand. Their

prizes included an industrial visit to a GEC unit of their choice.

GEC also supported the second prize in the 15 to 16 year old category which was won by pupils of Paignton Community College for a sun awareness machine. This is an electronic device which warns of harmful UVA and UVB rays.

ties of the leg.

Participants of the scheme can earn accreditations for other programmes such as City and Guilds certificates and the Duke of Edinburgh's awards.

Involvement in a Young Engineers club is highly rewarding both for the students and for the professional engineers who play a key support role.

Raymond Caldwell, technology teacher at Assumption Grammar School, County Down in Northern Ireland, winner of the Best New Club award said: "There are almost a thousand pupils in my school, and owing to the success of the Young Engineers club, they now all know what technology is."

Club of the Year

This year there were more than 700 schools with Young Engineers clubs competing for the accolade 'Club of the Year'. The work of these clubs complements curriculum studies by enabling members to gain practical experience through links with business. This is the first year the competition has been combined with the Young Engineers Club of the Year national awards. The winner was Cowes High School, Isle of Wight with an invention to correct deformi-

For further information on Young Engineers, contact the national director at the Surrey Technology Centre, Surrey Research Park, Guildford GU2 5YG. Telephone: 01483 455015.

Battling against deafness

For several years GEC has supported the Hearing Research Trust's work to combat the damaging effects of industrial noise. The Trust is a charity which initiates and supports research into the prevention, diagnosis and treatment of deafness. The Trust's president, Lord Ashley of Stoke, explained the importance of such efforts:

"Some 1.5 million people in Britain are exposed to potentially damaging levels of sound in the workplace. GEC is participating in a scientific battle, led by the Hearing Research Trust, to prevent the numbers suffering industrial deafness as a result, from growing.

"Deafness can devastate, isolating people and preventing their enjoyment of so many good things in life. Prevention is possible but research into the best methods has been inadequate.

"One project of particular concern to workers is to identify new methods of

testing susceptibility to hearing loss. This could lead to selective and effective targeting of preventative measures. Another project is to improve the treatment of tinnitus, which disturbs so many people with unpleasant sounds. There is also hope that, through regeneration work,

a treatment for deafness can be found.

"Funds are the key to progress and the Trust is appreciative of the support it receives from GEC."

For further information about the Trust, please contact David Godfrey, Hearing Research Trust, 330/332 Gray's Inn Road, London WC1X 8EE. Tel: 0171 833 1733.

ENVIRONMENT



Simon Boyle, lawyer and environmental specialist, at 1 Stanhope Gate, London W1.

DRY batteries, whether they are the standard zinc chloride or alkaline variety, always seem expensive. This makes me think that even when they are discharged, the chemicals might have scrap value. Comments please?

As yet, little progress appears to have been made on the recycling of batteries. Ideally, of course, batteries should be recycled, but in practice the chemi-

cals used are relatively cheap and so the collection, separation and chemical recovery are not cost effective. The main battery types which are currently recyclable are lead-acid (via scrap merchants) and nickel-cadmium. In the absence of suitable recycling schemes, batteries containing heavy metals, which are mainly the nickel-cadmium types, should be carefully disposed of. If at home, the terminals of such batteries should be taped to prevent shorting. In the workplace, such batteries would have to be treated as hazardous waste and should be collected by a competent waste carrier.

For more information please contact David Andrews or Tony Kendrick at Hirst Research Centre on 0181 953 2030.

WHAT effort is GEC making to recycle waste?

We have received several questions on the recycling of waste. A number of GEC sites, for example GPT at Beeston, have put into place very successful recycling initiatives which have had the double benefit of reducing waste and reducing costs. Dr Philip Tyson, GEC's environmental advisor and I are keen to promote successful recycling initiatives within GEC as this could in time lead to a company-wide strategy

on the disposal of office waste such as toner cartridges and fluorescent tubes.

The initiative for the recycling of electronic equipment is being carried out by ICER (Industry Council for Electronic Equipment Recycling). GEC-Marconi and GPT are members of this and are actively involved with the organisation. A full report on the work of ICER and GEC's involvement will appear in the next issue of *Topic*.

ARE there any laws which oblige private companies to be more environmentally friendly?

A European Directive (75/

442 EEC) requires all member states to draw up a national waste management plan. The recently passed Environment Act 1995 has a section entitled "National Waste Strategy" which allows the Secretary of State for the Environment to draw up a national strategy for the management of waste.

The government also wants to make producers take back their products for

recycling once they have become waste. This concept is known as the Producer Responsibility.

The government strategy is to target certain types of waste, namely packaging, cars, newspapers, batteries and electronic waste. In each case, the government has challenged industry to come up with a workable scheme, and once this has been agreed it will be enforced by regulations.

ANY QUESTIONS?

GEC employees who have questions on the legislation surrounding the environment, or want advice on how to become more environmentally friendly, should please send their questions in an envelope marked **Environment Page to: The Topic Office, GEC, 1 Stanhope Gate, London W1A 1EH.** *Topic* regrets it cannot always give individual replies or advice, and asks that original documents are not sent. No legal responsibility can be accepted for advice or statements in this section. The views expressed will be the personal views of the contributor and not necessarily those of the editorial team or GEC. Readers should take specific advice when dealing with specific situations.

Note to Topic readers

If you work within GEC and if you recycle waste, use environmentally friendly equipment, raise money for an environmental charity, or if your company has its own environmental policy, please send details to *Topic*, or call Rachel Oliver on:
0171 493 8484 ext 388 or G-Net: Access + 783 388.
Topic will be very pleased to hear from you.

TECHNICAL HELP IS REQUIRED BY THE BLIND

An opportunity to utilise our technical skills to assist those less fortunate.

Many blind people have cassette tape playback units and listen to tapes supplied from a large library in London. Help is needed to install and to maintain the tape machines. There are already over 3,500 technical helpers looking after "TALKING BOOKS" for 68,000 blind readers throughout Britain.

The RNIB has as many as 230 readers over 100 years old.

The time required of you would generally not exceed one or two evenings per month. Circuit diagrams, a spare tape set and full technical details are sent to each helper. If required, technical backup support is always available.

If you would like to assist or would like further details, would you please contact me.
Thank you - your assistance would be greatly appreciated.

DAVID FINLAY-MAXWELL, MIEE., PhD.
RNIB, Prospect House, Huddersfield HD1 2NU
Tel: 01484 450982 Fax: 01484 450703.

A step back in time...

TOPIC reader, Michael Joyce wrote in with a short piece on the time he retraced the steps of his grandfather, Arthur Loving, when he was working with English Electric in the 1920s. This is what he found...

When my grandfather, Arthur Loving retired from Rugby Works in 1949, he could look back on 23 years' involvement with a water turbine plant manufactured by English Electric. He had worked on the installation and commissioning of many overseas projects as far afield as Brazil, India, Australia, Tasmania, New Zealand, the Dutch East Indies and Singapore.

One of his first overseas assignments for the company was in 1927 when he installed the kaplan turbine at Alouette Lake hydro station in British Columbia. Alouette Lake lies about 60 kilometres east of downtown Vancouver and is the first of a sequence of three plants fed from Alouette Lake, the others being Stave Falls (built 1911-1925) and Ruskin (1930). The generating capacity of the Alouette plant is 8000 kilowatts from an English Electric generator supplied in 1927. At the

time it went into operation in 1928 this was the largest fully-automated hydro station in Canada.

On a recent summer vacation in the American northwest, I made contact with British Columbia Hydro and was invited, with my wife, to visit Alouette.

Starting from the Ruskin office in company with Rick Williams, the BC Hydro Generation Manager, and Larry Pope, his number two, the 20km dirt road ensured that only a four-wheel drive vehicle with suspension capable of negotiating major potholes would survive the journey. On the way up there were many brief glimpses of the tranquil Stave Lake through the fir trees and occasional pauses en route as giant logging trucks swept down the gradient.

Inside the station most of the original machinery remains. On the date of the visit maintenance work was in progress, including the installation of a new penstock gate, so there

were several engineers at work. New control equipment has replaced the original, but otherwise the station must still look as it did when Arthur Loving was there in 1927.

On the journey back to the Ruskin dam office talk turned to the British experience of privatisation of the electricity generating companies, which is now a probability for BC Hydro. Certainly the number of employees in BC Hydro has

reduced considerably since the eighties but it is expected that the company should remain commercially profitable well into the future.



View of Alouette Lake hydro station today, from above the penstock.

