GEC-Marconi AVIONICS VISION

House Journal of GEC-Marconi Avionics Limited

Issue 7

GMAv's New MD

Dr Saul Lanyado MSc PhD joined GEC-Marconi Avionics as Managing Director on 01 September.

He is based at Rochester and reports to Peter Gershon, Managing Director of GEC-Marconi Limited.

With a BSc degree with first class honours in electrical engineering at London University, followed by a PhD in computer science from Manchester University, Dr Lanyado's career has been extensive.

Having initially held the position of Chief Engineer with the Ilford Film Company, followed by an appointment as Business Development Manager of STC Components' Micro Devices Division in Harlow, Dr Lanyado also held the appointment as Director and General Manager of Marconi Instruments in Scotland between 1985 and 1988.

For the past six years he has been Managing Director of STC Submarine Systems, a Company with an annual turnover of £300m involved in the global supply of subsea cable networks.

Whilst living in London Dr Lanyado maintains strong contacts with Scotland, owning a house in Edinburgh. He

is married to Monica and has three children: Emma, 21 years; Susie, 19 years and Benjamin 10 years.

A MESSAGE FROM DR SAUL LANYADO

First of all, I would like to thank everybody for the very warm welcome I have received on my journeys around the sites. I am looking forward to working with you to further enhance the very fine reputation held by GEC-Marconi Avionics in the industry.

It is a bit difficult for me to be definitive about business priorities but there are a few objectives I would like to share with you, even at this stage.

Staying (or getting!) on top of key programmes must be a top priority. We are fortunate in having a good order book and meeting customer targets is a must.

Increasing market share is the second objective and new products and marketing approaches will be needed. I am aware that some exciting ideas have already been generated and these, together with new initiatives, will get my full support. In doing this we need to take into account the full spectrum of avionic products and customers. This will invariably mean co-ordination with business divisions outside GMAv.

Strategic alliances and acquisitions form the third objective. This is obviously not an end in itself but one route to business growth. Strong financial performance and an organisation capable of managing new business structures are essential attributes for success.

There is a lot to do. I am looking forward to the challenge.

I wish you and your families a happy Christmas and prosperous New Year.

Saul Lanyado
Managing Director
GEC-Marconi Avionics Limited

Royal Visit to Rochester

Following his visit to the GEC-Marconi stand at the Middle Wallop International Air Show (see VISION Issue 6) HRH Prince Michael of Kent recently visited GMAv's Rochester headquarters.

After an initial welcome, a briefing on GMAv's products and programmes, and luncheon, His Royal Highness - accompanied by Roy Gardner, Sir Donald Hall, Brian Tucker and Peter Kenyon - attended a briefing on the Venom Attack Helicopter given by Peter Jones of the Venom Management Team.

Reminded by Peter Jones of his service with the Hussars in Germany His Royal Highness was then invited to 'fly' the Venom demonstrator over those same general deployment areas around the River Weser in Westphalia. It was apparent that Prince Michael is a very competent helicopter pilot as he 'flew' the Venom with ease.

Keith Reid, an ex-Army test pilot, demonstrated the weapon capability of Venom by attacking some armoured vehicles with Hellfire and Brimstone missiles. The Venom cockpit simulator allows realistic missions to be flown by day and night using the helmet mounted display, which enables the pilot to view flight symbology and night vision imagery at the same time as viewing the real world.

His Royal Highness was very impressed with the system. After his 'flight' he was shown various equipments produced by the Company and briefed on Head-Up Displays, Viper Helmets and the Boeing 777 Flight Controls Computer.

HRH Prince Michael of Kent prepares to 'fly' the Venom demonstrator.

Support Division Provides First Shipboard ATEs

Sea Harrier FA/2 onboard HMS Invincible.

Two Automatic Test Equipments (ATEs), to support the new Sea Harrier FA/2, have been successfully commissioned onboard HMS Invincible enabling maximum support capability for the first operational sea deployment of the FA/2.

The two ATEs provide test and diagnostic capabilities for GMAv's Blue Vixen Radar and Sea Harrier FA/2 avionics. The commissioning team are now busy installing the equipments on a second aircraft carrier.

(Photo by courtesy of British Aerospace).

FARNBOROUGH INTERNATIONAL '94

The Farnborough Air Show took place from 5th - 11th September and, as the world's leading Air Show and Trade Fair of aerospace equipment, once again attracted major manufacturers serving both military and commercial interests. Over thirty countries were represented.

Cockpit demonstration: Michael Heseltine (seated) receives some guidance from Brian Tucker, GMAv's Director of Programmes.

Known as Farnborough International '94, this year's Show - the 31st to be staged by the Society of British Aerospace Companies (SBAC) - was as spectacular as in previous years with over 100 aircraft forming static displays and participating in exhilarating demonstrations of precision flying and manoeuvrability.

Large exhibition halls again provided the backdrop for the event. GEC-Marconi Avionics' exhibits formed part of a wider ranging GEC-Marconi stand which, besides displaying latest products, underlined the Company's prime contractorship and systems integration capability. It featured a series of displays demonstrating products and services for military and civil applications which include avionics, electronic warfare and sensor systems, air defence systems, airport and air traffic management, missile systems, training and simulation, and logistic support.

Continued on page 2

NASA tests GMAv's control system

Flight Systems Division's Combat Aircraft Controls Group has designed and supplied the Servo Control System (SCS) for the NASA Ames Research Center's experimental Harrier Vertical/Short Take-Off/Landing (VSTOL) aircraft. This equipment forms part of an integrated flight and propulsion control system developed to investigate flight control techniques including reduction in pilot workload for future VSTOL aircraft.

The high integrity Servo Control Unit utilises advanced digital technology to consolidate signals from the two Flight Control Computers and interfaces with actuators, also supplied by GMAv. to drive the throttle and nozzle controls.

Last August the aircraft made its first automatic transition from forward flight to hover. This transition manouveure is usually performed under the manual control of the pilot by co-ordinating the stick, throttle and nozzle controls, thus requiring a high degree of skill. The integrated flight control and propulsion system on the experimental aircraft enables the pilot to perform this transition using only control stick and throttle control, thus significantly reducing workload and improving the accuracy of aircraft control whilst in hover.

Short Take Off/Landing is high on the list of requirements for future military aircraft in both the UK and US. FSD and other Divisions are involved in this, and other research programmes, to ensure that GMAv has the technology to compete successfully for this future flight controls business.

NASA Ames YAV-8B Harriers, one of which has been fitted with an integrated flight and propulsion control system including GMAv's Servo Control System.

Farnborough '94

Continued from page 1

Several new products were unveiled at the Show, including the announcement of an order for additional TIALD pods for the RAF and a bid for the UK MoD's integrated battlefield and beyond airborne (surveillance and ground target information) system - ASTOR. This bid has now been submitted into the competition for the contract's development phase.

As the Eurofighter 2000 was unable to appear, because of flight testing commitments, it was represented as a full-scale model, together with a flight simulator, to give a taste of its potential. British Aerospace also built a full-scale model of the Future Large Aircraft (FLA) which is in competition with the C130J as a replacement to the Hercules transporter fleet.

Military helicopters sought to catch the eye in the competition to win the £2 billion British Army order for over 90 attack helicopters. Bell Textron's AH-IW Super Cobra, the McDonnell Douglas Longbow Apache, the Eurocopter Tiger and the South African Rooivalk Red Falcon were all on display.

GMAv and Bell Textron are bidding Venom to the UK Attack Helicopter Programme, a variant of the Super Cobra with a fully integrated glass cockpit.

Civil aircraft were also there in strength, with Airbus Industrie putting all three of its latest A330, A340 and A321 airliners through aerobatic paces.

Amongst those who visited the GEC-Marconi stand during the week were many influential UK and overseas visitors including Michael Heseltine, President of the Board of Trade; Roger Freeman, Minister of State for Defence Procurement, and GEC's Chairman - Lord Prior.

Once again the week was an active one for GEC-Marconi's Stand and Chalet staff who worked particularly hard as a team to present GEC-Marconi's products to the world.

CLARA LASERS ACCEPTED

A major milestone on CLARA - the Anglo-French Laser Radar project - has been achieved with the acceptance of the first set of lasers from Laser Ecosse. These lasers are due to be integrated with RSD's control electronics at their Milton Keynes site prior to the full CLARA integration, which will also take place at Milton Keynes in the New Year.

GORDON GOES FOR GOLD

An award of £100 has been made to Gordon Davidson, representing GMAv's Support Division in Edinburgh, in recognition of his splendid submission made to the Saudi Think Suggestion Scheme resulting in enhanced briefing facilities for two Tornado Squadrons. Gordon is a Field Service Engineer, based in Dhahran.

The Scheme is a medium for encouraging ideas with a means to improving efficiency. Gordon's submission, which was described by Bob Reid, Chairman of the Awards Committee, as "well presented and of a high technical standard", proposed a Tape Replay Facility 'Hook-up' to the 29 Squadron Briefing System.

Bob Reid commended Gordon for his achievements and said, "Gordon's practical and very cost-effective solution has been appreciated by the 'customer' and I understand that it is intended to install a similar facility for 7 Squadron". He went on to say that, "This excellent achievement typified all that is best in Customer awareness and responsiveness".

Gordon Davidson

Congressman Visits Atlanta

Congressman Gingrich at the AgHUD demonstrator.

On Saturday June 4 GMAv Inc., Atlanta held an 'Open House' to celebrate its tenth year in the Norcross facility. The Guest of Honour and Speaker for the occasion was Congressman Newt Gingrich, the Republican Party Whip.

Congressman Gingrich is very much involved in a number of technology committees and ventures in Washington DC.. The furtherance of technology and innovation, especially in the areas of technology transfer and environment and safety, are subjects that he takes very seriously.

Following his speech, and a tree planting ceremony, Congressman Gingrich was invited to tour the Facility and see working demonstrations of equipment.

As a result of seeing these demonstrations Congressman Gingrich asked for information that could passed on to a number of Congressional committees.

This was a very cordial and beneficial visit for all concerned, and the flow of information in both directions has already begun.

DEATH OF MARCONI'S WIDOW

The Marchesa Maria Cristina Marconi, widow of Guglielmo Marconi (inventor of radio communications and founder of the Marconi Company), has died in Italy aged 94 years.

The funeral took place in Rome and afterwards the Marchesa's body was interred alongside her husband in the Mausoleum at Villa Grifone, Bologna.

It was in this Villa that Guglielmo Marconi carried out his first successful experiment, in 1895, transmitting a radio signal between two points without wires.

The Marchesa is survived by a daughter and grandson.

FOXHUNTER LIVES ON.....
.....Contracts Update

RSD at Milton Keynes continues to give active support to Foxhunter, in both Tornado leasing, and Foxhunter upgrade.

TORNADO LEASING

VISION Issue 6 reported that two Squadrons of Tornado ADVs have been leased via a contract between the UK MoD and the Italian Air Force.

Support activities have commenced, with site survey visits being undertaken at two Italian bases. These were well received. Reports are now being prepared and further work is on-going.

FOXHUNTER UPGRADE

During the Gulf War Foxhunter, originally at Stage 1, was upgraded to 1G and then to 1D for active service in Bosnia. Upgrade to Stage 21 is currently underway with the first 2G mod. kits having been delivered to MoD.

Follow-on order for future Foxhunter upgrades are anticipated.

FOXHUNTER SUPPORT

Support and maintenance of Tornado ADV fleets throughout the world represents an ongoing commitment for RSD, who are constantly reviewing procedures, stock levels, turnround times etc. to improve their performance to the customers.

GMAv's PHILOSOPHY CHANGE

GMAv is teaming with the Defense Command Management Office (DCMO) Rochester to implement PROCAS throughout the site, as well as Sensors Division, Basildon.

What is PROCAS? It simply stands for Process Orientated Contract Administration Service. It's not a programme, but a change in philosophy. This philosophy is dependent on promoting trust and tearing down the traditional adversarial relationship between Government and Contractor.

Instead of relying on functional inspection to catch defects, critical processes are proofed and analyzed. The goal is to improve these processes and to build quality into the product from the start. PROCAS accomplishes this by continuous process improvement and the establishment of defect prevention methods.

PROCAS is not a magical formula. It involves the Government and Contractor looking at processes together.

What are the benefits of PROCAS? Costs will be reduced. Why? When processes are improved, less rework or scrap will be produced. In addition, there will be consistently more uniform products. Process improvement will detect root causes when defects or errors occur. Also, PROCAS will improve the quality and value of the goods produced. After all, DCMO Rochester and GMAv want the same thing - **a satisfied customer.**

Brian Tucker with Cpt. Jeff Schmidt (DCMO), reviewing PROCAS philosophy documentation.

GEC-Marconi Lead an International Consortium for ASTOR

Optional Airborne Platform Layout.

An international consortium led by GEC-Marconi has bid for the UK Ministry of Defence Staff Requirement (Air) 925 "ASTOR" (Airborne Stand-Off Radar), a study contract to create an airborne surveillance system worth in excess of £1 billion.

The international partners will be Thomson – CSF of France (Radars and Countermeasures Division) and Westinghouse Electric Corporation of the USA (Electronic Systems Group). The GEC-Marconi leader is GMAv's Radar Systems Division (RSD), through its Milton Keynes site, and they will be supported by GEC-Marconi sister company, EASAMS. Other bidders include teams from Siemens-Plessey, Grumman, Lockheed, Rayethon, E-Systems and Loral.

With a high priority in the British Army ASTOR will provide long range airborne surveillance and detection of moving and stationary ground targets, to provide information on activities in and beyond the battlefield.

Although not expected to enter service until the turn of the century, the MoD plans to make a decision in January 1995 on which companies will get study contracts. The project will begin with a competitive project definition phase, followed by further competition leading to the award of a development and production contract. The contract will cover:

- acquisition of the aircraft
- integration of the sensor suite
- avionics
- communications
- data link and on-board processing.

Ground station modules will provide signal processing, data handling and report generation facilities and the integration of information to the battle management teams.

Dr Alan Martin, the Division's Managing Director said, "The ASTOR project will be a major programme for the late 1990s and into the next decade. Requiring breadth of expertise for technology and programme management, we have formed a powerful team and can look forward to the competitive phase with confidence".