GEC/GEC ALSTHOM Employees National Angling Championship

Team		
1. GEC ALSTHOM T&D Protection and Control, Stafford RED		227 points
2. GEC ALSTHOM T&D Protection and Control, Stafford BLUE		224 points
3. EGT, Lincoln "X"		212 points
4. Hotpoint, Peterborough "A"		209 points
5. GEC ALSTHOM T&D Protection and Control, Stafford ORANGE		199 points

Individual		
1. P Boden	GEC ALSTHOM T&D Protection and Control, Stafford ORANGE	71b 10z
2. K Hassell	GEC ALSTHOM T&D Protection and Control, Stafford RED	41b 15oz
3. M Wedge	GEC ALSTHOM T&D Protection and Control, Stafford BLUE	
I Lines	GEC ALSTHOM Large Machines, Rugby "A"	31b 7oz
5. A Shucksmith	EGT, Lincoln "X"	31b 4oz
6. J Jepson	Hotpoint, Peterborough "A"	31b 3oz
7. P Felton	GEC ALSTHOM Turbine Generators, Rugby "A"	31b 2oz

Sections		
a. K Folwell	GEC ALSTHOM Turbine Generators, Rugby "A"	21b 13 1/2oz
b. D Cleaver	GEC ALSTHOM Large Machines, Rugby "A"	21b 8oz
c. M Wedge	GEC ALSTHOM T&D Protection and Control, Stafford BLUE	
I Lines	GEC ALSTHOM Large Machines, Rugby "A"	31b 7oz
e. P Coles	GEC ALSTHOM Turbine Generators, Rugby "B"	21b 6 1/2oz
f. P Boden	GEC ALSTHOM T&D Protection and Control, Stafford ORANGE	71b 1oz
g. P Felton	GEC ALSTHOM Turbine Generators, Rugby "A"	31b 2oz

Stafford anglers win

GEC ALSTHOM T & D Protection and Control, Stafford has regained its title in this year's GEC / GEC ALSTHOM Employees National Angling Championship.

The venue, the Grand Union Canal at Northampton, attracted 20 companies making 41 teams of six anglers. The conditions were excellent for fishing, de-

spite a large number of boats passing through the canal.

The winning "RED" team fished well obtaining 227 points. The company's "BLUE" team came second with 224 points and EGT, Lincoln "X", was third with 212 points.

The individual title was won by Philip Boden with a catch of 71b 10z, fishing for

the GEC ALSTHOM T&D Protection and Control's "ORANGE" team.

The 1996 competition will be held on the north bank of the River Nene at Peterborough on Saturday September 14th 1996. All enquiries for entries should be sent to Tony Pickering, Sheet Metal Shop, European Gas Turbines, PO BOX 1, Lincoln LN2 5DJ, before the end of February 1996.



Pictured above: Hotpoint's production director, David Gleohill, presenting the awards to the winning team from GEC ALSTHOM T&D Protection and Control, Stafford.

A share in GEC's future - it's your option

A further offer of options is intended to be made in December 1995 under The GEC Employee 1992 Savings-Related Share Option Scheme. The Scheme has in the past proved popular with over 17,000 GEC group employees in the UK currently saving on a regular basis.

A booklet setting out details of the Scheme and which includes an application form will be provided to eligible employees by Company Share Scheme Co-ordinators and will be supported by on-site meetings organised by Halifax Building Society at which employees will have an opportunity to learn more about the Scheme. A Halifax Building Society telephone Helpline will also be available to answer any questions employees may have.

How does the Scheme work?

The Scheme has two distinct parts: 1. a savings contract taken out with Halifax Building Society commencing on 1st April 1996 and 2. an opportunity to buy GEC shares after five years (an "option") at a price fixed in December 1995. Under the terms of the savings contract eligible employees must decide how much they can afford to save each week or month for a period of five years. The monthly amount saved (or four times the weekly amount) must be in multiples of £5 with a minimum of £10 and a maximum of £250. Those employees in an existing scheme who currently save less than the maximum may, if they wish, increase their savings to an amount up to that limit by taking out an additional savings contract. Savings are deducted from pay and put into the employee's saving account with the Halifax.

The terms of the savings contract provide that at the end of five years savers will receive a guaranteed tax free bonus equal to nine monthly payments, which amounts to a compound an-

nual interest rate of approximately 5.53 per cent. net of tax.

For example, if you save £50 per month, at the end of five years you would be entitled to receive:

- savings (60 months)	£3,000
- tax-free bonus (nine months)	£ 450
- total (after five years)	£3,450

At the end of five years employees can decide whether: 1. to use all or part of their savings to buy GEC shares at the option price which is set at the start of the five year savings period and which may be up to 20 per cent. less than the market price of the GEC shares at that time, or

2. to take their savings plus bonus in cash, or
3. to leave the savings invested for a further two years (during which time no further contributions are made) to earn an additional guaranteed tax free bonus equivalent to a further nine monthly payments, making a total of 18. So using the above example above:

- savings (60 months)	£3,000
- tax-free bonus (18 months)	£ 900
- total (after seven years)	£3,900

However, if you choose this course, you will lose the option to buy the shares.

The decision at the end of five years will largely depend on your own circumstances and the prevailing market price of the GEC shares. If, at the end of the five year savings period, the market price of GEC shares has risen, an employee may wish to buy the shares at the option price, but there is no obligation to do so.

The price of shares can go down as well as up. If employees decide to buy the shares they will enjoy the same rights, benefits and risks as other GEC shareholders. These include the receipt of dividends and the ability to sell the shares or transfer them to another person.

Who is eligible to join the Scheme?

To be eligible to join the Scheme you must on 1st December 1995:

1. be working for GEC (or a GEC subsidiary which is in the Scheme) for at least 16 hours per week (excluding meal breaks);
2. have two years continuous service with GEC (or a GEC subsidiary which is in the Scheme);
3. be resident in the United Kingdom and chargeable to United Kingdom income tax in respect of your employment; and
4. not already be saving at the maximum rate of £250 per month.

Joint ventures

Inland Revenue rules do not permit GEC to offer options under the Scheme to employees of GEC's joint ventures such as GEC ALSTHOM and General Domestic Appliances.

The new offer

If the decision is made to proceed with another offer details will be announced on notice boards and will include the option price at which the shares can be purchased at the end of the savings period.

Note: The decision whether or not you should take out an SAYE contract under the Scheme and subsequently acquire shares is your responsibility. Neither GEC or Halifax Building Society will provide you with investment advice.

MANAGERS' SHARE OPTION SCHEME

Holders of options granted under the Third Offer (reference: HO3) on 19th March 1986 should note that this option lapses on 20th February 1996, and therefore can only be exercised on or before that date in accordance with the rules of the Scheme.

Marconi and the development

ITALY was the setting for the beginning of wireless communications. In 1895, at the age of 21, Marconi sent the first messages using electromagnetic waves.

It had been his dream to use Hertzian waves as a medium for communicating. By the early summer of 1895, on the family estate near Bologna, Marconi used crude equipment to transmit signals over a few yards of space. This was the start of the era of wireless.

This earliest device consisted of two insulated plates, a spark gap consisting of two small spheres, an inductance coil, a battery, a morse key and a receiver. By August of that year, Marconi had rapidly developed his equipment and achieved a transmission distance of 1.75 miles.

Lack of enthusiasm in Italy failed to deter Marconi, and the following year he travelled to England to patent 'wireless telegraphy'.

He established the Wireless Telegraph and Signal Company in 1897. The company (which became Marconi's Wireless Telegraph Company in 1900) began to manufacture his apparatus commercially.

The company won orders from shipping companies, the British Army, the Royal Navy and Lloyd's of London. Marconi continued to

develop his equipment and set another new record for transmission in 1897, when he established communication across the Bristol Channel. The distance was 8.7 miles.

The site for much of Marconi's experimentation was the Isle of Wight. An aerial and other apparatus was installed in the grounds of the Royal Needles Hotel, Alum Bay. It was from here that he first communicated with a ship at sea, the *ss Mayflower*. His achievements now encouraged the Italian Navy in 1898 to purchase his equipment.

An exciting and prolific phase now began for Marconi. The first use of wireless by the British press occurred, and Queen Victoria, whilst at Osborne House in the Isle of Wight, communicated with the Prince of Wales who was on board the Royal Yacht in the Solent. It was at this time that the first paid telegram was transmitted by wireless.

Sea rescue

In 1899 Marconi's equipment was set up on the

Goodwin lightship, using the South Foreland lighthouse as the shore station. When the *ss Matthews* collided with the lightship, Marconi equipment enabled the first sea rescue through wireless to be made. All doubts about the value of his discovery had by now disappeared.

Marconi equipment on board two American ships kept New York newspapers informed of progress in the America's Cup yacht race. The enthusiasm this generated led to the formation of the American Marconi Company.

Trans-Atlantic

With his sights now set on achieving very long distance marine communications, he was determined to break the isolation of seafarers all over the world. His biggest hurdle of all would be to perform trans-Atlantic transmission. Experts believed that the curvature of the earth might prevent signals from travelling the necessary distance. But on December 12 1901,

Marconi once again proved the sceptics wrong. From Poldhu in Cornwall he transmitted signals successfully to St John's in Newfoundland.

Once Marconi's quest for transmitting across great distances had been satisfied, he began tirelessly seeking technological improvements to his wireless equipment.

In 1903, when the Prince and Princess of Wales visited Poldhu, with its newly designed aerial supports, Marconi already had on show a new magnetic detector which was to remain the standard Marconi receiver for many years to come.

The significance of wireless was now officially recognised. In 1903, the first 'International Conference on Wireless Telegraphy' was held in Berlin.

Marconi's focus turned towards the directional aerial, which was patented in 1905. He found that it concentrated the signal, therefore making it stronger. This was an important step towards the development of the microwave beam system.

As he mastered communications at sea, Marconi turned his attention to other hurdles. In 1907, he transmitted from a captive balloon.

Two-way

Marconi's speed of development of wireless technology was impressive. Just 15 years after his first crude transmission, he performed two-way communication. Messages were sent and received between Clifden in Ireland and Glace Bay in Nova Scotia - an overall distance of 6,000 miles.

In the same year, J D A McCurdy, using a Marconi spark transmitter, sent the first message from an aeroplane to a ground station.

Constant research led to major innovations. Marconi found that shorter waves could be transmitted farther and used less power

than longer waves. This coupled with the discovery of the directional aerial, formed the basis of short wave wireless communication - the foundation of most modern long-distance radio communication.

As time went by, of course the true value of wireless was appreciated by the public. Those rescued from the Titanic disaster, for example owed their lives to wireless distress calls.

The use of Marconi equipment in the air grew and in 1920, the first commercial air radio-telephone equipment - the AD1 - was fitted to aircraft flying the London-Paris route. Croydon airport was equipped by Marconi with the first ground to air transmitter station.

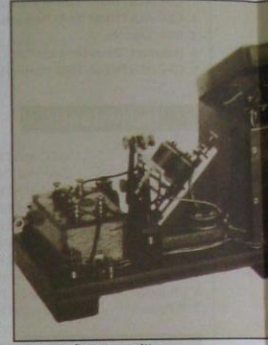
Marconi indulged his love of the sea when, in 1921, he bought a 220-foot steam yacht, *Elettra*. He began at once experimenting on board with shorter and shorter wavelengths and low-powered transmitters.

In 1924 with increasing interest in broadcasting, a high power longwave station at Chelmsford - the 5XX - was inaugurated for the BBC. The following year Marconi supplied the BBC with equipment for a more ambitious longwave station at Daventry.

Imperial Wireless Chain & the BBC

Having established the Imperial Wireless Chain, a series of beam transmitting stations for the Post Office and the Dominion Governments, the Marconi Company built its own beam transmitting and receiving stations in Southern England for communicating with Argentina, Brazil, the USA, Egypt and Japan. An extensive Marconi network had now entered operation.

Marconi's involvement with the BBC continued, when the Corporation decided to initiate shortwave broadcasting. Marconi was commissioned to build an



Marconi's first transmitter.

In the beginning

"In 1896 a young Italian arrived in England with scientific apparatus as part of his personal effects, which had seen nothing like anything so roughly that the delicate apparatus was the inauspicious beginning of a new era in the pattern of twentieth century living."

Taken from A History of the World

The history

Guglielmo Marconi's thirst for knowledge in the late 19th and early 20th centuries led to the company which still proudly carries his name.

Today GEC-Marconi is a world-leading contractor whose products range from underwater weapons, sonars, all satellite communications, guidance systems and data transmission systems. Its business is conducted on an international scale of state of the art technology.

In this article, Topic looks at the early career and the making of a famous name.



SS Lake Champlain 1901, the first British merchant vessel to carry Marconi Wireless.



The Royal Mail has recently launched Marconi postage stamps. They have also been issued by many other European countries.

History of wireless communication



experimental transmitter at the company's Chelmsford works.

Another notable event for Marconi came in 1932. The first microwave radio telephone link was installed, connecting the Vatican City with the Pope's summer residence.

Full circle

Marconi had come full circle. The spark transmitter of his boyhood produced a very short wave; his high power trans-Atlantic system used a wavelength of several hundred metres; his Beam System wavelengths were measured in only tens of metres. Then he turned to investigating wavelengths of less than a metre. As early as 1916, he had noted that short waves were reflected by obstacles in their path to produce a hissing in the receiver, and recorded his belief that this phenomenon could be the basis of detecting ships at sea. He now returned to the subject and in 1935 demonstrated principles of radar. He was to die soon after in 1937.

After Marconi

After the second world war, Marconi's business was bought by The English Electric Company from its owners, Cable and Wireless. A number of product divisions were set up and formed the Marconi Company, each with specialist knowledge and experience in a specific branch of electronics.

By 1968, these divisions covered automation, avionics, broadcasting (both sound and television), communications (radio, line and space), computers, electro-optical systems, mercantile marine communications and navigation aids, microelectronics, radar, specialised components and research.

At the end of 1968 a merger took place between

The English Electric Company and The General Electric Company, and the combined organisation became GEC.

In the restructuring that followed, the subsidiary, GEC-Marconi Electronics, was created to be responsible for the management of all GEC's major electronics interests.

Research and development

Marconi's policy of ploughing back a generous proportion of profits into research and development is still adhered to. The research laboratories he established are today still operating at the forefront of innovation in electronics engineering.

GEC spends over £1 billion a year on research, of which £412 million was borne by the electronics systems group (GEC-Marconi) in 1995.

The Marconi College

Giuglielmo Marconi established the first electronics college in the world at Frinton-on-Sea, Essex, where every UK operator in the Marconi Wireless Telegraph Company was trained. In 1920 it moved to Chelmsford where it is still in operation today, providing tailor-made training in applied electronics worldwide.

As part of GEC-Marconi this residential college supports GEC companies by developing technical



The Marconi factory at Hall Street, Chelmsford. This was the first wireless factory in the world - 1899.

training courses in virtually every aspect of electronics. Courses are tailored to specific needs and can be delivered to any customers' site in the world. Approxi-

mately 70 per cent. of the college's business comes from customer training.

With 20 full time professional staff, the college has 11 classrooms in its technical block and a 44 bedroom hotel in its four acre grounds.

There will be a full feature in a forthcoming issue of Topic on the college.

For further information, please contact: Dr Roger Woodcock on 01245 350011 or fax 01245 265323.

GEC-Marconi celebrates

Next year GEC-Marconi will celebrate the centenary of Marconi's first experiments and patents in the UK.

The various tributes will include: the Marconi Award Ceremony on 4 June 1996 which is planned to be held at the Victoria and Albert Museum in London; and a Marconi exhibition will be held from the end of April to the beginning of June in Central London. "The wireless revolution" exhibition will be sponsored by GEC-Marconi in association with the BBC.

Topic acknowledges making use of the following publications when researching this article: A History of the Marconi Company by W J Baker; a publication compiled by Pam Reynolds for The Marconi Company Limited; and Radio Days by Susan Kelland.

Beginning...

England with some mysterious personal luggage. The customs officer before, examined it so thoroughly that it was completely wrecked. This was the fate that was destined to shape his life.

History of The Marconi Company by W J Baker.

Heritage

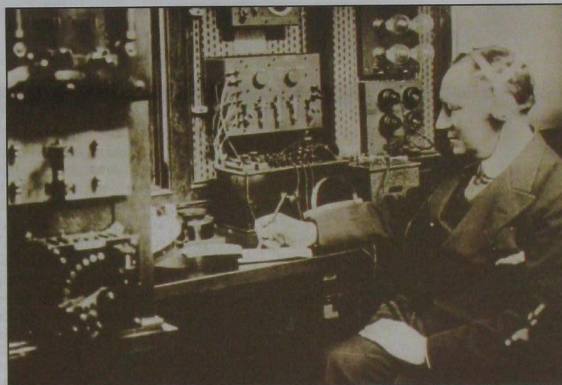
Technological innovation in the past has provided the foundation for the future. It bears his name.

Class electronics supplier and range includes avionics systems, types of radars, terrestrial and satellite missiles, electronic warfare systems. As in Marconi's day, on an international basis with world-wide recognition.

The development of Marconi's business name.



Marconi centenary stamps. They have also been issued and will go worldwide in 1996.



Marconi in the wireless cabin of Elettra.

Marconi's life

Marconi's genius led to international acclaim and he enjoyed the lifestyle his success brought. He often crossed the Atlantic on the luxurious ocean liners of the day, mixing with high society.