The consortium will jointly market ASTOR-like reconnaissance systems throughout the world. Such systems can involve high resolution radar (Synthetic Aperture and Moving Target Indicator) and Electro-optical suites matched to a variety of airborne platform and ground station modules to suit customer needs. Initial surveys have already identified other market opportunities.

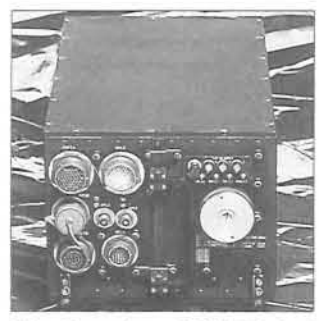
OVER £20m WORTH OF SEASPRAY RADAR ORDERS ANNOUNCED

GMAv's Radar Systems Division has received two orders from Westland Helicopters for Seaspray 3000 radars, worth over £20m. These are for the UK Royal Navy and the Brazilian Navy. In both cases, the contract is to upgrade existing Mk1 radars in Lynx helicopters to the new Seaspray 3000 standard.

Deliveries of Seaspray Mk1 began over twenty years ago, and it is in service in Lynx helicopters with seven Navies worldwide. The excellence of the system and concept has been demonstrated in service with outstanding combat performance in 1982 and 1991. Development from the Seaspray Mk1 radar started in the mid 1980s and has led to the current range of Seaspray radars:

- Seaspray 2000, optimised for the quasi-military Exclusive Economic Zone patrol role
- Seaspray 3000, optimised for shipborne naval helicopter weapon systems
- Seaspray 4000, the pulse compression variant.

Commenting on RSD's contractual success the Division's Managing Director, Dr Alan Martin, said, "These new contracts are both very important as they demonstrate the sense and cost-effectiveness of upgrading existing Seaspray Mk1 radar assets to the current Seaspray 3000 standard."



The Seaspray 3000 Digital Signal and Data Processor.

Seaspray 3000 has already been procured by four nations for operation in a range of fixed and rotary wing platforms. Its major benefits over the Seaspray Mk1 are provided by the new digital signal and data processor, enabling comprehensive integration of the radar with the rest of the mission system avionics, and supporting an advanced man-machine interface.

The contract for the Brazilian Navy includes the supply of Seaspray 3000 radars for their new-build Super Lynx helicopters and the upgrading of their Seaspray Mk1 radars to Seaspray 3000 standard for their existing Lynx helicopters.

The contract for the Royal Navy represents the latest phase of their Lynx Mk3 to Lynx Mk8 upgrade programme, entailing the replacement of the analogue processor with its digital successor. GMAv's processor, assessed as the low risk, cost effective solution, was bid by Westland Helicopters in response to MoD's Invitation to Tender. Westland Helicopters will undertake the integration and installation task.

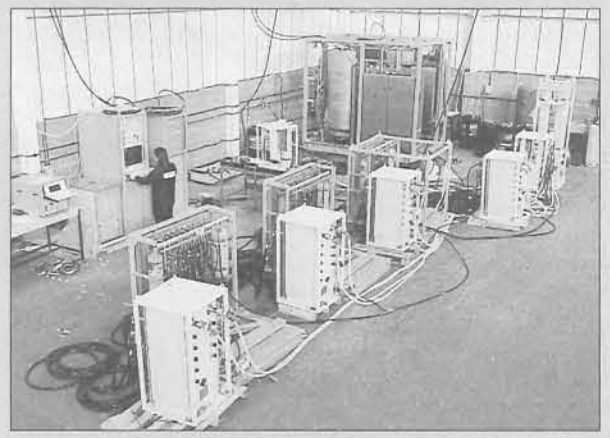
Hudson Subsea Control System

GEC-Marconi's Oil & Gas Group at Nailsea has been awarded a contract by Amerada Hess to supply a subsea production control system, as part of the Hudson field development, in the North Sea.

The multiplexed electro-hydraulic system, which controls and monitors eight subsea wells, has been delivered and successfully completed onshore integration testing at Nigg in Scotland and subsea installation and commissioning.

The complete system was designed, manufactured, assembled and tested at Nailsea.

GEC-Marconi personnel have been testing and commissioning both topside and subsea equipment as it is hooked up and will provide offshore support services through to first oil which is planned for early 1995.



Amerada Hess Hudson Subsea Control System undergoing testing at Nailsea.

Titchfield Nominated for Ozone Protection Award

In recognition of Power Systems Division's achievement in substituting all ozone depleting chemicals with alternatives over a relatively short timescale, the Division has been nominated by ICI for the 1994 US EPA Stratospheric Protection Award. This is an international award, presented to those companies that have contributed most to the elimination of ozone depleting chemicals.

This nomination not only reflects the Environmental Audit Team's efforts but also the contributions of all the local teams involved in the replacement activities.

Valuable assistance and information was received from other facilities in the GEC Group, particularly Hirst Research, GEC-Marconi Defence Systems at Ports-mouth and EEV, Chelmsford. PSD's preferred alternatives were circulated to all sub-contractors to the Division (over 1000) who were requested to follow the PSD's lead activity.

The assistance of ICI (Chlor-Chemicals) in the search for acceptable alter-

Titchfield's environmental audit team comprising (l-r) John Wood (Technical Services Manager), Miles Wheeler (Senior Chemist), Brian Bartlett (Materials Manager, Avery Hardoll), David Kerr (Personnel and Environmental Director), Ray Taylor (Site and Environmental Manager), Ted Quigley (Safety Manager), Ray Hill (Process Manager),and Derek Giles (Industrial Engineer).

BLUE RIBBON CONTRACTOR

The US Air Force Materiel Command has recently designated GMAv as a Blue Ribbon Contractor under Federal Stock Class (FSC) 6610.

The Award was made in recognition of Flight Systems Division - ISG - having provided best value support through superior quality and delivery performed under the SCADC Programme.

Standard Central Air Data Computer (SCADC) is a joint USAF and US Navy initiative aimed at extending the in-service life of mature aircraft by replacing their existing electro-mechanical ADCs with a high-tech. digital computer version.

To date, in excess of 5,500 systems have been delivered, with the height of the programme seeing a production output of 160 units per month. Over 10 million operating hours have now been accumulated with field data depicting a forty-fold increase in reliability. In turn, this has had a pronounced effect in reducing overall life cycle costs.

The success of SCADC has led to further orders being secured in Europe, the Middle and Far East and Australia.

SEA KING 6 AQS 902/ 2069 DIP SONAR UPDATE

The UK MoD has awarded GMAv a contract to update the AQS 902/2069 Dipping Sonar installed in the Sea King 6 helicopter.

The update programme, which follows a period of trials and system proving by GEC-Marconi and the Royal Navy, will provide considerable improvements to detection performance of the existing equipment and will be fitted throughout the Sea King ASW fleet.

This contract award follows the recent contract for the supply of Advanced Signal Processor for UK MoD and the "Formal Design Acceptance" of GMAv's AQS 903 acoustic processor for the EH101 "Merlin" helicopter.

EUROFIGHTER 2000...

..... the ultimate achievement for both European aerospace and co

Four partner Governments of Germany, Italy, Spain and the United Kingdom are committed to support the Eurofighter (EF2000) Programme for the defence of Europe, for the advancement of European industry and its technology at shared affordable cost.

EF2000 is an agile, single seater air superiority fighter with a surface attack capability. The high level of integration and information - sharing between various operational equipments will significantly minimise cockpit workload, the cockpit having been designed to deliver optimum levels of tactical and functional information to the pilot without overloading him.

Designed to be extremely agile at super and subsonic speeds, this multirole aircraft represents the edge of technology in combat aircraft design. It has extensive capability in both beyond-visual range and close combat scenarios.

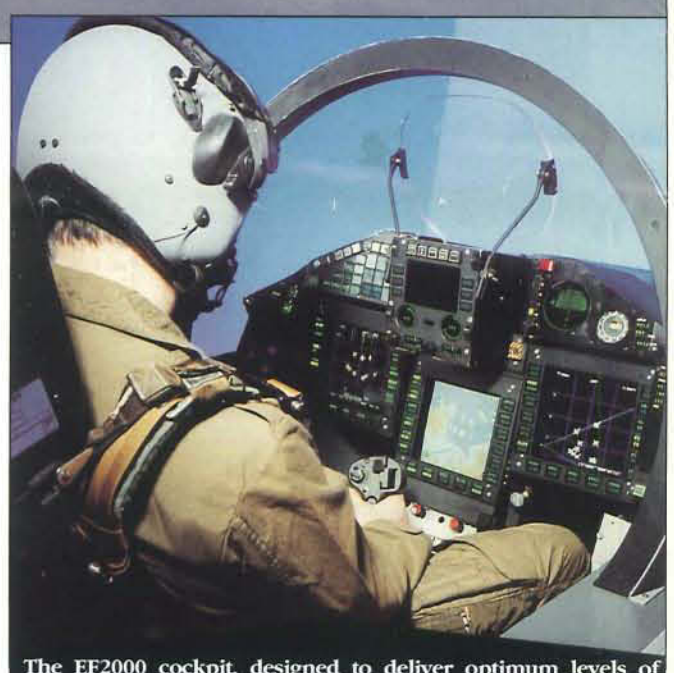
After the successful commencement of the Flight Trials Programme last March Eurofighter's Managing Director Bill McNaughton said, "The achievement of the first flight of DA1 represented the climax of many years hard work by numerous people across four nations."

Following the completion of these encouraging flight trials the first two development aircraft DA1 and DA2 are now undergoing further equipment and software integration.

DA3, assembled in Italy by Alenia, will be the first to be powered by an EJ200 engine and is scheduled for flight shortly. DA4 to DA7 inclusive will fly during 1995, DA5 - being assembled by DASA in Germany - will be the first to fly with the newly developed ECR 90 radar.

The expected production go-ahead date is 1997 with five instrumented production aircraft scheduled to join the programme in 1999. The first in-service aircraft is scheduled for the year 2000, with the UK and Italy as first recipients. Deliveries to Spain will follow in 2001, with those to Germany a year later.

For its part GMAv is fully committed to the success of the EF2000 Programme and the following is a resumé of Divisional activities.



The EF2000 cockpit, designed to deliver optimum levels of tactical and functional information to the pilot without overloading him. The HUD is clearly visible at the centre of the picture.
(By courtesy of British Aerospace, Defence)

Radar Systems Division (Edinburgh and Milton Keynes)

ECR 90

Conceived for EF 2000, ECR 90 will ably satisfy the aircraft's prime sensor requirement, maximising weapons' employment and enhancing its mission lethality.

The technology for ECR 90 has been derived from GMAv's Blue Vixen radar. Blue Vixen is now in production for the UK Royal Navy Sea Harrier F/A2. Capitalising on this experience the ECR 90 programme has pushed the technology to even greater limits, making the new radar a vastly capable sensor, ably suited to its future tasks as Europe's principal front-line fighter aircraft.

The ECR 90 radar incorporates a significant increase in processing power and its designed to support all weather operations, to be compatible with the latest range of weapons and to operate effectively in an intensive ECM environment. This radar will maximise aircraft mission effectiveness well into the 21st century.

GMAv's PROGRAMME

Co-ordinated from the project office in Edinburgh, work on the ECR 90 programme is being carried out throughout Europe by the Euroradar consortium.

The consortium partners, consisting of GMAv in the UK, DASA-VS of Germany, FIAR of Italy and ENOSA of Spain, have been working now for over four years, each on their own specialist task. GMAv has been responsible for the system engineering, flight trials and much of the receiver and radar processor development work.

This work has been split between the Radar Systems Division's sites at Crewe Toll in Edinburgh, RSD (North), and at Milton Keynes, RSD (South). Receiver work and signal processing has been done in RSD (North) with RSD (South) responsible for the data processor and associated driver software. Systems work is being done at both sites.

However, once brought together, the task of integrating the individual units into functioning systems is being carried out in the new ECR 90 Roof Laboratory at Crewe Toll.

One of the first ECR 90 systems to emerge from the Roof Laboratory has been the prototype, now flying in the Flight Trials Department's BAC 1-11 aircraft. Many hours of flight trials have resulted in a large amount of recorded data being returned to the Ground Replay Facility for processing and analysis. The results from these trials are currently being used to optimise system performance.

The prototype ECR 90 system is currently flying in the BAC 1-11 Trials aircraft. ▼

ECR 90 radar, a third generation multi-mode pulse doppler radar with multi-target track-white-scan capability and high resistance to jamming.

Support Division (Edinburgh)

Radar, Test Equipment - Common Core

Test Equipment Common Core (TECC) - this is the Receiver Test Set providing production test for the complete Receiver Line Replaceable Item.

The ECR 90 Radar Test Equipment Common Core (TECC) has been developed by Support Division at Donibristle. A further quantity of units have been produced by the Euroradar consortium to the Manufacturing Data Pack provided by Donibristle. The TECC represents a significant development in systems integration bringing together various technologies. Other Test Equipment produced by this Group includes the Receiver cabinets which, when added to the TECC, provide a Production Test Set for the Receiver LRU.

The Radar Receiver is a state-of-the-art device operating with very low electrical signals, requiring test equipment which has high immunity to electrical noise.

Donibristle's test equipment has achieved those levels of immunity previously unattainable in a production environment. Three ATEs have been produced for production.

Display Systems Group (Rochester)

Head Up Display

The Head Up Display (HUD) for EF2000 is the most technologically advanced HUD in the world, incorporating a colour camera for filming the mission and an extensive Up Front Control Panel which incorporates Mission Engine and Fuel Displays.

The HUD has a larger field of view than currently found on any Fighter Aircraft and required complex computer generated technology to achieve. It is also much brighter than current HUDs.

Attention has also been paid to ensuring that the pilot gets the best possible view of the outside world with minimum interference.

Display Systems Group, Rochester is the Prime Contractor with team members of Teldix GmbH, Alenia and ENOSA from within the four nations. The HUD has commenced Safety of Flight Qualification tests with delivery targeted for the end of the year.