In 1905 he married an aristocratic Irish lady, the Hon. Beatrice O'Brien. Together, they had three children: Degna, Giulio and Gioia. Sadly, their marriage ended in 1924. Marconi remarried, and this time it was to an Italian, Cristina Bezzi-Scali.

Throughout his life, Marconi was bestowed with many prestigious awards. Among the most notable were: the Nobel Prize for Physics in 1909; a nomination to the Italian senate in 1929 as a Marquis; and in 1930 he was given the title of President of the Royal Italian Academy.

Marconi died in Rome on July 20 1937. News of his death was transmitted worldwide by the technology he had developed - wireless. As a fitting tribute, wireless stations closed down for two minutes.

TRAINING DEVELOPMENT

Project Management programme is up and running

THE 1995/6 Postgraduate Diploma in Project Management has got off to a flying start with a full complement of 18 delegates from GEC-Marconi, GPT and GEC ALSTHOM.

The 13 month programme started this year with an open day at GEC's Management College at Dunchurch for delegates, their line managers, training managers, in-company mentors and partners. It will be completed in May 1996 with a formal, day-long presentation of the final project reports.

Currently, delegates are studying the Open Univer-

sity component of the programme. The next hurdle, after a break from residential schools, will be the Open University examination.

Preparations are now in hand for the next phase of the programme, which begins early next year. Soon to be announced is an option to allow delegates to switch to an MSc in Engineering Project Manage-

ment part-way through the diploma programme.

A new brochure describing the diploma/MSc programme is currently being prepared and will be available next year.

If you would like a copy of this brochure, or further information, contact Amanda Siggery, the registrar on G-Net: Access + 784 2091 or tel: 01788 810656.

Building bridges across the Channel

YOUNG GEC ALSTHOM engineers from various companies on the Stafford site recently visited their French counterparts as part of the GEC Management College's Graduate Development Programme.

Earlier this year, a total of 20 engineers toured various sites in three separate groups. Included in the programme were tours of GEC ALSTHOM T&D Switchgear in Lyon, GEC ALSTHOM, Belfort (including the Power Generation and Transport Groups), GEC ALSTHOM T&D Transformers in Paris and the HVDC convertor station near Calais.



Graduate Development Programme

The Graduate Development Programme encompasses a wide range of courses and activities designed to help new graduates learn and enhance skills, meet people from other companies at the same stage as themselves and to attain an understanding of the activities of the other companies within the GEC ALSTHOM group. The purpose of the week long visits was to demonstrate the engineers' or-

ganisational, communication and team building skills. They were given the task of organising all aspects - from obtaining authorisation through to arranging the timetable.

The trip also strengthened relations between the British and French sides, as all the participants were enthusiastic about spending time working in their counterpart divisions.

Pictured above: Abdul Rassaq (second from left), David Obuk (4th from left), John Egner (5th from left) and Heresh Mistry (7th from left), all engineers with GEC ALSTHOM T&D Power Electronic Systems; Marc Calladine (6th from left), graduate engineer with GEC ALSTHOM T&D Transformers, Stafford; Gerhard Seyrling (1st from left), a French design engineer, and Claude Bouthillier (3rd from left) a French marketing manager at SI Ouen.

Quality presentations for Magnet



MAGNET World Travel, which has branches in London, Edinburgh, Rugby, Liverpool, Manchester, Lincoln, Rochester and Swindon has recently received the ISO 9002 Quality Certification. Pictured accepting the certificate for the Edinburgh branch from Keith Chuter of British Airways, are the agency personnel: (from left to right) Debbie MacKay, Ron Blighton and John Collier.

MANAGING FOR SUCCESS

MANAGING for Success, the new management programme which has been developed by Dunchurch in conjunction with GEC-Marconi and GPT, is set to be launched with its pilot run.

The programme is designed to underpin and reinforce a broader programme to provide managers with the essential skills needed for companies to achieve and sustain world class performance.

The programme integrates distance learning, formal inputs and work-based activities through a sequence of modules over a period of four to six months. The programme is intended for those who

have practical experience of handling management issues on a day to day basis.

For further details call Ed Mofatt at Dunchurch, G-Net: Access + 784 2055 or tel: 01788 810656.

Awards abound for Matra

'Operation Excellence'

THE chairman of CBI Avon Business Forum, Brian Symonds, recently presented the 'Operation Excellence' award to Matra Marconi Space, Bristol.

The award was in recognition of Matra Marconi's business position in the South West region and its major scientific and radar achievements in the field of earth observation.

The Bristol works are currently in the process of a scientific study into a

moon orbiting observatory, which would remotely study lunar surface properties and characteristics.

Quality Assurance

Brian Symonds also presented the company with the ISO 9000 certificate for successfully meeting the Electricity Association Quality Assurance assessment criteria, using European ISO 9001 standards. These covered the design, development, production and installation and servic-

ing of spacecraft and associated terrestrial systems. ISO 9000-3 standards were used to cover the development, supply and maintenance of software.

Deputy chief executive officer, Roger Wood expressed his delight at the award: "Matra Marconi Space is the first spacecraft manufacturer in Europe to achieve this award. It is seen as a cornerstone in our policy of continuing excellence and improvement through a long-term quality strategy. It is a tremendous achievement."

TRAINING DEVELOPMENT

NVQ is a hit at GPT

MORE than half of the employees at GPT Telephone Cables (TCL), Dagenham have expressed an interest in participating in an NVQ (National Vocational Qualification). One in ten are working to obtain NVQ awards.

Fitters, electricians, factory operatives, security staff, managers and users of information technology are already working on NVQ modules. Depending on the subject, qualifications can take from between three to 18 months.

Denis Pollock, employee development manager said, "We introduced the NVQ assessment programme in June 1994 and

had a very good response without running any campaign. It provides a good way of developing employees by identifying existing skills and training needs, and setting quality standards. NVQs motivate and offer opportunities for people who didn't gain qualifications at school and wish to do so now. Also those with academic qualifications can supplement them

with vocational qualifications relevant to their jobs."

TCL's Field Services Training School also reports that almost ten per cent. of the company's cable installers, jointers and testers want to obtain NVQs. Fourteen are already on the scheme. "The rest keep asking when they will be selected," says Dave Wishatt, Field Services training manager.

Woods strengthen worldwide expertise

WOODS of Colchester recently held a week long training course for its worldwide distributors.

The course which is run twice yearly, this time drew delegates from countries as far afield as the USA, Sri Lanka, Australia, Hong Kong and Egypt.

The course seminars covered a range of subjects including the principles of air

movements, motors, fan applications, air handling units and aspects of marketing.

The programme served as a refresher for experienced staff, as well as providing training for more recent recruits. It included a factory tour, which enabled delegates to see the latest research and development projects.

"It provides an important opportunity to demon-

strate the strength of support which the company offers distributor staff in their home markets, often many thousands of miles from Colchester," says course coordinator Jenny Mckenna.

"We are also able to show our overseas engineers how, with exports currently accounting for 50 per cent. of Woods sales, they are playing an essential role in the company's success."

Dunchurch honoured

THE GEC Management College at Dunchurch recently hosted its third graduation ceremony. Eighty one students from across GEC and its associated companies qualified this year and received awards from four diploma and three certificate courses.

Prizes were presented by Dr Ian MacBean, GEC director. Also present were the Hon Sara Morrison, GEC director; Dr Goldstein, vice chancellor of Coventry University; and Dr David Morris, head of Coventry University Business School.

Paul Watts, director of the College believes in the value of accreditation and validation of its programmes. He said, "As well as achieving quality control, it is an important



Successful recipients of the Postgraduate Certificate in Commercial Management with Dunchurch tutor, Brian Watt (second from left): (from left to right) Veronica Crowley (GPT), Alan Short (Avery Berkel), Joanne Carruthers (GPT) and Phillipa Hemsley (GPT).

means of encouraging those achieving certificate and diploma awards to continue to want to learn and study. It offers the opportunity to build on the certificates and diplomas and achieve an MSc or MBA degree award. The accreditation and validation systems

are powerful vehicles to help take the learning directly to the business through the project work. Projects are essential to help assessment but they also provide a means for companies to get an immediate return on their training investment."



Delegates at the week long programme at the Colchester factory came from Woods' distributors in the USA, Canada, Sri Lanka, Singapore, Qatar, Australia, Hong Kong, Holland, Belgium and Egypt.

OBE George Hill

GEORGE Grant Hill, managing director of Marconi Kominikasyon A S in Ankara, Turkey has been awarded an OBE (Order of the British Empire) in the Queen's Birthday Honours List.