Display Systems Group (Edinburgh)

Crash Survivable Memory Unit

The Edinburgh Display Systems Group's contract to develop the Crash Survivable Memory Unit (CMSU) has been a very challenging engineering development, as the unit had to be designed to withstand the extreme conditions of a crash. Following any such incident it must be possible to extract data from the unit's core, providing an analysis of the flight data prior to impact.

The CSMU is the aircraft's "Black Box". Painted bright orange, with reflective stripes to aid its location, this "Black Box" is the first crash recorder with a solid state memory to successfully pass the very stringent tests that simulate "crash" conditions. These severe qualification tests are carried out sequentially on one unit. DSGE has also manufactured data relay equipment necessary to recover data from the CSMU in the event of an incident.

The Crash Survivable Memory Unit (CSMU) is the aircraft's 'Black Box' painted orange to aid location.

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ollaborative technology.

Flight Systems Division (Rochester)

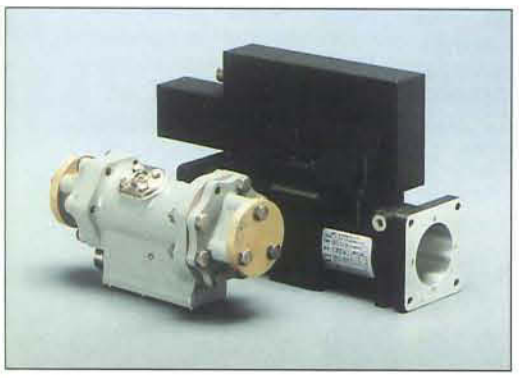
Flowmeter Equipment

GMAv has three flowmeter types fitted to EF2000:

(i) The original Tornado Turbine Driven True Mass Flowmeter Transmitter which has been fully cleared and is fitted to DA1 and DA2 with RB199 engines.

(ii) The Dry Fuel Flowmeter fitted to the EJ200 engine, is a further development of the Tornado flowmeter to meet the EJ200 engine requirements. As a successful development programme, qualification testing has been carried out and the Flowmeter cleared for DA3's first flight.

(iii) The Total Fuel Flowmeter is required to measure very high dry/reheat mass fuel flowrates with extremely low pressure drop and high resistance to fuel contamination debris. The development and preliminary qualification is well underway. 'B' Models have been delivered and fitted to the Alenia and Rolls Royce Rigs, with 'C' models in production build.



Fuel Flow Transmitter.

Flight Systems Division (Rochester)

Air Data Transducer

The Air Data Transducer, in conjunction with the Flight Control Computer (FCC), forms a distributed air data system for the EF2000 aircraft. Designed to measure manoeuvrability, it also provides data for the computation of airspeed and altitude.

ADTs are fitted to DA1 and DA2, and data from their flights has shown that they are performing well. The system is currently undergoing vibration endurance testing prior to full qualification.

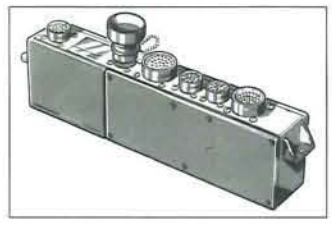
The Air Data Transducer, designed to measure manoeuvrability whilst providing airspeed and altitude data.

Flight Systems Division (Rochester)

Wing Pylon Station Unit

The Wing Pylon Station Unit (WPSU) is part of the EF2000's Armament Control System (ACS). A total of six WPSUs are fitted to the aircraft; one unit within each of the inboard, centre and outboard wing pylons which carry the weapons. Each WPSU provides the functions to control the arming, preparation, release or jettison of weapons from its particular weapon station on receipt of commands from the Armament Control System.

The development programme has progressed through the detailed design phase and, with the Critical Design Review successfully completed, is now in the manufacturing phase prior to assembly, test and delivery of units.



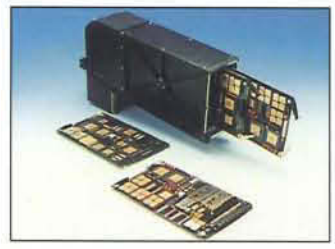
Wing Pylon Station Unit, part of the Armament Control System (ACS).

Flight Systems Division (Rochester)

Engine Monitoring Unit

The Engine Monitoring Unit (EMU) is supplied to Eurojet as an accessory to the EJ200 Engine. It provides Monitoring & Data/Recording Analysis functions for both engines, reduced scheduled engine maintenance, sensor interfaces for Engine Vibration, Compressor Turbine Rotation and Oil Debris Monitoring.

GMAv is prime contractor for the unit development, which is now complete and includes successful completion of qualification testing for flight rating of 6,000 hours. The EMU consists of four computer modules, power supply and chassis wired and will be fitted to DA3 onwards. However, it is currently being used in a number of engine test bed facilities.



Engine Monitoring Unit (EMU), supplied as an accessory to the EJ200 Engine.

Flight Systems Division (Rochester)

DAS ESM / ECM Power Supply Unit

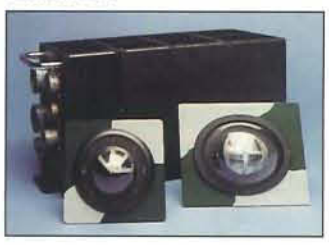
The ESM/ECM Power Supply Unit (PSU) forms part of GEC-Marconi Defence Systems' Defensive Aids Sub-System (DASS). The development programme is on schedule and includes units for qualification and Reliability Growth Testing. A prototype Unit has been manufactured and evaluated and the 'B' model phase is underway.

Navigation and Electro-Optic Systems Division (Now GMDS, Edinburgh)

Laser Warner

The development contract for the Laser Warner equipment, valued at almost £20 million, was formally signed on 9 June 1993 with British Aerospace, Warton. The design work for the Type 491 Laser Warner is being carried out at the Laser Systems Department within Navigation and Electro-optic Systems Division, Edinburgh (now part of GEC-Marconi Defence Systems).

The Warner identifies and classifies laser energy directed at the aircraft by sources such as laser rangefinders and designators. It uses a series of passive opto-mechanical sensors heads, distributed around the aircraft's skin, which are connected via fibre optic cables to a central Processor Unit. The use of fibre optics gives the system high immunity from the effects of electro-magnetic interference.



Laser Warner equipment identifies and clarifies laser energy direction at the aircraft by sources such as laser rangefinders and designators.

Sensors Division (Basildon)

Radio and Microwave Landing System

Sensors Division is currently participating in two work share programmes:

(i) The EF2000 Radio is a new generation of communications V/UHF Radio, designed to meet the new NATO SATURN standard. The consortium led by Rohde & Schwarz has made significant progress. All 'B'-Model rig equipments have been delivered to the end users. 'C'-Model flight standard equipments have undergone Preliminary Qualification Testing for installation into DA3.

(ii) The Microwave Landing System (MLS) comprises the next generation of landing aid that will supersede ILS. MLS equipments will form a part of a retrofit avionics upgrade to the EF2000 fleet during the development programme. The consortium, led by Marconi SpA, has made good technical progress and achieved the major milestone of successfully passing the Critical Design Review during March 1994.

This Navigation Sub-System will allow fully automatic segmented aircraft approaches and landing.

Power Systems Division (Titchfield)

Fuel Pumps and Actuators

GMAv's Power System Division (PSD) has entered into a consortium with AOA Gauting of Germany, Secondo Mona of Italy, and CESA of Spain to supply all the low pressure fuel pumps on the EF2000 aircraft.

Rear Wing Transfer Pump.

The consortium's fuel pumps are of four types:

The Double Ended Boost, the Fuselage Transfer and the Forward and Rear Wing Transfer pumps, and are manufactured in Germany, Italy and the UK respectively.

PSD has prime responsibility for the Rear Wing Transfer pump, (4 per aircraft), which pump fuel to the fuselage tanks.

All development phase pumps have been delivered and qualification testing in Germany, Italy and the UK is 95% complete. Preliminary qualification testing for all the pumps was completed well in advance of the first flight. Extensive endurance testing, which will ensure and demonstrate a long and reliable service life for all items, is on-going.

In addition, the Division has won contracts for the Canopy Lock Actuators, for both the single seat and twin seat variants, the APU Starter Motor, the radar coolant pump and the cooling/lubricating pump for the generating system.

Qualification of the Canopy Lock/Unlock Actuator for the single seater aircraft is complete, except for areas where discussions are continuing with the customer. Design and development work is under way for the twin seat trainer aircraft.

Orders, for the APU Starter Motor have been completed. Power Systems Division is now awaiting release of the next phase of the programme.

Flight Systems Division (Rochester)

Flight Control System

A four nation team led by GMAv provided key elements of the digital Flight Control System fitted to the two prototype EF2000 aircraft which made their first flights.

The Flight Control System (FCS) provides the aircraft with a full-time fly-by-wire system controlling the aircraft via its eleven primary and secondary flying controls surfaces. Unlike conventional aircraft such as Tornado, EF2000 has no mechanical back-up system and is, therefore, totally dependant on this digital system. The Company is responsible for supplying the Flight Control Computers (FCCs), the Stick Sensor and Interface Control Assembly (SSICA) and the air data probes.

As the safety of the aircraft is dependant on the FCS, each aircraft is fitted with four FCCs. Should a failure occur in one computer, this can be isolated by either the failed computer itself or by the remaining good computers and the aircraft will continue to fly normally.

As a centre-mounted control stick acting as the primary interface between the pilot and the flight control system, the SSICA electrically signals pilot inputs (pitch and roll demands) to the computers. The unit also acts as an interface between various switches and warning lights in the cockpits and the FCCs.

Prior to the first flight, extensive testing of the system was undertaken at GMAv's Rochester facility with full FCS testing being performed at DASA's Munich facility.

The other members of the team supplying the FCCs and SSICA are Bodenseewerk Geratetechnik GmbH, Alenia and ENOSA.

The centre–mounted control stick acts as the primary interface between the pilot and the flight control system.

DA6, the Spanish two-seat version.
(By courtesy of British Aerospace, Defence)

General information on EF2000 is acknowledged as being given in (i) Eurofighter 2000, Securing the Future - EF Jagdflugzeug GmbH and (ii) Focus, Farnborough '94 Edition - BAe Defence Ltd, Military Aircraft Division, BAe Warton.

Intelligent Power for Germany

Titchfield's Power Systems Division (PSD) has won a strategically important order from MAK System GmbH in Germany for the supply of an Intelligent Power Control System (IPCS) demonstration kit as part of a future fighting vehicle "vetronics" programme. Previous programme success in the UK has enabled proven technology to be incorporated into an integrated package, tailored to meet German requirements.

The MAK programme is sponsored by BWB (the German equivalent of the MoD), involving other European and US Companies and will, hopefully, lead to production programmes for PSD.

The system being supplied to MAK will consist of four switching units, three contactor units and a Power bus ring main with a number of power take-offs. Each switching unit controls a different part of the vehicle and, together with the other parts of the system, is designed to provide power regardless of whether circuitry is faulty or fault free.

Sea Dart Contract

After the successful completion of the development work, GEC-Marconi Infra-Red Ltd (GMIRL) was recently awarded a production contract worth in excess of £3 million by prime contractor British Aerospace to supply infra-red detectors for use in the Sea Dart programme.

Sea Dart is a third generation surface-air-missile fitted to the Royal Navy's Type 42 destroyers. The missile's primary function is intercepting aircraft and missiles at high and low level, but it also has a secondary role against surface targets. The system has been in service with the Royal Navy since 1974.

The new fuze is the latest in a series of modifications to the missile/system, to improve its capability and ensure that it will provide effective defence for many years to come.

The development programme was won after international competition. After coping with the inevitable design and timescale changes encountered in such a process, it is of great satisfaction to those directly involved that this product will now move into the production phase. The result of their efforts will provide a significant contribution to Southampton's business in the future.

DSGE PROGRAMME MANAGER HIGHLY COMMENDED

Steve Cowles, a Programme Manager with the Displays System Group Edinburgh (DSGE), recently entered an article into the 1994 Science in Print Competition and became one of four award winners in the 'Highly Commended' section.

The Competition, sponsored by the Institute of Physics and the National Physical Laboratory, encourages scientists to write for the general public by explaining an area of physics or physics – based technology to non-technical readers in a maximum 1200 words. This is the second year that the Competition has been run at a national level.

Steve collected his award on 15 July at a ceremony held at the National Physical Laboratory, Teddington. The accompanying photograph, (Crown Copyright) reproduced by kind permission of the National Physical Laboratory, shows Steve (r) receiving his prize from Dr Frank Close of Rutherford Appleton Laboratory, Didcot.

ACHIEVEMENTS IN TOTAL QUALITY MANAGEMENT

Total Quality Management Team with Awards.

GMAv's Support Division at Donibristle is pursuing a rigorous policy of Total Quality Management (TQM) and not without just rewards.

Certificates were recently awarded to 11 Quality Improvement Meeting Units (QIMUs) in recognition of their achievements in the field of TQM. The award ceremony, attended by 90 employees, was held at the Marconi Sports and Social Club. David Croft, General Manager at Donibristle, gave a short congratulatory speech before presenting the certificates to the successful QIMUs. On completion of the award ceremony a buffet was served.

NORTH KENT SUCCESS

A new drive to promote North Kent as an economic and environmental success story has been launched by the Environment Minister David Curry.

Named 'North Kent Success' this new forum aims to unite the private and public sectors with central and local government in a bid to lead to the strategic regeneration of the area.

With local councils and firms such as GEC-Marconi Avionics, Blue Circle and the Medway Ports Authority driving the initiative, 'North Kent Success' covers Dartford, Gravesham, Medway and Swale. Its key aim is to bring new jobs to the area whilst enhancing and protecting the environment. The area's strategic location between London and the continent, its transport links and high quality workforce will be fully exploited.

[Information extracted from South East Business News - Ashford]

Purchasing Power

Value for money has always been sought on all purchases. Pennies were counted to ensure budgets were met. This principle is still sound but, in an attempt to gain greater value for money, a new initiative has been started.

A Procurement Council for GMAv has been formed to discuss common procurement strategy, difficulties and advances.

The Council is part of an overall GEC-Marconi strategy to increase purchasing power by co-ordinating the spend at different locations. The Avionics companies have taken a strong lead in this exercise, supporting the primary Council by creating their own Working Group.

With 30 plus GEC-Marconi locations nationwide, there is considerable similarity in the supplier basis. Analysis of usage patterns and future demands have focused the Council on a future strategy to benefit the Group as a whole, and enhance value for money. Whilst maintaining site control and without sacrificing quality, procurement within GEC-Marconi now has 'One Vision'.

ISO APPROVAL FOR GMAv's DIVISIONS

July was a busy month for the Support, Displays, Flight Systems and Radar Systems Divisions of GMAv, as well as the Training Departments at Rochester and Edinburgh. The Navigation and Electro Optics Systems Division (NESD - formerly part of GMAv but recently moved to GEC-Marconi Defence Systems) was also involved.

This saw the culmination of months of hard work by all the Divisions involved at Rochester, Edinburgh, Donibristle and Milton Keynes in the quest for ISO9001 approval.

A team of assessors from Lloyds Register Quality Assurance (LRQA), led by Roger Wood, had carried out a desk-top review of the various Division's documented quality systems in April and returned in July to assess the systems in operation.

After 83 man - days of assessment and the occasional heated debate, not to mention several people working very late on a number of evenings, all the Divisions were recommended for approval against ISO9001 (otherwise known as BS5750), and TS157 which is an aerospace sector certification scheme.

At the end of the 83 days, a total of 148 Non-compliance Notes had been raised. However, as all of these had been graded as 'on-going improvements', LRQA therefore recommended all the Divisions for approval.

The assessment involved visiting such areas a Commercial, Purchasing, Electrical and Mechanical Design, Software Design, Production, Inspection, Test and Training, just to name a few.

This is a significant achievement however, unlike previous AQAP1 approvals LRQA will return every six months to monitor the various quality management systems and their operation, the first being in January 1995.

The end result reflected the great effort put in by all the Divisions. THANK YOU and WELL DONE to everyone involved.

Stuart Barclay, Quality Manager (Surveillance)

SUCCESS, TOO, FOR GMIRL

Coupled with GMAv's ISO success story is that for GEC-Marconi Infra-Red Ltd (GMIRL) who undertook recently ISO9001 audit, and successfully gained approval to the 1994 standard. The audit, undertaken by Lloyds Register Quality Assurance (LRQA), lasted for three days in late September and posed quite a challenge for the Southampton team.

The Company had been preparing extremely hard for the last 18 months in readiness for the audit. In the past, as a defence contractor, GMIRL had been approved to AQAP1 but with the demise of this qualification throughout the UK, failure to achieve ISO status would have been very traumatic for the business.

The success is just reward for all the hard work that was needed from everybody. All can, if only for a brief period, relax and savour the moment.

Derek George, GMIRL's Quality Manager who orchestrated the approach to ISO9001, is quick to remind everyone that the current standard must be maintained and further improvements made to overcome the small number of non-compliances noted by the Lloyds assessors.

Well Done GMIRL!

McDonnell Douglas presents Supplier Award to FSD

On Monday 25th July Chuck Allen, McDonnell Douglas Aerospace (MDA) Deputy General Manager of the T-45TS programme, and Jack Clancy, Unit Chief for Avionics, Navigation and Flight Controls, visited Rochester and presented Flight Systems Division with MDA's Preferred Supplier Award.

This followed the visit of an assessment team in March, (reported in VISION Issue 6), during which all aspects of the Company's business were reviewed, particularly those specific to the MDA T-45 Yaw Damper Controller and AV-8B Fuel Flow Meter programmes.

Emphasing the significance of this achievement FSD's Managing Director John Colston said, "The greatest factor in our continued competiveness and performance is the quality of our products and services".

The attainment of preferred status confirms FSD as one of the select groups of suppliers which MDA recognise for quality and performance and, together with FSD's recent accreditation to ISO 9001, demonstrates to all customers the high level of commitment to satisfying their demands and expectations.

The Award, presented by Chuck Allen, was accepted by Frieda Milton of Flight Systems Production on behalf of FSD.

Frieda Milton of FSD accepting the McDonnell Douglas Aerospace Preferred Supplier Award from Chuck Allen, MDA.

WORLDWIDE AIRLINE SUPPORT

Pictured (l-r) Frank Martin (GEC-Marconi Aerospace), Alan Barker (Canadian Marconi), Fred Mackley (GMAv Ltd. Support Division), Nigel Platt (GEC-Marconi InFlight Systems), Mike Andrews (GMAv Ltd. Support Division), Peter Clark (GMAv Inc.), Doug Bennett (GMAv Ltd. Support Division), John Shaffer (Guest Speaker), Gerald Gill (Lear Astronics), and Tony Pace (GMAv Inc.).

On May 18 and 19 the 4th Worldwide Airline Support Seminar was held at GMAv in Atlanta, Georgia.

Doug Bennett, Managing Director of GMAv's Support Division, presented the opening Address, which included a review of the Airline Support Group's Mission Statement. Particular reference was made to a letter from Roy Gardner, GEC-Marconi's former Managing Director, which addressed the importance of product support in maintaining good customer relations.

The Mission Statement for this Group is "To enhance the civil aviation and aircraft manufacturers perception of GEC-Marconi products. To provide the support services demanded by the civil aviation customers to the highest standards, and to enhance the Company's products and reputation for excellence of service".

This GEC-Marconi Airline Support Group has been looking at trends in the marketplace as they apply to the Mission Statement. This Group is made up of Product Support Managers from across GEC-Marconi and is shown in the accompanying photograph. The meeting focused on formulating a strategy which included a comparison of GEC with the competition in each service area, and identification of areas where a competitive advantage exists. It was decided to look at market place opportunities to determine where it makes sense to pursue a joint strategy as an alternative to 'going it alone'.

VIDEO SYSTEM ORDER FOR THE RAF

GMAv's Displays Division has won an order from the UK MoD for its new Airborne Video Recording System. The equipment, designed by Edinburgh's Display Systems Group for the RAF's Harrier GR7 aircraft, will produce high quality television images of the pilot's view and the aircraft sensors. This order marks a new phase in the development of the high performance video systems business, and establishes a volume production for this new equipment.

The video tapes recorded in-flight may be replayed on an advanced computerised video replay station, also designed and manufactured by GMAv in Edinburgh. This allows aircrew debriefing and mission analysis to be performed rapidly and effectively.

The Sealed Video Recorder (SVR).

Milton Keynes Studies Radar Technology

In June Radar Systems Division at Milton Keynes began work on a study contract under the EUCLID (European Co-operation for the Long Term in Defence) programme.

This particular study examines current and future technologies associated with four types of radar: Multi-function, Synthetic Aperture, Surface-Air Search and Track and Airborne Surveillance.

The study is being conducted by a consortium from six countries: France, Germany, Holland, Italy, Spain and UK. The accompanying photograph was taken at the first UK meeting in July, and shows Kevin Clifton, Surveillance Systems Manager, 2nd from left, Mike Scorer, EUCLID Technical Manager, 3rd from left and John Stokes, EUCLID Project Manager, 5th from left with other consortium members.

Orders for Avery Hardoll

MoD - Hose End Pressure Controllers

Avery Hardoll products have long been established for aviation refuelling use by the UK's Ministry of Defence. Part of the refuelling equipment supplied to the MoD is the Hose End Pressure Controller (HEPC), also known as the underwing refuelling nozzle. The HEPC is the hose coupling which connects the refuelling vehicle to the aircraft and controls the pressure of fuel on to the aircraft.

GMAv's Avery Hardoll Division at Titchfield has recently secured an order for 259 HEPCs from the Procurement Division at MoD Chilwell. The equipment will be used by MoD sites world-wide, wherever aviation fuel is handled. HEPCs are also fitted to portable refuelling packages which currently form part of the supply operation for Bosnia.

Air BP

Included in Avery Hardoll's product range is a new design Fuel Hydrant Pit Box which forms part of an airport's Jet Fuel System. Aircraft fuel is stored in large tanks which are linked, via underground pipes known as the hydrant systems, to the areas where aircraft are parked. The hydrant pit box contains a valve from which fuel is dispensed to the refuelling vehicle.

Avery Hardoll has recently won an order from Air BP for the supply of 14 environmental pit boxes for Stansted Airport.

The environmental pit box is so called because of its leak containment feature. The new design of box is in two parts, with the inner part for containing fuel leaks and spillage. The outer part of the box allows for ground movement and supports the lid without affecting the positive sealing capability of the inner box, thus minimising the risk of fuel spillage seeping into the environment.

Avery Hardoll has developed this new design in conjunction with Air BP and it has been put forward for one of their annual design awards.

Fife Young Enterprise

Certificates were presented to mark the achievement at Inverkeithing High School.

Through the Young Enterprise (YE) Scheme, youngsters at Inverkeithing High School in Fife have the opportunity to assume the status of business executives and run a 'Company' for a year under the expert guidance of staff from GMAv's Support Division at Donibristle.

This year their 'Company', aptly named 'TIK-TOKO', produced wall clocks based on blank CDs. Their pre-tax profits amounted to an amazing £1784 and enabled them to make a donation to charity of £1000. This was the highest profit made, to date, since the inception of the Scheme four years ago.

Bob Spilsted, Donibristle's Training Manager, oversees GMAv's involvement. He said, "Young Enterprise is designed to give 6th year students real business experience. I use our involvement in the Scheme as a staff development tool for the advisors".

Navigation and Electro-Optic Systems Division, Edinburgh joins GMDS

Since the publication of VISION Issue 6 GMAv's Navigation and Electro-Optic Systems Division (NESD) in Edinburgh has become part of GEC-Marconi Defence Systems Ltd.

As NESD's activities cover a wide range of market sectors in addition to avionics products, the organisational change will enable NESD to exploit the synergy with GMDS in all areas of its business.

Described as Europe's leading manufacturer of navigation systems NESD has, over the past 30 years, delivered in excess of 2000 systems for a wide range of airborne applications.

Continued research and development has given rise to a new range of ring laser gyroscopes advanced rotary mirror scanners, used throughout the world for applications in newspaper print transmission and large screen laser projection, and guidance heads which have been developed for missiles, are now in large scale production.

Also produced is TIALD, the Thermal Imaging and Television airborne laser designator pod currently in use in the Gulf area where it is playing a significant role in providing reconnaissance for the coalition forces involved in policing the air exclusion zone.

Editorial Note

As Editor I welcome contributions for VISION and the GEC magazine TOPIC from all employees.

Your contributions should be addressed to the Site Co-ordinators/Correspondents – or in the case of Basildon, direct to me. The same applies to any comments, relating to the Magazine's content.

I can of course, be contacted direct:

Colin Langlands
Editorial Officer
Business Development Group
Sensors Division, Basildon.

Tel: GNET Access code + 344 + 3110 Fax: GNET Access code + 344 + 3140

UPDATE ON VISION 6

LIGHT ENTERTAINMENT (Page 8)

Acknowledgement of thanks goes to the following persons for their help in making the Edinburgh Science Festival a success: Bob Morwood, Ian Hawkins, David Ferguson, Kenny Middlemiss, Gordon Lyon, Tom Hastie, Dick Duckworth, Tim Orr, Eddie Prior, Brian Godfrey and Eric Ferguson.

TIALD/AV-8B: FOREIGN COMPARATIVE TECHNOLOGY TRIAL (Page 3)

The USN photograph showing the US Marine Corps' AV-8B with TIALD, which accompanied the article, was published by courtesy of US Naval Air Systems Command.

777's FUTURE LOOKS GOOD

VISION Issue 6 reported on the first flight of the Boeing 777, an aircraft of great interest to GMAv because its Flight Controls Division provides the three Primary Flight Computers (PFCs) at the centre of its Fly-by-Wire (FBW) system and Power Systems Division manufactures a wide range of accessory equipment including fuel pumps. Since the 777 is Boeing's first commercial FBW aircraft, GMAv is justly proud to be on the programme.

Since that first flight the three aircraft have flown and have, as of September 22nd, together accumulated 544 hours of flying time, with the PFCs performing safely and reliably as expected. All efforts are now directed to achieving ETOPS [Extended Twin-Engine Operations, allowing twin-engined aircraft to fly direct routes over water once the reliability of the aircraft, its engines and systems have been established] clearance and certification. This will allow the launch customer, United Airlines, to start a revenue-earning service in May 1995.

The Flight Controls and Boeing PFC teams are still faced with the difficult task of completing and testing full software functionality to support the October 1994 ETOPS start.

As Boeing explains, the 777 is not so much an aircraft, as a family of aircraft. The 777 will be certificated with three different types of engine, and Boeing already has orders for the basic, A-market aircraft, and the longer-range B-market variant. Design studies for a stretched aircraft are well advanced, to match the capacity of early model 747s. With 147 firm orders and 108 options, the future of the 777 is looking good.

777 in flight.

A Fond Farewell for the Buccaneer

When the opportunity arose to enjoy a last look at the Buccaneer maritime attack aircraft by those keen to witness the passing of this formidable aircraft into history, the enthusiasm of GMAv's Scottish Division's was overwhelming.

The visit took place at RAF Turnhouse in Edinburgh, courtesy of No.208 Squadron RAF and the flight crew were on hand to answer questions. Amongst those bidding the aircraft farewell were NESD [now GMDS] employees Bob Kemp and Pete Binham, both of whom were navigators on the Buccaneer during their service in the RAF and have actively supported the aircraft since.

First and last. The first Buccaneer ever to land at Turnhouse was being delivered to the Ferranti Flying Unit who operated it for almost three years on trials of the radar designed for the TSR-2. Ferranti aircrew had actually flown Buccaneers, on weapons trials, since 1961. Mr Derek Whitehead (r) Blackburn's Chief Pilot, hands the aircraft over to Mr John Field, Ferranti's Chief Test Plot on May 7th 1963. Thirty years and ten months later almost to the day, GMAv personnel take a last look at the Buccaneer at Turnhouse.

Air Marshal Haider visits GMAv

Important meetings were held during Farnborough week between GEC-Marconi and senior representatives of the Pakistan MoD and Pakistan Air Force concerning the SUPER 7 avionic system. Visits were made by the Air Force team to Edinburgh and Milton Keynes where demonstrations of the SUPER 7 avionic system and the Blue Hawk radar were given. The MoD team also visited the Blue Vixen production facility.