George joined GEC-Marconi (Marconi International Marine) in 1968 as a sales engineer and was appointed managing director in 1983. When Marconi International Marine was integrated with Marconi Communications Systems, he was appointed director and then transferred to Marconi Kominikasyon A S (Turkey as managing director in early 1992.

The award recognises George's role in developing Marconi Kominikasyon.

RODCO apprentice competition success



RODCO employee, Lee O'Brien has recently completed his first year of an electrical engineering apprenticeship with the company and gained the Apprentice of the Year Award from the Lakeside Training Centre at St Helens, Lancashire. Lee is pictured (on the left) receiving an electrical textbook of his choosing, presented to him in recognition of his efforts by Rodco works manager, Dennis Wallsworth.

GEC Management College award recipients

Postgraduate Certificate in Commercial Management May 1994: Joanne Carruthers, Veronica Crowley, Phillipa Hemsley, Alan Short.

Postgraduate Certificate in Management Development (studied at GEC-Marconi Defence Systems, Portsmouth) Nov 1993-Jan 1995: Nigel Ashmore, Robin Kirk, Alan Ridge, Howard Saunders, Paul Spayne.

Postgraduate Certificate in Management Development September 1994: Carol Connor, Ricky Dingle, Michael Hynes, James Jamieson, Sally Johnston, Clare Knowles, Nicholas Parsons, Stephen Prentice, Carl Price, Mike Surrey, Pravin Tailor, John Taplin, Kevin Taylor, John Virdee, David White.

Postgraduate Certificate in Management Development February 1995: Stephen Beard, Gordon Cockcroft, Nigel Coulthard, Jenefer Cridland, Martin Elbourne, Stephen Hill, Gerard Oakley, Christopher Peterson, Stephanie Rousel, Richard Souter, David Wells, Howard Wilcox, Colin Williamson.

Postgraduate Diploma in Commercial Management May 1994: Frank Armstrong.

Postgraduate Diploma in Management of Design 1994-95: Nick Bailey, Conroy Brown, Andy Cook, Shaun Day, Peter Duthie, Bill Findlay, Keith Hardy, Robert Harley, Andy James, Adrian LeVin, Shane Rouse, Andrew Walton, Nigel Wilkinson, Nick Williams.

Postgraduate Diploma in Management (studied at GEC-Marconi Avionics, Milton Keynes) 1993-94: Martin Butler, Percy Connelly, Christopher Hardaker, Mark Humphrey, Rajendra Parmar, Anthony Pugh.

Postgraduate Diploma in Management 1994-95: Colin Beardmore, Steven Berg, Patrick Buttrill, Frederick Cahill, Andrew Crowdy, Bryan East, Stephen Faucherand, Martin Flavell, Cliff Gardner, Malcolm Graham, Paul Holbourn, Stephen Houldcroft, Mark Howling, Jean-Michel Magne, Michael Rayner, Francis Rapp, Christopher Rowe, Jeremy Rowley, David Simons, Michael Sweeney, Paul Taylor, Keith Wilman, Colin Wilson.

TRAINING DEVELOPMENT

GEC Hong Kong

Safety officers (3)

Candidates must have experience in: multi-disciplined E & M projects or lift and escalator.

Quantity surveyors (2)

E & M contracts administration experience is required.

Supervisors (2)

Experience is required in site supervision of E & M projects and preferably trackside auxiliary services installation.

For these positions, please apply to: R Dobbins, GEC Meters, Stonefield Works, Oulton Road, Stone, Staffordshire, ST15 0ES.

Hong Kong

Hotpoint

Engineering manager

The successful candidate will be a graduate with a minimum of 10 years' experience. This will include experience of: computer controlled equipment, continuous manufacturing process and mass production assembly.

The duties include responsibility for justification of capital projects, controlling the manufacturing capital budget, and playing a major role in productivity improvement projects.

Apply to: A C Pritchard, Hotpoint, Celta Road, Peterborough, PE2 9JB.

Peterborough

GEC-Marconi Research Centre

Mechanical Engineering Research Laboratory Design Assurance Division

Senior stress engineer

Ref: MRC555

An experienced stress engineer is required to provide design assurance capabilities in the assessment of the structural integrity of lightweight welded structures, and a variety of complex metal and composite assemblies and mechanisms. This will require stress, vibration and shock analysis using appropriate finite element tools.

Other tasks will include acting as a consultant to design teams during early concept stages, and subsequently working with CAD designers to ensure optimal design approaches. Previous experience of planning and costing proposals is essential as are effective project management skills.

Candidates will be: graduates in a relevant discipline with five years' FE analysis experience, ideally gained in a defence/aerospace environment. Proficiency in the use of MSC/NASTRAN and I-DEAS or PATRAN is essential.

Mechanical design engineers

Ref: MRC554

Mechanical Engineering Research Laboratory

Candidates must have experience, gained in a manufacturing environment of low volume, high quality products, in conceptual design of large precision machinery and be CAD literate.

Emphasis is on flexible and broadly based design skills, although specific knowledge of fabrication or composites would be an advantage. Candidates should have a mechanical engineering HNC, HND or degree.

Applications in writing, quoting the appropriate reference to: Mrs F M Holloway, GEC-Marconi Research Centre, West Hanningfield Road, Great Baddow, Chelmsford, Essex, CM2 8HN.

Chelmsford

EEV

Principal engineer (science based projects)

Ref: EA.023

The successful candidate will lead long term technology-based projects and identify future project areas in conjunction with other members of the central technical services function.

Suitable candidates will have ten years' experience of high technology medium term project based work, probably with a high material science content and should be qualified to degree or HNC level in an appropriate discipline. Candidates must be motivated, results orientated and demonstrate good communication and problem solving skills.

Project engineer

Ref: EA.022

The successful candidate, based in the central services function, will be responsible for project design and implementation of projects involving production facilities, plant and building services, heating and ventilation, and air conditioned clean rooms.

The main areas of responsibility include:

1. Liaison with product managers and engineers to determine facility requirements.
2. Designing and supervising the installation and commissioning of new production facilities and plant services.
3. Estimation and control of project costs.
4. Selection of bought-out plant and services and supervision of contractors and company personnel.
5. Implementation of design features to save energy costs and comply with safety legislation.

Candidates must be qualified to HNC level in mechanical or electro/mechanical engineering and have plant engineering and design experience.

Quality engineer

(Product statutory & regulatory affairs)

Ref: 466

Reporting directly to the company quality assurance manager, the main responsibilities are: to provide a high level of engineering expertise in reviewing all product, statutory and regulatory requirements; to ensure concise guidance is made available to business unit managers; and to provide a proactive focal point on these issues through GEC SIGs and other industry trade associations and authorities. The successful candidate will be the technical expert on product statutory and regulatory affairs on specific supplier assessment and company wide system and product audits.

Graduates or candidates with equivalent standards in electrical/electronic disciplines, together with experience in managing regulatory requirements such as product safety, radio-active sources, IATA, Def standards and other product approval standards, should apply.

Candidates will be mature design test/commissioning engineers with experience in both the telecommunications and defence electronics industries.

Systems auditor

Ref: 467

Responsibility includes: to plan and lead system audits company wide; to ascertain from objective evidence conformance to company procedures, product statutory and regulatory requirements and ISO9001 requirements; and through compilation of audit data to provide a focus for more detailed process and product assessment. Additionally, support will be required on vendor rating working with EEV's existing supplier quality assurance function.

Minimum qualifications to HNC in an appropriate engineering discipline are required. Proven experience as a competent auditor, together with the ability to compile data into concise information and reports is essential.

Candidates for the position are likely to be senior quality assurance engineers with experience of the successful transfer of project based design and development disciplines into the production of telecommunications and/or defence electronics systems.

Applications in writing, quoting the appropriate reference to: Mike Tadman, EEV, 106 Waterhouse Lane, Chelmsford, Essex, CM1 2QU.

Chelmsford

continued on page 14.

GEC Overseas Club

Golf President's Trophy

THE 1995 President's Trophy was won by Harry Deykers, manager operations and service at GEC ALSTHOM Sales Network Inc, Ontario, Canada.

Harry returned a stableford score of 39 playing with a handicap of 16. The Canadian competition was attended by 27 club members and played at the Trafalgar golf and country club in Milton, Ontario.

Close competition

The overall competition was extremely close this year as five members, each from a different centre, came second on a stableford score of 38. Entries were received from Canada, Australia and South Africa, in addition to



The President's Trophy, donated to the Overseas Club by Leonard Short.

Club annual dinner

The Overseas Club annual dinner will be held at the Benn Hall, Rugby on November 9. Lord Prior, the club president and chairman of GEC will preside. The principal guest and speaker will be the Rt Hon Sir Geoffrey Pattie, MP for Chertsey and Walton, vice chairman international of the Conservative Party and chairman of GEC-Marconi. Ticket prices are £20 for members and £30 for guests. As the hall is limited to 300 people and this is a popular event, please book early.