The Air Force Team was led by Air Marshal Shaffique Haider, Vice Chief, Pakistan Air Force and the MoD team by Mr Mazhar Rafi, Secretary of Defence Production.

The accompanying photograph shows Air Marshal Haider in the SUPER 7 representative cockpit in Displays Division, South Gyle. John Dods of the Avionic Systems Department is explaining the layout of the cockpit.

Sensors Division among £50,000 Finalists

Basildon based Sensors Division is among the four finalists for Britain's premier prize for innovation in engineering – the MacRobert Award – organised by the Royal Academy of Engineering. The other shortlisted engineering teams are Pilkington, Rolls Royce and Soil Machine Dynamics.

GMAv and the Defence Research Agency have been shortlisted for a range of infra red thermal imaging equipment that operates without special cooling. The equipment provides the ability to see clearly in total darkness or through smoke at a lower cost, size and weight and with improved reliability over existing products.

THE ROYAL ACADEMY OF ENGINEERING
RA Eng
1994
MacRobert Award Finalist

Professor Geoffrey Hewitt FEng FRS, Chairman of the Awards Evaluation Committee said, "Over the last 25 years, this Award has recognised the outstanding contributions which many British companies have made to engineering. All four of this year's finalists add to this tradition of excellence."

The winning team will be announced in the Autumn and will receive a £50,000 cash prize, together with a gold medal for their company.

The Division previously won the MacRobert Award in 1991.

Fireman's helmet - one in a range of infa-red thermal imaging equipment that operates without special cooling.

WINNER DEZ!

In acknowledgement for his contribution in developing the new Standard 1226-1996 for A Broad Based Environment for Test (ABBET), the Institute of Electrical and Electronics Engineers (IEEE) in Montreal, Quebec has awarded Dez Cass [a Project Manager in the Production Support Department, Support Division, Rochester] with an impressive plaque. The Standard Dez worked on with IEEE looked at an Overview and Architecture for circuits and devices, communication technology, computers, and a whole range of additional applications.

"The award was a complete surprise to me", said Dez, who had spent over two years on the jointly funded GMAv/DoD programme.

Control System Deliveries for Troll Oil

Early in July, Norsk Hydro completed the first of 20 subsea wells associated with their massive Troll Olje Field development in 340m of water, 70km off the Norwegian coast. With the equipment installed, subsea is the first well-set of hardware to be supplied by GEC-Marconi as part of the overall subsea production control system.

GEC-Marconi was awarded the £14m control system contract by Norsk Hydro in July 1992.

With the engineering phase of the contract complete, deliveries of control system hardware commenced in January this year and will continue until 1996.

An extensive period of testing was conducted in Mongstad in Norway throughout the Spring of this year. This activity has been supported by personnel from Nailsea.

The floating production platform will be on station in September 1995 and first oil is planned for 1996.

Gary Wallington, Senior Production Engineer, checks alignment of Subsea Control Module and Installation Tool during testing at GEC-Marconi's Nailsea facility.

GEC-Marconi AVIONICS

VISION

Local News from Edinburgh and Milton Keynes

Quality Improvement System

Known as QIS, Milton Keynes, Radar Systems Division's Total Quality Management Programme has moved into a new phase, with a greater emphasis on employees working to resolve problems that cross Department boundaries.

Since completing the Training Programme in November 1992, employees have been tackling defects and barriers that existed within Departments and prevented them from meeting the requirements of internal customers and suppliers.

A major independent survey, conducted as part of three employees' Post Graduate Diploma in Management, found that employees saw QIS as an effective way of identifying where improvements were needed. However, many voiced their frustration of problems over which they had less control. In response, Bob Phillips, General Manager RSD (South) and also Commitment Manager of the Quality Improvement Management Team, called for Departments to combine their efforts into creating mini- Corrective Action Teams.

The Final Summit....

.....Repeated

One year ago VISION (Issue 4) recorded Arthur Ager's successful climbing of all 277 'Munros', i.e. the highest peaks of Scotland, all over 3000' high.

This year VISION is able to report on the success of another GMAv employee – Alastair Andrews, who has achieved the same after 35 years of climbing.

Double record holder bows out

It can't be too often that a 22 year-old employee receives a retirement gift, but when NESD's Engineer Ewen Brown reached his 22nd birthday, on August 18th, he retired from 287 (4th Edinburgh) Squadron of the Air Training Corps.

At his final parade Cadet Brown's Squadron Commander, Flt. Lt. Glenn Surtees, presented him with a Squadron plaque as a memento of his cadetship and was also able to spring the surprise of presenting his Duke of Edinburgh Award Gold badge, enabling him to wear it on his uniform for his last night. Flt. Lt. Surtees is a Project Leader with Support Division at South Gyle in his spare time.

Ewen left the Squadron as a double record holder and has gone into the Squadron's history books. He was the longest-serving cadet in the Unit's 53-year history. Ewen joined the day after his 13th Birthday and stayed until reaching the maximum age of 22, which happened to fall on a Squadron parade night.

Ewen receives his plaque.

During his nine years with the ATC, Ewen has qualified as both a glider pilot and a marksman, and has played soccer for both his Squadron and Edinburgh and South Scotland Wing. Ewen's Gold Duke of Edinburgh Award is the Squadron's first ever and his second record.

Flt. Lt. Surtees said, "Ewen's career with the ATC is an excellent example of what cadets can achieve if they are prepared to stretch themselves. He has been a credit to the Squadron and will be much missed".

GONE FISHING

Has Raith Lake in Kirkcaldy become a respite for homeless boat people seeking refuge from the trouble spots of the world? On closer inspection all is revealed - the figures huddled in boats are ardent fishermen competing in GEC-Marconi's annual Angling Competition!

Through sponsorship the competitors from GMAv's Support Division in Edinburgh and Donibristle, and also from Marconi Simulation and MRCS Hillend, raised £700 for local children's charities.

The Competition took place on a typical Scottish Summer's evening in July. Joe Bell, one of the competitors, said, "The weather conditions were ideal for fishing - dull and cloudy with just a light breeze". In total, 80lbs of brown trout were caught, with Donibristle's Personnel Manager John Love enjoying the heaviest catch.

Competitors would like to thank all those who sponsored the event.

The Angling Competitors from (l to r) Bill Ferrar, Jack Longstaff, Barry Walters, Dennis Toon, Ray Morris, David Anderson, Bob Wright, Phil Kirk, Tommy Starrs, Alan Leslie, John Love, Rab Boyd, Joe Bell, Jim Spence, Henry Cant, Kay Spence, Ian Ferguson, Ian Forsyth.

Corporate Games Triathlon

On behalf of all the team members I would like to take this opportunity to thank you for all the help and support given, enabling us to participate in the Triathlon. I believe the estimated number of participants over the three days was around 4,000, with 250 entering the Triathlon.

The organisers experienced problems with the computer time-keeping during the race and, whilst there is still some doubt over the final timings, it is believed the placings are accurate. All were pleased with the overall performance in competition against several military teams and English triathlon clubs, which made up a very strong field. The results were as follows:

Under 30 age group	
Derek Johnston	4th
Ben Mitchell	7th
Duncan Davis	9th
30-40 age group	
Bruce Kidd	6th
Team competition	5th

Well done to participants and supporters.

Derek Johnston.

FIRST LADY

Amongst the 60 competitors in the fifth Inverkeithing 10 Kilometre 'Lammas Ferry Race' was Lisa Donaldson from GMAv's Support Division in Edinburgh, who excelled by being the first lady to complete the gruelling course.

Lisa, who works in the Marketing Department, is a fitness enthusiast. She completed the Ferry Race in a time of 46mins 53 seconds. Although she thoroughly enjoyed the day and was delighted with the result she said, "The conditions were perfect for running but the course was tough, with very hilly terrain".

Lisa received the prize of a medal, together with a delightful silver rosebowl for being the first lady home.

Lisa Donaldson proudly displays her prizes received for achieving the position of first lady home.

CHARITY BLISSFULLY HAPPY

BLISS aims to give every baby an equal chance in its start in life and to ensure that no baby dies or suffers handicap because vital equipment and skilled care are not available during the critical first months of life.

Each year Jenny Denton, a Cash Controller in RSD's Finance Department at Milton Keynes, presents a large bag of hats, coats, and bootees which she has knitted to the Baby Care Unit at Milton Keynes' General Hospital.

Having done this for the past three years, Jenny nominated the Baby Life Support Systems (BLISS) Charity to MK's Social Club for consideration in its fundraising activities, and was accepted. The result was a Charity Raffle which raised £206. This, together with Company's donation of £200, led to £406 being presented during mid-August to Anna Lubienska, Regional Development Officer of BLISS.

The Charity has a 'shopping list' standing at £1.6 million, in an attempt to fund equipment requests from hospitals around the country. When they were approached as to where they wanted the GMAv money to go, they nominated the local hospital for a ventilator monitor - Item 201 on their Priority List - costing £1900. When the full amount has been received it is hoped that a special presentation ceremony will be held at the hospital.

As for Jenny, she continues to knit for Christmas - helped by her mother - and, besides the Baby Unit, supports the Save the Children Campaign.

Anne Lubienska (r) receiving the cheque for BLISS. Jenny Denton stands centre.

GEC Milton Keynes Sports And Social Club

10TH ANNIVERSARY

On the 17th September GEC Milton Keynes Sports and Social Club celebrated the 10th Anniversary of the opening of its Club Bar and premises in Linford Wood.

The celebration included an International Variety Show, with a comedian, a very lively juggler, a female singer, and the event was rounded off by a Duo.

Feedback from some of the 200 members who attended was that a thoroughly good night was had by all.

TRAINEE ENGINEERS GRADUATE

The accompanying photographs are of the GMAv Trainee Engineers who graduated on the 8th July at the Usher Hall in Edinburgh. A total of twenty Trainees passed first time, unfortunately a couple of these could not make the photograph session.

All the Trainees acknowledge with gratitude the necessary support given and offer a vote of thanks to the Engineers, Supervisors and Managers who helped make these awards possible.

Back row (l to r), Derek Arthur, Sean McCulloch, Garry Ferguson, Michael Edgar Darren Welsh. (Software Engineering) Front row (l to r), Richard Gilchrist, Denis Carlin, Alex Hyslop, Ross McInnes, Scott O'Neill. (Software Engineering).

(l to r), Simon Wainwright, Jamie Pendrigh, Malcolm Wallace, Darryll Davidson, David Miller. (Electronics).

(l to r), Chris McComb and Ian Hume. (Engineering systems).

Its a 'Knock Out'

Serious fund - raising has been diligently pursued by members of GMAv's Support Division at Donibristle, in aid of Cancer Research. A brave team of 'lads and lassies' recently took part in a strenuous 'It's A Knockout Competition' held at Edinburgh's famous Meadowbank Sports Stadium. The team, named 'Knobs & Knockers', were amongst twelve teams competing from various organisations. The competition provided fun and hilarity for competitors and spectators alike.

'Knobs and Knockers' deserve hearty congratulations on not only raising £1,000 for Cancer Research but also winning the overall event. For this they received trophies and sports holdalls in recognition of their achievement.

A further £100 was raised from the purchase of votes for the manager whom Donibristle employees selected to see 'gunged' from a total of 13 willing Senior Managers. Project Manager Brian McCaffrey, was the 'lucky' winner and emerged from 'the gunge chair' in good spirits, although he was particularly grateful for the hose down afterwards!

Knock Out Team members.

THE CLASS OF '68

Long Service Awards in recognition of 25 years service were presented to nine members of Support Division at a ceremony held in Edinburgh recently. No doubt recipients of the Long Service Awards well remember the year they joined the Company, as 1968 was marked by memorable events, such as the Soviet invasion of Prague; the assassinations of Martin Luther King and Senator Robert Kennedy, and Sir Alec Rose completed a single-handed round the world voyage.

The Class of '68 have also witnessed momentous changes within the Company. Many have fond memories of Robertson Avenue, commonly referred to as 'Robbie Ave', a converted biscuit factory. This was once the home of the Electro-Optics Department, the Apprentice Training School and the Product Support Department. Stories abound of workmen, during the conversion, cutting through pipes to be met by torrents of strawberry jam and, in some cases, the orange filling from Jaffa Cakes!

The nine recipients provide a wealth of experience, with a total of 225 years service between them, and their loyal dedicated service is justly recognised by the presentation of their Long Service Awards.

Class of '68 with their partners

RETIREMENT AFTER 38 YEARS

David Anderson, Support Division's General Manager at Donibristle is looking forward to a retirement spent golfing and fishing after 38 years service with the Company.

David joined as a Graduate Apprentice Mechanical Engineer in 1956. His interest and expertise in testing techniques unwittingly determined the course of his career, being primarily involved with the development and expansion of the test equipment side of the support business.

Having served as Product Manager at Bellshill, David was appointed Assistant Divisional Manager at Donibristle before finally being promoted to General Manager.

At a gathering to mark his retirement David said, "Half of my 38 years with the Company has been spent as an Engineer and, for the last 18 years, I have essentially been employed as a Business Manager. This has provided an exciting challenge and enabled me to experience a wide range of activities".

David Nisbet, Major Projects Director at Crewe Toll, then presented him with a set of golf clubs.

In response David Anderson described his 38 years service as "enjoyable and fulfilling" but said, "A successful career is dependant on team effort". He expressed sincere gratitude to the members of his team.

David Anderson's retirement gathering.

MOUNTAINEERING CLUB 40th ANNIVERSARY DINNER/CEILIDH - SATURDAY 18th MARCH 1995

To celebrate the Club's 40th Anniversary a Dinner/ Ceilidh has been organised at the Roxburgh Hotel, in Edinburgh's Charlotte Square on the evening of Saturday 18th March 1995.

The Forth Bridges Ceilidh Band will provide traditional Scottish Ceilidh music following the Dinner.

Keith Cocks is also hoping to organise a short slide show - between the Dinner and Ceilidh - of the Club's activities past and present. Also, to help work-up an appetite for the Dinner, an ascent of Ben Vorlich, Lochearnhead - the first mountain climbed by members after the Club's formation - is also planned for the Saturday.