New Overseas Club vice presidents

THE 102nd club council meeting which was held at Lincoln, unanimously elected three new life vice presidents.

Jim Andrews
Jim is currently president of the Rugby centre of the GEC Overseas Club. He has been with GEC for 22 years, during which time he held a number of management positions.

Starting at GEC Turbine Generators, he then moved to Hong Kong for three years. He became project manager of a record order won by GEC in the 1980s - for the Castle Peak Power Station in Hong Kong. After various manager and director positions, Jim is currently managing director of the Salient Poles Motors and Generators Group of GEC ALSTHOM.



Jim Andrews.

Ken Druce
Ken was formerly a prominent member of the English Electric Overseas Association and following the merger of all former associations into the present GEC Overseas Club in 1970, has served many years on club council.



Ken Druce.



Keith Ralls.

Keith Ralls
Keith started his career with English Electric in Stafford in 1963. He then went on to hold many managerial positions with the GEC group.

Keith is currently managing director of GEC ALSTHOM T & D Power Electronic Systems, Stafford. He has considerable experience in the power transmission and distribution industry, has served at all levels of the Power Division board and is currently chairman of the power board of the Institution of Electrical Engineers.

His interests include badminton, swimming and an active support of the Overseas Club.

Batti Wallahs

Ken has also been an ever-present member of the London centre committee and served as chairman of the centre for four years. Ken was made a Freeman of the City of London in 1988 and has been a member of the Batti Wallahs Society since 1950!

News from around the centres

Australia

A successful New South Wales dinner was held in Sydney. It was attended by 206 members and guests and the guest speaker was Stephen Mulholland, CEO of Fairfax Press. Stephen is a well known journalist and business man. His speech, 'South Africa - past, present and future' was drawn from his experience of over 20 years with the press in South Africa. This was the first year that the Australia centre had wid-

ened its invitations to include GEC corporate guests and the success of the evening will encourage them to continue this approach.

Canada

The 1995 AGM and dinner of the Canadian centre will be held on October 19 1995 at the Sheraton Centre in Toronto. The Hon Roy McMurdy chief justice of Ontario will be guest of honour and principal

speaker. Tickets are \$35 and can be obtained from Lynne Coote, membership secretary. Colleagues from all associated companies are welcome.

London

The next club lunch will be held at the Naval Club, Hill Street, London on 20 October. Tickets are £8 for members and £16 for guests. If you are interested, please contact the London centre secretary, John Foster.

Rugby

Rugby will hold its Autumn 'ladies night' on October 27. This formal dinner will be held at Aston Lodge. Applications to Philip Moore as soon as possible.

South Africa

Wally Eastman organised lunch at the Durban country club for the Natal Kwa Zulu members of the Overseas Club. Sixteen members attended. South Africa is also developing a full centre and will form a pilot committee shortly. The annual dinner will be held in the Inanda Club, Johannesburg on November 9 to coincide with the club dinner. For details contact Jake Crompton.

1996 Diary

The 1996 diary will be despatched in November using the membership list as at 31 October 1995. If you are aware of any changes please notify the secretary to club council.



CLUB SECRETARY

Council: David Twigger, GEC, 1 Stanhope Gate, London, W1A 1EH Tel: 01203 565588

CENTRE SECRETARIES

Chelmsford: Chris Christelow, EEV, Chelmsford, CM1 2QU Tel: 01245 493493

Coventry: Alan Nixon, GPT, New Century Park, Coventry, CV3 1HJ Tel: 01203 563784

Lincoln: Tim Dunn, GEC Plessey Semiconductors, Carlholme Road, Lincoln, LN1 1SG Tel: 01522 565510

London: John Foster, 20, The Avenue, Hilkrick, Bedford, MK45 1BP Tel: 01525 713891

Manchester: Nick Phipps, GEC ALSTHOM Power Plants, PO Box 75, Mill Road, Rugby, CV21 12S Tel: 01788 568444

Portsmouth: Roger Peplow, GEC-Marconi Defence Systems, Brewers Lane, Portsmouth, PO3 5PH Tel: 01705 675210

Rugby: Phil Moore, CELELEC Projects, Boughton Road, Rugby, CV21 1BU Tel: 01788 563513

Stafford: Colin Riley, GEC ALSTHOM Turbine Generators, Lichfield Road, Stafford, ST17 4LN Tel: 01785 274089

Hong Kong: Kim Steele, GEC Hong Kong Tel: 58918282

Canada: Brian Shangrow, GEC ALSTHOM Int, Canada, Mississauga Tel: 905 6248300

Australia: Don Bartho, GEC Marconi Systems, Meadowbank NSW Tel: 02869 9700

CLASSIFIED COLLECTION

HOLIDAYS

FLORIDA. luxury three bedroom villa with free use of swimming pool, tennis court and children's play area. Five minutes from Disneyworld. Sleeps six persons. £300 pw H/S and £250 pw L/S. Tel: 01424 842885.

CYPRUS. Limassol, two bed holiday flat for rent. Tel: (UK) Mo Hedges on 01329 221936 or (Cyprus) Ray Martin on 00 3575 335628.

PORTUGAL. Near Estoril, five minutes walk to the beach from luxury private villa with beautiful gardens and barbecue area. Sleeps four, with two bathrooms opening on to terrace and pool. Sunday bookings, villa from £400 weekly. For further details tel: 01788 571395.

MALTA. Privately owned flat located in a quiet coastal town yards from the sea. Accommodation sleeps five, one single, two twin. £110 per week winter rate. Tel: 0141 616 0513.

YORKSHIRE. Dales, Tosside, near Settle. Bed and breakfast in charming barn conversion, peaceful and picturesque. Close to

the three peaks, Settle to Carlisle railway, Trough of Bowland etc. En-suite facilities. £18 per person per night. Open all year. Tel: 01729 840482.

FLORIDA. Orlando. Two bedroom, two bathroom, air conditioned villa. Sleeps 4/6. Overlooks 18th fairway, Meadow Woods golf course. Free golf, swimming and tennis. Fifteen minutes to Disneyworld and major attractions. £275 per week. Tel: 01745 833426.

MENORCA. Detached villa with private swimming pool. Sleeps eight maximum. Three bedrooms, kitchen, lounge/diner, two bathrooms, two sun terraces and gardens. Close to beaches/coves and Ciudadela. Now booking for summer '96. For brochure tel or fax: 01634 867183.

NARROWBOAT holidays - Yorkshire. See the Pennines and Yorkshire Dales from a different perspective. Cruise the rivers and canals of Northern England in a luxurious narrowboat based at Selby to the south of York. For further details tel: 01347 821772.

FRANCE. La Palmyre, near Royan. Modern villa comfortably accommodates six people. Two bedrooms,

good size living room with kitchenette. Swimming pool (in season) and tennis courts in a village style complex. Good walking and cycling area. Sandy beaches, shopping precinct, large zoo and restaurants approx. 2.5 miles. Ideal for visiting Cognac, Bordeaux, FUTURSCOPE. Tel: 01276 28792 (answerphone).

CARNLOUGH. Co. Antrim, Northern Ireland. Luxury bungalow on beautiful Antrim coast road amid the glens of Antrim. Excellent walking, fishing, sightseeing and touring. Two bedrooms, double bed-settee in lounge, sleeps 3/6. Northern Ireland Tourist Board certificated. Tel: Ballymena 01266 653596.

SNOWDONIA. Betws-y-Coed, Ty'n-y-Celyn House. Highly rated and situated in a quiet location in the park overlooking the picturesque village. Superbly furnished for comfort and relaxation. There are beautiful views of the Lligwy Valley, rivers and surrounding mountains. £20 per person. Tel: 01609 710202.

TURKEY. Aygul Hotel, Calis Beach, Fetihye. Still only £49 pp pw B & B. Great people, stunning views, good food. New for 1995 (thanks to Topic readers) a

large swimming pool. Competitive flights and insurance. Group discounts for 10+. Details tel: 01392 881363.

S. WALES. Gower coast, modern holiday bungalow sleeps 5/6. Ten minutes from sandy beach. Golf, pony trekking, bird-watching and lovely walks nearby. Tel: 01639 830847 for details.

WINDERMERE. Unique lakeside house with own harbour and dock, 200 yards of lake frontage and large garden. Sleeps nine in five bedrooms. Cot available. Tel: 01539 488855.

SOMERSET/DORSET border - B & B, at "Molescroft", a detached bungalow on village outskirts. Beverage tray, TV, guests bathroom, own key. Sherbourne - two miles, National Trust properties in area. Country walks from the door. For details tel Stella Stacey on 01963 250857.