All known Club Members, past and present, should have been contacted by now. Should there by any Member who has not been approached or persons who are interested in attending please contact:

Keith Cocks
60A Palmerston Place
Edinburgh EH12 5AY
Tel: 031-220-4371
for more information.

On way up to Corrie Cas Aviemore, March 1957.

March 1955, First Club Meet (Ben Vorlich, Lochearnhead).
(l to r), Paddy Beattie (deceased), Lochart Taylor, Wendy McWhirter, Alistair Macleod, ? MacDonald.

BLOOD DONORS

At a three-day Blood Donor Session held at South Gyle during early summer the following supporters from Display Systems and Support Divisions were awarded badges:

Bronze Award (10 Donations)

George Avraam
Shirley Bell
Andrew Fulton
Ronald Griffiths
Kirsteen Bertram
David Craig
Peter Gillespie
Alastair Goodall

Silver (25 Donations)

Craig Lauder

All donors were warmly thanked for their magnificent effort. A total of 196 employees attended the Session and 168 donated. There were 6 new donors.

WELL DONE!

GEC-Marconi AVIONICS

VISION

Local News from Basildon

APPRENTICE INDUCTION COURSE

This year's Sensors Division Apprentice Induction Course took place over a two week period designed to put all those involved to the ultimate test. Its purpose was to build team-spirit, stamina, confidence and leadership qualities which could be taken and applied to the workplace whilst, hopefully, being an enjoyable experience.

Thirty-one apprentices were involved, aged between sixteen and twenty-six, all from mixed backgrounds and varying levels of ability.

Week One was spent on-site learning about the organisation of GEC-Marconi Avionics and different aspects of its work. There were exercises designed to give each individual an insight into their role within the Company, beginning to build skills that would be developed in Week Two.

For the second year in succession Week Two was spent at the Mount Severn Outward Bound Centre in Llanidloes, mid-Wales. Denice Moss (Training Officer) and Chris Guertin (Electrical Craft Instructor) bravely participated in all activities.

For the Apprentices the Welsh week was designed to test physical strength, mental endurance, increase motivation, build communication skills and develop trust in each other, whilst at the same time getting wet, cold, bruised and tired.

The toughest day of all was spent abseiling, rock climbing and caving, activities designed to breed encouragement, confidence and keep morale high.

Team work showed itself to be vital in preparing for an activity called the "bivvie". For one team this meant a pleasant night under the stars, tucked up warm in their sleeping bags, but for the others it meant getting wet and cold in torrential rain. All equipment and food for this "bivvie" had to be earned by completing different tasks ranging from orienteering to acting out Snow White. Points were allocated to each, the greater the number of points, the more equipment could be bought. Needless to say the thought of an uncomfortable night was a great motivating factor in points collection.

On the last day a Presentation was given by an exhausted and thoroughly bruised group to both Mount Severn's staff and GEC, including Nigel Baldwin, Sensors Division's Personnel Director. Everyone had worked incredibly hard to produce an excellent Presentation, and all were rewarded by praise from guests and team members. The week therefore ended on a high note.

Above all, everyone had to work together, whilst listening to what each individual had to say. Every contribution was vital to achieve effective team work. These are the skills remembered and have been brought back to Basildon for effective use in the future.

Setting up Camp.

Sailing Boost For Charity

The Marconi Sailing Club gave another boost to the world of disabled sailing when it hosted the annual fund-raising Piers Race last July.

The Club, based at Stansgate near Maylandsea, has raised around £25,000 for various charities over the seven years it has held the Race, and hopes to repeat recent successes by collecting more than £4,000 for the Royal Yachting Association Seamanship Foundation.

Further information on the Club's sailing and fundraising activities can be obtained from Steve Hill, Ext. 7107.

TQ HANDBOOKS

Each employee should, by now, have received his/her copy of the new Total Quality Handbook.

Employees not having received a copy should contact:

Jeff Ayres *Ext. 3100* *(B455)*

Joanne Grayer *Ext. 3232* *(B455)*

Senior Appointments

SUE WOOD

Sue Wood has been appointed General Manager of the Airadio Group, Sensors Division, reporting to the Division's Managing Director.

Sue joined Basildon following an established senior management career at Rochester, where she was General Manager of the Mission Systems Group Displays Division.

Dr EILEEN READ

Dr Eileen Read has been appointed General Manager of GEC-Marconi Infra-Red Limited, Southampton reporting to the Managing Director, Sensors Division. Eileen was General Manager at GEC Sensors' Hirst Infra-Red Division at Wembley, prior to joining GMIRL as Assistant General Manager.

COMPANY DOCTOR

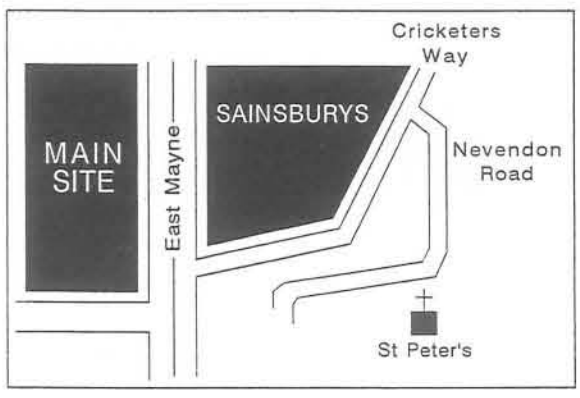
The appointment of Dr James Redman as the Company's Medical Officer (Sensors Division) is announced. Dr Redman's surgery will normally be every Tuesday between 13.30pm and 16.30pm.

Christian Fellowship

This year's Christmas Carol Service will be held in St Peter's Church (Nevendon) on Tuesday 13th December from 12.10pm to 12.05pm. Everybody is welcome. The organisers have been assured that those who wish to attend and normally take late lunch-break will be given permission to take early lunch-break on this occasion.

On a more regular basis the GEC-Marconi Christian Fellowship meets twice monthly at lunch time for worship, prayer and discussion at the same venue. Meetings are held on the 2nd Tuesday of each month between 12.40pm and 1.15pm and on the 4th Tuesday of each month between 12.10pm and 12.45pm to coincide with late and early lunch-breaks respectively. Meetings are always well supported but there is plenty of room for more people.

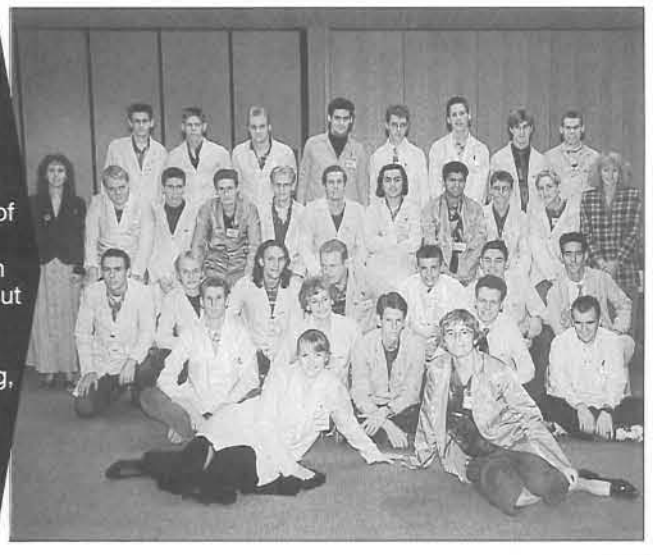
Meetings are usually co-ordinated by Bob Sharp, with musical leadership provided by James Anderson and David Harris. The accompanying picture shows one of the Summer meetings which was held in the open air. If you are interested, come along and/or contact Bob on Ext. 3226, David on Ext. 3707, or James on Ext. 3804.



DUTCH VISIT

For the third year in succession a party of Dutch students with their Tutors from the Pascal Technical College in Apeldoorn, spent an afternoon as the guests of Sensors Division.

Their visit was arranged in order that they can learn about the Company, discuss similarities and differences regarding education, training, work, etc from our own apprentices. As usual the Questions and Answers Session was very informative.



FLYING SECTION

Notes from a busy summer schedule.

In July, a presentation of an inscribed tankard was made to Mike Thornton to mark his retirement from the Section. This was an expression of thanks for his support during eight years as President.

The Section visited two American Air Force Museums in East Anglia. The first was at Thorpe Abbotts in Norfolk, founded in memory of the 100th Bomber Group, better known as the "Bloody Hundredth", because of the high casualty rates sustained during the daylight bomber offensive of WW2.

The Museum has originated from the efforts of one man, Mike Harvey, and houses a comprehensive collection of B17 relics, and even includes a small Chapel of Remembrance.

The second Museum was at Framlingham, Suffolk, commemorating the 390th Bomber Group. The Control Tower houses aircraft relics including parts of the B24 Liberator in which Lt Joe Kennedy, President Kennedy's brother, was killed in WW2.

Later that month, twelve members visited the Challock Gliding Club in Kent for flying experience, and some instruction, in the art of gliding.

The activity was kindly arranged by Cyril Whitbread who, with his wife Caroline, is a resident flying instructor at Challock. Both flew with the Section members and provided the instruction.

A visit was also made to the Gatwick Aviation, Heritage and Education Centre, created and operated by Peter Vallance of Vallance By-Ways, Gatwick. His entrepreneural flair has resulted in a collection of more than fifteen aircraft in various states of preservation, including a Venom, Canberra and Shackleton, as well as a growing collection of aviation artifacts including several aircraft engines in good condition.

After this visit, the party attended a 'fly-in' of light aircraft at the Lashenden airfield near Headcorn. Conducted around the new hangar members saw several interesting aircraft including the German WW2 experimental VI Flying Bomb piloted by the Hanna Reisch. Lashenden also houses a WW2 museum containing many wartime relics, including parts of crashed aircraft disinterred from their Battle of Britain 'graves' in the Kentish soil.

The Section cannot forget its annual 'pilgrimage' to the local George French airstrip on a fine summer's evening. Several interesting aircraft, all in flying condition, were seen, including George's unusual BAC Swallow, and a number of aircraft "flew in" to say 'hello'.

Video evenings continue to be held on the first Monday of each month. Details of these and other events are published on the Company's notice boards.

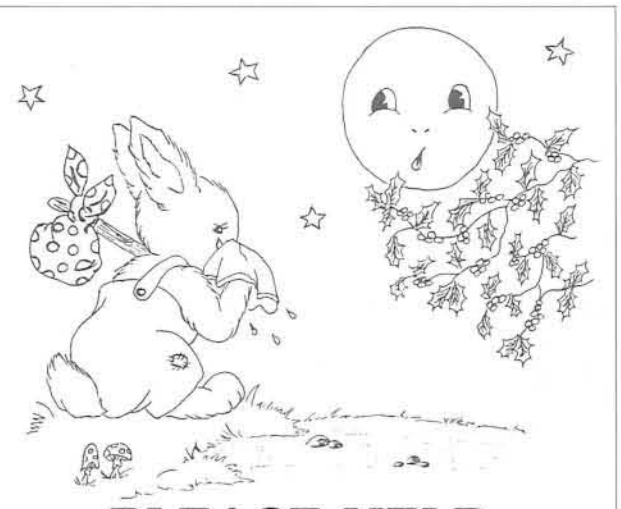
Personnel at the Basildon site who wish to join the Section are invited to attend any Section function or contact Trevor Roberts on Ext. 3164, who will be pleased to give full details of membership.

Flying Section member Ian Damant prepares for take off for his local flight (glide) from Challock airfield. Flying Instructor Kevin Vincent (from GMAv Rochester) is in the back seat and Alex Adams from Basildon stands by with the retrieve tractor.

On behalf of the Flying Section members, Section President Mel Bennett presents Past President Mike Thornton with an inscribed tankard.

SOCIAL CLUB COMMITTEE

Chairman	Mr W. O'Brien	B130	3291
Vice Chairman	Mr L. Maunder	K105	7471
	Mr G. Hopkins	K105	7471
	Mrs T. Garland	K508	7020
	Mr J. Bibby	D175	4030
	Mr B. Stokes	B105	3033
	Mrs F. Newstead	B270	3287
	Mr A. Newstead	G Bldg	5063



PLEASE HELP

To make a better Christmas
for the local under-privileged children

WANTED

Mainly toys, also clothing, bedding, furniture etc.

PLEASE CONTACT FOR FURTHER DETAILS OR WITH GIFTS:

Tony Dann Goods Inwards 'B' (Mainsite) Ext. 3038

Charities Committee

Nigel Baldwin (Personnel Director) and Bill Milton, have been welcomed to the Committee as Company Representative and Chief Cashier respectively.

Since December 1993 the sum of £3650 in donations has been made to nominated charities as a result of the exceptional generosity and enthusiasm of employees. These range from £50 - £100 each.

It was also announced with much pleasure by the Committee that a total of £3890.42 had been made available for distribution during the same period.

Whilst the Committee wishes to thank those who have given their generous support to worthy causes, it feels there is still a need to encourage more employees to authorise a regular donation of a small amount from their salary to local appeals. Perhaps many employees do not realise that the Company matches £1 for £1 the employees' contributions to the Charities Committee.

Your continued support will be most welcome.

Retirements from Sensors Division

Recent months have seen fourteen long-serving employees retire from Sensors Division, their combined service amounting to 405 years in total.

The accompanying photographs (i-iii) were taken at informal 'thank you' meetings.

(i) [l-r] **Glyn Morgan** Marketing Services Officer (ADM) 18 years service,

Carl Wilkinson Snr Technician Eng. (ESG) 34 years service,

(ii) [l-r] **David Buckland** Technologist (ESG) 45 years service,

Leonard Beackon Storekeeper (OPS) 26 years service

Mark Sanders Logistics Controller (ARG) 25 years service,

(iii) [l-r] **Victor Warren** Assembly Controller (OPS) 33 years service,

Albert (Alf) Porter Snr Administrator (ARG) 40 years service,

(iv) **Cyril Whitbread** Business Development Mgr (ADM) 11 years service,

The following persons also retired but are not pictured: **Eileen Byne** (Snr Inspector - OPS, 26 years); **Charles Oughton** (Universal Machinist - OPS, 24 years); **Bill Millichamp** (Principal QA Eng. - ESG, 36 years); **Dennis Clark** (Contracts Mgr - ESG, 24 years), **Bernard Harriss** (Asst Chief Cashier - ADM, 38 years) and **John McEwan-Hill** (Snr Assembler - OPS, 25 years servic).

(i)

(iii)

(ii)

(iv)

CHALLENGE 1994

Challenge '94 Participants.

Over a recent wet and muddy weekend in Staffordshire, 72 teams completed the GEC Challenge. 80 marshals were on hand to ensure that things ran smoothly.

The scenario was to complete a disaster relief exercise set in an unspecified country.

The teams arrived on Friday and took on the roles of disaster relief engineers, having set up their base camp.

To help with the Friday exercise the Challenge organisers had engaged the help of Oxfam. In establishing their base camp, teams split their resources and worked with other groups to erect relief shelters, build water tanks - later filled with 400 gallons of water by Staffordshire Fire Service, retrieve food from the middle of a lake, store the food and then cook it. Some teams then decided to test the relief shelters and spent the night in them.

Over Saturday and Sunday a series of tasks related to the disaster scenario were completed.

Saturday and Sunday presented a major challenge, with twelve tasks to be completed and on a very tight time schedule. By the end of the Challenge only one team had completed all tasks.

The final task was the celebration of an 'ancient tradition' of the 'host country', in which all teams participated in building catapults and launching tennis balls as far as possible. On Sunday afternoon the teams were lined across the top of a hill with their catapult machines waiting for the 2.30pm firing signal, the winning team catapulting their tennis balls some 25 metres.

For the first time ever two teams tied for first place, both from GPT Ltd (TSG), Liverpool, with 176 points each. In third place came GEC Meters Ltd - Stone.

The prize for the final event was also won by Team 33 from GPT Ltd (TSG) but this time from Coventry. GEC-Marconi's Managing Director, Peter Gershon, presented the prizes.

TEAM DEVELOPMENT JOURNAL

Throughout the Challenge the teams reviewed their progress by using the Team Development Journal. This Journal helped teams to focus on what they were doing well, how they could improve on subsequent tasks and transfer what they had learnt back to their workplace.

Most teams made constructive use of the Journal during the competition and gained additional points for doing so.

A prize was also awarded to the team which made the most effective use of their Journal.

Team 15 from GMAv, Rochester was one of those shortlisted for the Award. At the end of the day, there was only one prize and that again went to a team from GPT.

Over 1000 breakfasts were cooked, over 1100 packed lunches served and only three injuries sustained, and a great

RUSSELL HORNE

With effect from Monday 10th October, Russell Horne has taken up the appointment of Special Projects Manager, Infra-Red Sensors.

Based at Basildon, and reporting to the Marketing Director of Sensors Division, Russell's task will be to assist in future detector and sensor strategic plans.

GEC-Marconi AVIONICS

VISION

Local News from Titchfield

OPEN DAY

Titchfield's Open Day on July 2nd was an outstanding success. The sun shone and over 1000 people attended. Pictured here are some of the displays, events and demonstrations which kept people informed and entertained all day.

The enjoyment of all those who attended was due to the hard work and effort put in by those involved in the preparation and running of the events.

'LE TOUR' COMES TO TITCHFIELD

In June two cycling enthusiasts from Titchfield had a taste of cycling the Tour de France, a week before the French cycle race came to Britain.

Ted Bridge, Commercial Manager, and Mike Prangnell, Assembly Technician, took part in a sponsored cycle ride which followed the 113 miles Hampshire leg of the Tour de France route.

Ted and Mike are members of the Fareham Wheelers for whom Mike organised the charity ride.

They were sponsored by colleagues and raised £277 for the Heart Foundation and a local Fareham children's charity.

Ted said, "The last 20 miles were hard work but it made one appreciate the effort involved in the real 'Tour'".

Welcome to the Business

The following people have joined the Company in the past few months:

JUNE

Dennis Jack - Product Assurance as a Calibration Technician.

Steve Ford - the Commercial Department as a Commercial Officer.

JULY

Graham Dolding - Engineering as a Technician Engineer.

Tony White - the Commercial Department as a Contracts Manager.

James Nolan - Engineering as a Senior Electronics Engineer.

Annabel Jones - Finance as a Secretary.

Paul White - Finance as a Financial Accounting Analyst.

Susannah Hoult - Customer Support as a Sales Administration Clerk.

AUGUST

Jeremy Dawkins - Avery Hardoll as an Export Sales Manager.

Kath Hooley rejoined Electronic Assembly as a Fitter Technician.

Clair Freemantle - Finance as a Data Entry Clerk.

Carol Cartwright - Engineering as a Technical Clerk.

Mark Channon - Avery Hardoll as a Fitter Technician.

David Murphy - Engineering as an Electronics Engineer.

Nicola Taylor - Engineering as an Engineering Services Assistant.

SEPTEMBER

Michael Driscoll, James Whatley and **Mark Royer** as 1st Year Apprentices.

Paul Peglar - Avery Hardoll as a Fitter Test Technician.

Simon Ellis - Product Assurance as a Procedures Controller.

Jim Gorman and Mike Steel rejoined Manufacturing as Machine Shop Technicians.

Don Smith - Manufacturing as a Storekeeper.

AVERY HARDOLL TEAM WINS GOLF TOURNAMENT

In June, the third Golf Tournament, organised by Texaco in aid of National Childrens' Homes, was held at Littlehampton Golf Club. This event has been very successful in the three years it has been running, raising some £25,000 for the Charity.

This year's event was supported by 42 teams from companies mainly associated with oil distribution.

Stuart Offer and Barbara Edwards from Avery Hardoll, together with representatives from Esso and Air BP, comprised one of the teams.

The format of the Tournament was "Stableford Competition", i.e. the best two scores on each hole counting towards the team score. The Avery Hardoll team scored 96 points and won first prize. This prompted one of the Club's lady members to comment "Were you aware that only two scores count and not three?!"

A very enjoyable day was had by all and £8,500 was raised for the National Childrens' Homes.

The photo shows Stuart Offer and Barbara Edwards each receiving their prize, a lead crystal fruit bowl.

Cricket Challenge

Nick Franks threw down the gauntlet to GEC-Marconi at Stanmore for a Challenge Cricket Match. The prize was a newly instituted trophy.

With the game in doubt because of unsettled weather, the team travelled to Stanmore. Undaunted by the prior claim of superiority by the Middlesex League Club, GMAv's team set about the match in the proper Titchfield manner. Having won the toss, skipper Robin Taylor opted to bat first and, with respectable scores by Alan Long (34) and Clive Richardson (43), reached a sound score of 116 for 7 at the end of innings.

With early, tight aggressive bowling, notably by Bill Dowling (1 for 18), Nick Black (1 for 20) and John Rowe (2 for 22), the home team struggled and managed only a meagre 108 for 8.

Victory and honour, therefore, went to Titchfield. The trophy was presented to the team by Sir Donald Hall, Deputy Chairman of GEC-Marconi Ltd.

PRIZE WINNER

Congratulations to Kevin Smith, one of Titchfield's apprentices, who has just completed his first year of job training at Southampton Engineering Training Association and has been awarded the SEMCO prize for the Best Trainee Mechanical Technician.

Kevin is currently on a training attachment in the Machine Shop.

New Fire Engine for Titchfield

The Occupational Fire Team at Titchfield celebrated the Open Day by proudly displaying their newly acquired Fire appliance. This engine replaces the 1965 Bedford TK appliance which has passed into the care of a Preservation Society.

The team is pictured here with the 1974 Dennis 'D' Series diesel engined pump which was, until recently, a front line appliance with the Hampshire Fire & Rescue Service.

Retirees

The Company wishes a happy retirement to retirees who left in:-

June

Geoff Denham - Engineering.

John Bridges - Product Assurance.

Jack Foster - Manufacturing.

July

Carolyn Ricketts - Engineering (early retirement).

August

Angus Grant - Security.

Pete Bryant - Avery Hardoll.

September

Kenny Le Gallais - Avery Hardoll.

Tim McCullen - Manufacturing/Materials.

Len Coyle - Customer Support.

OBITUARY

ROY SWEETENHAM

Sadly, Roy died on Wednesday July 13 after a battle with cancer. Roy worked for nearly 20 years in MFD and will be missed by his colleagues.

We're Still Waiting for Articles, Interesting News etc. All contributions should be addressed to Peter Black Ext. 3565, Sue Gray Ext. 3567

TEAM NEWS

TITCHFIELD'S FIRST CELLULAR MANUFACTURING ASSEMBLY/ TEST AREA OPENS FOR BUSINESS

The Production Team.

The strategy of introducing Cellular Manufacturing at Titchfield took a huge step forward recently with the opening of the Pump and Canister Assembly/Test Cell. The decision to move towards Cellular Manufacturing was taken some time ago. Work on the Cell started in July 93. However it wasn't until the implementation team was formed in Feb 94 that things really began to happen. Mike Boden and the rest of his team (Roy Humphries, Barry Hayward, Ken Scott, Greg Maidwell, George Brown and Roger Reed) put in many hours of hard work to quickly bring the project to fruition. A great debt is owed to these people for their efforts.

Cells allow us to exploit our expertise and improve our weaknesses. By introducing product specific cells (e.g. electrically driven pumps and their associated canisters) we improve problem ownership, motivation, have a greater involvement and responsibility, improve quality, increase flexibility, reduce stock, reduce lead time/response times, and costs, significantly reduce waste, enhance communications and increase our ability to readily promote continuous improvement.

The first members of the production team began moving into the Cell during the first week in July. At first production started slowly. However, by the beginning of August, virtually the full team was in position with all but one of the products, which will be built in the Cell, on line. The team currently consists of Jim Bennett, George Brown, Les Dicks, Ron Forsdyke, Archie Gill, Pete Godwin, Brian Handover, Barry Hayward, Roy Humphries, Bill Jones, Steve Pope, Mark Rutherford, Steve Stroud and Glenn Brock.

There is a lot of hard work ahead but already new ideas and process improvements have been identified. The team has introduced weekly Contact Sessions whose objectives are to highlight process, personnel, environmental and general improvements and subsequently monitor and implement these. Members will also ensure that process improvements, etc. requiring an input from departments external to the Cell, are actioned.

Many aspects of the Boeing '5S's' video have been taken on board - sweeping visually and physically sorting, simplifying and standardising. Currently the team is expecting delivery of shadow boards enabling the creation of workstations where tools, gauges and specific equipment will be adjacent to the workbench for easy access.

Pumps being built on specific benches relate to a photograph of the relevant aircraft situated on the adjacent wall. Customers will be welcome to view an area dedicated to meeting their requirements. The team is striving to build quality pumps with zero defects, removing all aspects of rework and waste.

The Cell looks forward, with eager anticipation to the challenges ahead. With improved communication and support from all departments we will continue to remain a world class performer.

5 S's TAKE EFFECT

Since May 1994 the Titchfield Site has been progressively adopting the principles of the 5S's. Many companies around the world are using these basic standards to improve their general way of working life and their surroundings.

The 5S's stand for **Sorting, Simplifying, Sweeping, Standardising and Self-discipline.** To date, a video, which describes simply how the 5S's can work, has been shown to about half (400) the employees. Both Manufacturing and Non-Manufacturing areas have made improvements during the three months since the video (on loan from Boeing) was first shown.

The accompanying photograph shows how applying the first S - Sorting, (separating the necessary from the unnecessary), can lead to ensuring that areas are tidied, become less cluttered and provide a safe working environment. The MFD Group is seen here with some of the items from the their area which were not routinely used. The end result being four stillages full of disposables.

(l to r) N. Belcher, J. Camfield, A. Ryan, G. Parry, M. Chivers, R. Hill.

STATISTICAL PROCESS CONTROL IN MFD

Process improvement efforts in the MFD area have vastly increased in the last eighteen months since the introduction of our SPC programme.

By increasing the Capability Ratios (CR) of tolerance width to process performance values, we are driving out cost by building confidence into our processes.

By using SPC techniques to monitor the performance, great savings are being achieved on processes which have traditionally been seen as major bottlenecks and / or low yield production stages. Many of the benefits now being realised have only been achieved through adopting the team approach, with supervisors and processing personnel working together. The current improvements are being applied to electroless nickel and hard chrome plating, sulphuric, chromic and hard anodising. Data collection has just been initiated on the copper plating process.

Ian Porcher
Group Mgr, MFD

(l to r) Ian Andrews, John White, Paul Ross, Steve Light, Ian Porcher.

SPC UPDATE

Our Customers are telling us that we are doing all the right things with our work on Statistical Process Control, both in Manufacturing and some non-Manufacturing areas.

The proof of this good work is in the results the individual process operators are achieving.

The subject of identifying and eliminating variation in all processes can be complex but, understandably, there is no gain without pain. After all the talking and training that has been given on this subject since 1992 it is very refreshing to hear words from Manufacturing such as 'this is what we did, this is what we think and this is what we are going to do now'.

To a limited extent we are into the stage of consolidation. We believe that we understand more about some of our processes than ever before and we must continue to employ SPC techniques to help monitor and structure the improvement process for our products and the Business.

Significant cost savings are being identified in some of the key Manufacturing areas and our new SPC Implementation Plan indicates the progressive introductions and activity to mid 1996.

There is an open invitation from the areas involved who will be pleased to show you what has been, and is being, achieved. Or, contact me, Alan Coles, (AQS Manager), on Ext. 3608.

GEC-Marconi AVIONICS

VISION

Local News from Rochester

QUALIFIED AND GOING STRONG

GMAv, Rochester, has recently added seven people to its growing band of National Vocational Qualification (NVQ) Assessors.

What does an Assessor do?

The story began in 1990, when GMAv took the decision to enhance its Clerical Scheme by adopting the new NVQ Business Administration Award. GMAv was one of the first companies to do this.

The new Scheme requires the trainee to gain experience and knowledge, primarily from the work itself. Trainees must then prove competence by gathering evidence of what they can do. This is where the team of Assessors joins in.

Their job is to ensure that the evidence is sufficient proof of competence. To do this they must, themselves, be qualified as Assessors by achieving the City and Guilds Vocational Assessor Award.