FLORIDA. Kissimmee. Our modern fully furnished four bedroomed detached house (sleeps ten!). 15 minutes to major attractions/Disneyworld. Large private screened and heated pool. Cable vision, stereo system, air conditioned, fitted kitchen, plus more! Children welcomed. Assistance with travel arrangements. Booking 1995/6, tel. 01279 434534.

LABENNE. SW France - near Cap Breton / Biarritz. Modern chalet / studio with first class amenities, accommodates 5/6 people within 500 yards of Atlantic beach, good for visits to Atlantic coast, Northern Spain, Lourdes and Pyrenees. Tel: 01344 424632 for brochure.

KENYA. Enjoy a fabulous holiday on the waters of the Pemba Channel, snorkelling, windsurfing, scuba-diving, big game fishing or cruising among the islands of the Zanzibar archipelago. Perfect for group hospitality. Tailor made itineraries available. Tel: 01334 472504.

SNOWDONIA. Transfynydd village. Comfortable, well equipped, two bedroomed stone cot-

tage. Sleeps 4/6. Cot provided, pet welcome. Good walking and fishing locally, convenient for exploring rest of North Wales. Available throughout year. £84-£168 pw. Winter mini-breaks from £42. Tel: 01489 574626 for details.

SKI HOLIDAY - Sansicario, Italy (Milky Way) Sunday 21st January - Sunday 28th January 1996. Absolutely fully inclusive price (Gatwick flight) £495 - suitable for beginners, intermediates, advanced or social skiers - friendly established adult group. Tel: Ian Smith on 01206 845128 / 841334 for full details.

FOR SALE

RENAULT 21 GTS. 1721 CC, 1987 D-Reg, metallic blue with silver bottom, c/locking, e/windows. Taxed, MOT, very low mileage, outstanding condition, rear seatbelts, folding rear seats, velour interior. £1,250 ono. Call John on 01708 852212 (after 6.30 pm).

MISCELLANEOUS

MECHANICAL and pre integrated circuit electric calculators wanted by collector. Tel: 01788 531946 (work) or 01788 817309 (evenings).

WIRELESS. All pre 1950 receivers and equipment by enthusiasts for restoration and display. Particularly seeking American origin and US Signal Corps items. Details please to: Alan Stubblings, 7 Church Road, Saxilby, Lincoln LN1 2HH. Tel: 01522 702601 evenings/weekends.

MET-VICK. Wanted: a copy of "1899-1949" a history of the Metropolitan-Vickers Electrical Company Ltd by John Dummelow, published in Manchester in 1949. Please contact J V G Williams, Greenways, Coventry Road, Dunchurch, Rugby, Warwicks. CV22 6RE. Tel: 01788 810302.

PROPERTY

RUGBY. Greener living. Ten minute bike ride to work or station. 180 feet rear garden. Architect designed roomy four bedroom 1950s individual detached house. Many attractive features. Quiet location, close to schools, shops, buses. £98,500. Tel: 01788 542575 or G-Net: Access + 781 4224.

KIDDERMINSTER. Worcs. Four bedroom detached house. Study, lounge, dining room, refitted kitchen and utility, gallery landing, double garage, GCH, large corner plot, private south facing rear garden. £119,000. Tel: 01562 861989.

Send your classified advertisement written clearly in block capitals (maximum 40 words) to: *The Topic Office, The General Electric Company plc, 1 Stanhope Gate, London, W1A 1EH* by **21 November 1995** giving your name, address, telephone number and, where appropriate, your GEC site. Next issue - December 1995. Only one insertion per ad is allowed. Insertion is not guaranteed but every effort will be made to include your advertisement as soon as possible. GEC employees, their families and people who have retired from the company may advertise free of charge. For others the cost is 50p per word. Please make cheques payable to: The General Electric Company plc.

Topic takes no responsibility for any misrepresentations or inaccuracies in classified advertisements or for any breaches of obligations by classified advisers. Readers are recommended to take appropriate professional advice before entering into obligations.

Careers continued from page 12.

<p>AEI Cables</p> <p>Technical sales engineer Fire performance cables</p> <p>Due to continuing expansion, we wish to appoint an experienced sales engineer to promote the AEI range of Firetec, fire performance cables and associated products.</p> <p>Working closely with consultants, specifying authorities, industrial users and major contractors, the successful applicant will hold a clean driving licence and have a practical background in electrical engineering with a minimum qualification of ONC or City & Guilds.</p> <p>You will be part of a very successful team and will operate with a minimum of supervision. A technical sales background and a high degree of self motivation are essential.</p> <p>Applicants with a proven selling record should write with full cv to: Mrs C M Rice, AEI Cables, Hawthorne Road, Bootle, Merseyside, L90 9PN.</p> <p style="text-align: center;">Bootle</p>

Cycling for children

IN the annual London to Brighton bike ride, Mark Beattie of GEC-Marconi Avionics (GMAV), Rochester was not just cycling against the clock, but for the lives of others.

The production engineer, along with his brother-in-law Alan Clark, completed the race in five hours. More importantly, they raised £1,350 for the cancer and leukaemia trust, CLIC UK. Mark's son Christopher, is suffering from a rare cancer called Neuroblastomer. He is treated at Great Ormond Street Children's Hospital.



Mark Beattie from GMAV with his sons David (left), Christopher (holding) and Andrew (right).

To make his treatment easier all routine tests, injections and blood samples are performed at home, with the help of a domiciliary care nurse sponsored by CLIC UK. The trust was formed to bring this level of care to all children suffering from cancer.

GMAV was well represented in the race, as Mark was one of a 100-strong team. Other employees raised money for the British Heart Foundation, the race organisers.

Mark will cycle again next year, this time with his wife.

Karen bowls them over in Africa



Karen Johnson.

HISTORY was made recently when the first tour made by an international ladies' indoor cricket team took place in South Africa. Karen Johnson, a secretary at GEC ALSTHOM Engineering Research Centre, Stafford was part of that team.

Karen (pictured left) was one of three ladies who play for Wolverhampton who were selected to play for the England women's indoor cricket team. The women, who only trained together four times before

the tour, were successful. Out of 12 matches, they won seven.

When Karen discussed the tour with *Topic*, she said, "I enjoyed it so much I really didn't want to go home!"

GMMT tour is a double success!

THE GEC-Marconi Materials Technology (GMMT) cricket team notched up two victories during its first weekend tour of other GEC sites. GMMT, based at Caswell and Towcester travelled to Sherborne, Dorset to play GEC-Marconi Sonar Systems Division, Templecombe and then to Havant, Hampshire to play GEC-Marconi Underwater Weapons Division, Waterlooville.

In the first match, Martyn Maule achieved a well-earned century and Mark Kelk scored 50 to set GMMT up for a total of 262 runs for five wickets off 40 overs. GEC-Marconi Sonar Systems Division scored 155 runs, ably helped along by a partnership of 85 from Captain Colin Frost and opening bowler Steve Neller.

The following day, GMMT faced Underwater Weapons Division. GMMT finished with 148 for ten wickets. This total was defended when Underwater Weapons Division finished with a total of 114 for ten wickets in 32 overs.

'Man of the Match' awards were given to GMMT cricketers Mark Kelk for Saturday's match and Clive Trun-

dle for the Sunday game. Also from GMMT, Gareth Edwards received 'Mug of the Tour'. 'Player of the Tour' went to century maker, Martyn Maule.

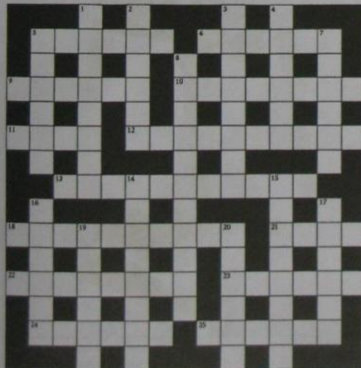
The teams hope to have return games and would welcome participation from other GEC teams. If interested, contact Steve Marsh on G-Net: Access +942 6419 before April 1 1996.



Nigel Thomas driving off the back foot for GMMT.

October Crossword

THE prize for the October crossword winner is a Cannon 5kg gas tumble dryer.



JULY WINNER

The first correct entry drawn at random from the July crossword entries came from Karen Taylor of NNC. Karen wins a Creda Reversair Energy Save tumble dryer.

July Solution

ACROSS

4. Ecstastic; 8. Grease; 9. Restless; 10. Emergent; 11. Ensued; 12. Unawares; 13. Hide-outs; 16. Sergeant; 19. Tethered; 21. Spigot; 23. Ringside; 24. Macaroni; 25. Livery; 26. Underdog.