This is not the end of the story, however, because the Assessors have their work checked for consistency by an Internal Verifier. Paul Williams, Senior Instructor in the Training Department, achieved this qualification in June.

The team of Assessors is pictured with the certificate accrediting GMAv(R) as an approved centre. (Back row, l - r): Dennis Foxley (Admin. Assistant-Training Dept.), Lin Harrington (User Support Supervisor-CS), Hanna Everett (Project Admin. Assistant-MSG), Paul Williams (Snr. Instructor-Training Dept.). (Front row, l - r) Anne Turner (Clerk Typist-FCG), Carol Eves (Training Supervisor–Training Dept.), Kim Carter (Training Supervisor-Training Dept.).

FAMILY FUN DAY

This year's Family Fun Day, the first of its kind, turned out to be a success.

Competitors and spectators alike enjoyed the seven games that made up the 'It's A Knockout' Competition. On a hot dry day the water games especially went down well. The winners were a team from ISG called 'Disciples of Eddy Waring', with DSG coming second and the Swimming Section third. The Five-a-Side Football Competition was won by ISG, with FCG the losing finalists. Computing Services won the Tug-of-War trophy, GMAv the Netball Cup, and 'The Has-Beens' - the Bowls Cup.

Football Winners - ISG.

Reapers' Club

As 1994 draws to its close, here is an 'end of term' report on the Reapers' Club by its Secretary, Lorna Hosmer, on behalf of the Committee and Members. Incidentally, it is Lorna's last report as she will be resigning after the AGM in January 1995.

Lorna is glad to report that the Club is flourishing and many new members have joined during the past few months.

Meetings are well attended and members have enjoyed varied entertainment including concerts given by the GEC Band, Organists, Dancing Displays, Scottish Dancing and Bell Ringers.

Three outings have taken place, i.e to Springfield Gardens in Lincolnshire, to Southampton (which included a river trip along the River Hamble) and finally to Eastbourne. On each occasion the weather was favourable.

The Club is looking forward to its Annual Christmas Dinner and Dance and the hard working Committee has almost finalised its programme of activities for 1995.

Lorna has really enjoyed serving as Secretary and she is leaving the job in the capable hands of Mrs E. Drain.

Obituary

The death was announced on 20th October of Dave Phillips - Senior Planner in Support Division's Production Department.

Having joined the Company in 1964 as a Centre Lathe Turner in Gear Division, and after a period of time in FID and CMS, Dave spent most of his 30 years service working in ATE and, more recently, in Support Division.

Dave will be missed by all his friends and colleagues at Rochester. The Company's deepest sympathy goes to his widow Jackie and three children, Hayley (FSP Production) Mark (DSGR QA) and to Christopher.

Donations have been sent, in his memory, to the Hodgkinson's Disease Association.

Walking The Haute Route

The Haute Route traverses the Alps from Chamonix in France to Zermatt in Switzerland with two brief incursions into Italy. It follows glaciers and climbs over cols to find a route through some of the highest and most beautiful mountains in Europe. In winter it is a route for ski mountaineers, in summer for walkers.

Three GEC Engineers; Stewart Webb and Gordon Belcher from GMAv's Combat Aircraft Controls Group, and Dave Pearce from the Hirst Research Centre at Borehamwood, set out to walk the eight day route in mid-August.

The scenery was magnificent with views of Mont Blanc, the Dent d'Herens and the Matterhorn.

The party's crevasse rescue technique was needed on the sixth day when Stewart fell into a deep crevasse. Dave hauled him out using his ice screw as an anchor with a system of pulleys.

It was a great walk, well within the scope of those with experience of the British hills in winter. Along with terrific scenery, comfortable huts and friendly people there was a fitting climax, the walk down the Stockji glacier to Zermatt underneath the north face of the Matterhorn. A great way to relax!

▲ *Dave, Stewart and Gordon after completing the Haute Route.*

The Pigne D'Arolla and the track leading to the Vignettes hut. ▶

ATHLETICS CLUB NEWS

GMAv's Athletics Club recently completed another noteworthy season in the Guardian British League Division 4. With three third place efforts, and a second place in their last fixture, they finished 3rd overall in the League.

GMAv's opponents next season will be Cambridge, Edinburgh, Leeds, Peterborough and Team Solent.

Team Manager Len Murphy was more than satisfied with the Club's overall performance and thanks all the team members for their support throughout the past season.

Any interested budding athletes can contact Len at Rochester for details about joining the Club, on Ext. 3851, or at Home on (01634) 408272.

Peter Elsden - *Wedding*

Peter Elsden, from Rochester Support Division's Commercial Department, and Elizabeth (Liz) Ross were married at Chatham Registry Office on 13th August. They have known one another for seven years. Peter and Liz spent their honeymoon at Blairgowrie and St Fillans in deepest Scotland before returning to their home in Walderslade.

Bob Marshall

Bob Marshall receiving congratulations on his retirement from Ray Dennis CACG General Manager.

Bob Marshall retired from CACG, Rochester on 15th September 1994 after 31 years continuous service with the Company. During these years Bob had been involved in radar work, YC14, Jaguar FBW, the LRSOM feasibility study, F22, Boeing 7J7 and EF2000. Recently, Bob took over the control of the Future Technology and Systems Group.

TED PAINE

Last Spring Ted Paine became the only member of the Gills Travel Club (founded in the 74/75 season) to complete 500 away trips; and because of the agreed merger of the various Supporters Groups, i.e. GFC Blues Supporters, Gills Away Travel, Gills Travel Club, he will be the only member to achieve this.

At the Travel Club Final Annual General Meeting in June, Ted was presented with the Commemorative Plaque to celebrate the event.

During the course of his travels he has been to all but nine League grounds, including trips to several clubs which are no longer in the Football League.

Ted stated, "The most memorable away game was when four of us went on the Promotion Celebration trip to Majorca and saw the Gills lose to Real Mallorca in a midnight kick-off".

Oxfam Appeal for Rwanda

Resulting from a recent national Oxfam Appeal in aid of Rwanda, Support Division's Contracts Department at Rochester donated a number of prizes to be raffled in aid of the Cause. Pat Richards, who organised the event, was both delighted with the response and able to present Oxfam with a cheque valued £182.62!

Ted Paine.

"Technology Under Canvas!"

If you were asked to design a technological device which could be built by children with differing abilities and ages, adding also the constraint of manufacturing this device, under canvas at a well established agricultural show, would you do it?

This is precisely what the Training Department was asked to do by the Kent Education and Business Partnership. The detailed brief was to construct a device that would demonstrate the excitement of electronics for young people to some of the Kent Show's 100,000 visitors.

The Training Department assigned the project, which had a six week deadline, to a second year electronics student, Tony King.

Tony chose a sound monitoring device which indicates the loudness of a sound by lighting a series of lamps. It took him just 3 weeks to come up with a design and prototype.

Following a successful 'dry run' on site, the Kent Show date arrived and the programme started. On each of the Show's three days, two junior, two secondary and two special needs children from Wayfield County Primary School, Sandwich High School and Bower Grove School respectively, were formed into a single project team.

Each team was charged to build eight devices by the end of the day, involving them in different aspects of the manufacture with team - work .

This event not only demonstrated the excitement of electronics for young people to the Show's visitors but was also rewarding to Tony because it taught him many of the design and production principles involved in building such a device.

This year the Training Department has involved approximately 500 local school-children in equally rewarding projects which opened their minds to opportunities in engineering.

Schoolchilden under instruction.

Fund Raiser

GMAv's Swimming Club hosted a sponsored Swim for the Commonwealth Games Club Appeal, in support of the England Team that participated in Victoria, British Columbia. The Club was visited by Suki Brownsdon, one of England's leading competitors at previous Commonwealth Games and a winner of Gold, Silver and Bronze medals.

Club members all completed either a one mile or two mile Swim on a sponsored basis. The funds raised totalled in excess of £1000 and the Club was especially pleased as they retained 30% of the funds raised, with the remainder going to the Games Appeal. The Club's members had their photograph taken with Suki Brownsdon which they received, together with their certificates.

Swimming Champions 1994

Under the leadership of Derrick Thorndick, the Division's swimming team put previous results behind them and won this year's Inter-Divisional Swimming Gala. Although hard-pressed at times by both DSG(R) and GMAv, the team managed to pick up sufficient points to take the Cup.

Martyn Guest won gold in the Boys 11/12 Freestyle and Backstroke. Dave Drummond won gold in the Mens 51 + Backstroke. The relay team won gold too.

Silver Medals were won by Fiona Newman, Mark Newman, Aeron Drummond, Neil Barton, Dave Drummond and Martyn Gest.

Bronze Medals were won by Claire Thorndick, Mark Gest, Bev Drummond, Mark Newman, Kelly Thorndick, Craig Drummond, Pete Barton and Mary Gibson.

Besides these medal winners, other team members came 4th, 5th, and 6th. Their points scored, when added together, meant that Rochester's Support Division won the Competition.

The final results were:

1st	SD(R)	163 points
2nd	DSG(R)	141 points
3rd	GMAv	128 points
4th	FSP	92 points
5th	FCD	60 points
6th	FSD/ISG	45 points
7th	ISG	37 points
8th	CACG	25 points

DSGR Goes for a Ride!

A Report by Kevin Reed

The concentration was total. The commitment absolute.

This was Brian Trubshaw, storming home to victory to collect the coveted Dave Marvel Trophy in The ADD Bike Race.

On August 18th, 31 maniacal riders swept through Burham and District on every conceivable contraption; Mountain Bikes, Road Racers and Shopping Trolleys to name a few.

The day was filled with surprise and notoriety, agony an ecstasy.

First position for Mountain Bikers was scooped by the 'Irish Rocket', Richard Ferguson. Also congratulations to Kevin - 'I'll be back' - Williams for securing 12th position.

Helena Turner beat half the male participants whilst the final, and perhaps most sought after, accolade, the "Wooden Spoon Trophy" was captured by Catherine Craven.

The whole event could not have been staged without the invaluable assistance from Marshall's Brian Hanson and Reg Bushell. For race timing, thanks go to Neil Shakeshaft and Steve Driver, normally seen behind the stopwatch at Brands Hatch. The whole event was organised by Lee 'I must be Management Material' Tomlinson.

It is hoped to stage a similar event next year.

Cycling action.

Cricket with Touche Ross

Since the last issue of Vision the main "event" in the Accounts Department's calendar has been the annual Cricket Match, held against Auditors Touche Ross on Friday 17 June.

For the first time in some years the visitors beat GMAv's intrepid team.

GMAv had the disadvantage of not having quite enough people to make up the numbers. To solve this problem Don Smith batted twice, though why he was allowed another chance after his first effort (out for a duck) no-one knows, especially as reinforcements had been sighted in the form of Len Wigley watching from the boundary! Peter Hurley got the highest score, GMAv being out for around 120 runs.

The highlight of the match was obviously the Touche Ross batting, or maybe GMAv's bowling. It's not often that someone gets hit for 50 runs off two overs, and also manages to lose the ball at the same time. This dubious honour belongs to Kevin Jones. Terry Coleman claimed a wicket with a vicious leg break that spun away to the slips for a glorious catch. Touche Ross easily reached the required total and stayed on to complete their 20 overs for around 309 runs.

The after - match buffet in the Club-house was enjoyed by both participants and spectators.

Touche Ross wrote to David Frost thanking GMAv for an enjoyable day, and far from being down-heated the gallant band of sportsmen now look forward to exacting revenge next year!

CHRISTMAS TOY APPEAL 1994

Where does the time go?

Would you believe, it's time to ask you again to have a good sort out of those toy boxes, lofts, childrens' bedrooms and cupboards under the stairs for outgrown or no longer used toys, games, books, bikes. In fact, anything which can still be put to good use. There are many deprived children being cared for by the Rochester and Strood Family Support Centre and any effort we can make, greatly helps towards making a happier Christmas for many of them.

There will be a large box in which to place your donations in the entrance of Hangar 2 at the Flying School (Support Division) until Wednesday 14th December.

For anyone having a problem getting to the Flying School, please 'phone Dimps on Ext. 4025 who will arrange collection.

Please make a real effort for the sake of the children!

25 YEARS' SERVICE

CLAUDIE AHLUWALIA

Mrs Claudie Ahluwalia was recently presented with her 25 Years' Service Award by Brian Tucker, Director of Programmes. Claudie joined the Company on the 14th July 1969, as a Secretary/Shorthand Typist with TACD. She then spent approximately six years in FCD, working mainly with David Clews on the Concorde programme. Claudie worked for David for many years, and then worked for Ray Reese and Roger Massey as well as David from 1985 until 1987, when she became Divisional Admin. Officer of FCD. In January 1990 she became Confidential Secretary to the Assistant Managing Director and later that year was appointed Personal Assistant to Brian Tucker, both Managing Director of GEC-Marconi Avionics and later Director of Programmes for GMAv.

ROBIN HEAPS

Robin Heaps graduated from Bristol University in July 1969 and joined Marconi Elliott Avionic Systems Limited in September that year as a Development Engineer, working on PDS in MACD. Robin has worked on many programmes ranging from Boeing YC14, Jaguar FBW, Boeing 7J7, EF2000, Tornado, AMX and Sea Harrier, to name but a few. His responsibilities included commissioning, acceptance test software proving, microcode development for the processor and serial digital transmission network and, more recently, design and development of ASIC devices within CACG.

BRIAN CAMP

Brian joined the Automatic Test Equipment Division (ATED) on 2nd September 1969 as a Development Engineer on the Nimrod 1 ATE, and played an active part in the installation of this equipment in Malta.

Other ATE Programmes benefited from Brian's participation resulting in his promotion to Chief Engineer in 1980.

In 1985 he was given the role of Divisional Computing Consultant, was responsible for heading up the team that developed Path Finder 2000 and Champs. These were in-service during the Gulf War on Hercules and Chinook aircraft.

The amalgamation of ADD and GSD brought the Mission Planning Team, and Brian, into DSG(R) where his wide product knowledge is now put to good use within the Group's Production area as Controller of all customer repairs.

Brian's outside interests include photography and his selection of a camera to mark 25 years service will enable him to enhance his collection of family photographs.