DOWN

1. Framing; 2. Harrowing; 3. Meteor; 4. Earthshattering; 5. Suspends; 6. Atlas; 7. Inspect; 14. Offensive; 15. Fast food; 17. Explain; 18. Tenders; 20. Tingle; 22. Grate.

ENTRY FORM

Name.....
Address.....
Company.....

DEADLINE: 21st NOVEMBER 1995

A copy of your crossword together with this entry form should be sent to *Topic*, GEC plc, 1 Stanhope Gate, London W1A 1EH. Please mark your envelope OCTOBER crossword.

ACROSS

5. Verses written about cuts ... (6)
6. ... some heartless Frenchman composed (6)
9. Girl sent out riding (6)
10. Approach tired-looking listener (4, 4)
11. She's in average accommodation (4)
12. I say! West's in trouble, according to 'The Observer' (3-7)
13. "Success is assured" - as the satisfied poacher might say (3, 2, 3, 3)
18. Offer gin as a gentle enticement (6, 4)
21. Stuff for a runner? (4)
22. Flowers found by athletic canoeist (8)
23. Stiff part of army education, primarily (6)
24. Cooks rebuffed about English puddings (6)
25. A loose relative? (6)

DOWN

1. Being in charge of the actors can be dull (8)
2. Crib card trick the Spanish made up (6)
3. Family member about fifty put on uplifting musical show (8)
4. This man is somewhat over-nonchalant (6)
5. Rubbed down six across, nineteen down and eight down initially (6)
7. When ordered, please pass (6)
8. Coming over the river: ss 'Delilah' possibly (11)
14. Angry about Brit appearing topless to cause annoyance (8)
15. Bill? He's a man of the cloth, to be exact (8)
16. More than one receiver answers evasively (6)
17. Dogstar? (6)
19. Fitness of nylon, etc. is checked over (6)
20. Fetch the vehicle (4-2)

The Henley legacy

Recent issues of *Topic* have contained features highlighting events and figures in GEC's history. In this issue, we look at the life and work of William Thomas Henley, inventor and entrepreneur, who was one of the nation's founding electrical instrument makers. His achievements in the field of long distance cabling transformed international telegraph communications in the last century. The legacy of his work survives as GEC Henley.

The apprentice

William Thomas Henley was born in Midhurst, Sussex in 1814. He spent most of his early years living with his grandparents and at the age of 16 travelled to London in a hay cart. He soon found a job as a porter in Cheapside, delivering silk goods to houses in London. Over the next six years, while working as a labourer in St Katherine's Docks, he decided to teach himself a trade. With £2 donated by an aunt he purchased an old lathe and vice and taught himself turning in both wood and brass. With the balance he bought an

old plank of wood and made himself a cabinet-maker's bench. Whatever he could save he spent on books and materials for his growing interest in experiments.

In three years he acquired considerable skills in electricity and magnetism, optics, pneumatics, chemistry, mechanics and the laws of motion.

A local chemist gave him some orders for electrical apparatus and allowed him to place some in his shop window for sale. This, combined with recommendations from customers, helped Henley's own list of clients grow. A turning point for him was when he received a "large" order for the sum of £5, which led him to think it was time to

leave the Docks. His next move was to start up as a "philosophical instrument maker" in the City.

One of his best customers of the time was a Mr Gassiott (once chairman of the London and Westminster Bank) for whom he made various electrical, electromagnetic and optical devices. Through him he made further contacts, and as business blossomed he purchased more lathes and turned his old one into a wire covering machine - it is still on display in the Science Museum in London. Wire covered with silk and cotton was then in great demand for electro magnetic apparatus.

Having by now made a number of innovative elec-

tric telegraph devices, he was able to form the Electric Telegraph Company in 1846.

The businessman

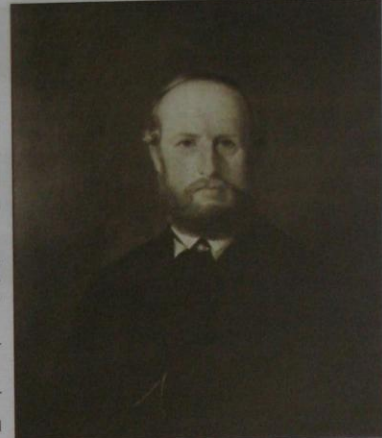
In 1851 Henley exhibited a range of telegraph instruments at the Great Exhibition, including his latest magneto-electric telegraph which required no battery. It proved an immediate success.

In 1857 he set up business as a submarine cable maker in Greenwich. He soon moved to North Woolwich and over the next few years was to win many important deep sea cable contracts all over the world.

Thanks to his advances in material technology he was able in 1863 to manufacture a 1651 mile long telegraph cable in the Persian Gulf, linking Fau (now in Kuwait) with Karachi. It was to prove to be the first time any great length of submarine cable had been laid with lasting success, and gave the UK, Europe and India their first telegraphic connection. His plant was the most capable in the world, producing up to 150 miles of submarine cable every week.

By the end of 1873 the North Woolwich site had expanded to include cable factories, wire drawing and galvanising works, rolling mills, steel works and wire rope works. Henley also bought three steamships for the purpose of laying cables.

W T Henley's Telegraph Works was formed in 1876. Although it went into receivership the following year, a small part of the Woolwich site was formed into W T Henley's Telegraph Works Company, of which Henley was managing director until his death in 1882.



William Thomas Henley 1814 - 1882.

Under a new manager, George Sutton, the company expanded and moved to its present site in Gravesend where it continues to grow.

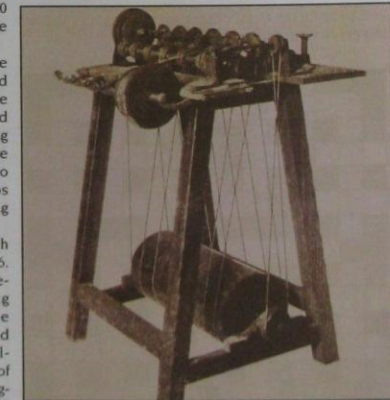
The legacy

Over a century after William Henley opened his first workshop, the company merged with Siemens Ediswan and Liverpool Cables in 1960, and jointly became known as Associated Electrical Industries, Cable Division. Commenting at the time of the merger on the disappearance of famous names from the world of engineering, AEI chairman Lord Chandos said, "I cannot help expressing my sadness - that the departure

from the scene of the long-established and honoured company names, to which their loyalties have been so long attached, is no light matter for the employees affected. This kind of organisation is necessary to meet the intensely competitive conditions which face us."

However, the Henley name lives on and today GEC-Henley is one of the world's leading names in the field of electrical distribution.

Much of the information used in this article has been extracted from "The Henley Telegraph", a staff magazine issued from September 1919 up until the AEI takeover in 1960. The Henley Telegraph attracted many famous contributors including the famous director, Alfred Hitchcock. It merged with the AEI "Topic" in 1960, which of course, is now the GEC Group newspaper.



The Henley wire-covering machine. Photograph kindly reproduced by permission of The Institution of Electrical Engineers.

Weekends away at the Forte Grand Imperial, Torquay

FORTE

Established in 1966, the stylish Forte Grand Imperial is one of Britain's leading resort hotels. Overlooking the Torquay coastline, the hotel is set in five acres of carefully tended gardens and offers extensive amenities in grand style. Facilities include indoor and outdoor heated pools, billiards room and satellite TV. Reputed for its fine cuisine and excellent level of service, the hotel was awarded the "Family Hotel of the Year" by American Express Magazine in 1992 and 1993.

Forte is offering all *Topic* readers a special accommodation rate of **£60.00** per night (single or double room only) at the Forte Grand Imperial, Torquay. This offer is available until 4th April 1996 (excluding 23rd December 1995 - 2nd January 1996) when staying a minimum of two nights.

To take advantage of this limited offer, bookings should be made by calling **0345 40 40 40**, quoting "P337". (Rooms are normally priced at £80 per night for single room and £100 per night for a double).



Terms and conditions of Torquay offer:

1. All stays are for a minimum of two consecutive nights
2. All bookings are for room only, based on single or double occupancy
3. All bookings are subject to availability
4. The offer is available only at the Forte Grand Imperial, Torquay, and cannot be used in conjunction with any other offer
5. Offer is for stays taken and completed by 4th April 1996 (inclusive), excluding 23rd December 1995-2nd January 1996
6. All bookings must be made through 0345 40 40 40 quoting the reference code "P337".

For your free copy of the 1995 Forte Leisure Breaks brochure, Forte International brochure or the 1995 Forte Christmas and New Year brochure, call 0345 700 350, quoting SDM 012.

www.rochesteravionicarchives.co.uk