

**TRAIN** GEC's expense. People with different backgrounds apply and they choose subjects related to **FOR** their business: from computer science to welding; from finance YOUR CAREER to marketing; from solar power to microprocessors.



year in order to help them

selection of courses and

skills. Dunchurch runs a wide

management, communication

The services of the recently

modernised college are much

sought after because outside

GEC unit to use the facilities.

GEC's general management

uly for GEC's up-and-coming

Redhead and Lord Weinstock

John Allsop attended the general

1978. He joined GEC Telecomm-

unications as an apprentice

echnician in 1965. After 11 years of

experience in software, hardware

System X local exchange

project manager. In 1980 he was

appointed to his present position

of marketing support manager

for the Telephone Switching

Group.

Dunchurch was also the starting

point for GEC's action learning

programmes. These have now

regions – the latest group is in

the simple but effective idea of

people's experience and

learning by doing; in this case by

been dispersed round the

and systems design, he became

Heath, Frank Field, Brian

contributed to this highly

successful programme.

anagers. Last year Edward

Dunchurch is also the venue for

ogramme which is run every

elps to spread the costs,

Chris Gough, who is 30, is works manager at GEC Small Machines at Newcastle-under-Lyme.

> he had become a foreman in the Blade Shop when he was awarded a GEC Fellowship in 1975. He took one course in management at Cranfield and a second which concerned shop floor loading and inventory control. He returned to Lincoln where he gained further promotion and was appointed to his present post in May 1980.

Starting as a student apprentice

at Ruston Gas Turbines at Lincoln,

GEC has also pioneered a new kind of degree course with Bath University. It's a mixture of college training and project responsibility in industry and it leads to a Master of Engineering



Denise Butler is 19 and is studying for a degree at Bath University, where she is sponsored by Systems. Denise attended the Sacred Heart High School, Hammersmith, London, where

she gained eight 'O' levels and three 'A' levels, all with good grades. She applied for the Bath Essex. M Eng Electrical | Electronic Engineering course, which has been designed jointly by Bath University and the GEC-Marconi Group, and is now one of 36 school leavers taking the course.

With GEC support, similar courses at Master's or Bachelor's legree level are soon to start at ortsmouth Polytechnic and the iversities of Aston, Bradford and Wales at Bangor.

The College of Management at

Dunchurch

The participants come together other as they discuss progress at Not all training in GEC leads to regular meetings. Many of GEC's work problems. formal qualifications. GEC's most senior managers have been College of Management at involved in action learning Dunchurch runs short courses for programmes. over 2,000 GEC employees each



Don Howell is 38 and participate in GEC's first action learning programme held in 1974. The programme included a period of seven months when he worked on secondment at the Department of Energy.

Joining GEC in 1973 after taking a mechanical engineering degree at London University and qualifying as a chartered accountant, Mr Howell occupied manufacturing and financial posts until, in 1978, he was made general manager of the Industrial and Marine Steam Turbine Division of GEC Turbine Generators.This year he was appointed managing director,

GEC also promotes other forms of ike Endeavour Training, Brathay Hall, The Leadership Trust, and Lindley Lodge, which all help in the broader development of GEC employees, young and old.

GEC Mechanical Handling.

Initiative, teamwork and character are all developed through work with the ndicapped and the elderly. There are other activities like mountain climbing and canoeing whilst, in addition, young people learn about the work of the police, fire and ambulance services. Hundreds of GEC employees are involved in these programmes and individuals, the communit and GEC businesses all benefit from such initiatives.



Second year craft and technician apprentices from GEC Telecommunications Coventry on an Endeavour Training exercise in Yorkshire.

doing individual real-life projects inside GEC as a way of widening Other types of training take place directly inside GEC, such as the improving their capabilities. The joint trade union/management project work is also valuable in ammes at GEC itself because it helps towards ecommunications where solving real business problems. representatives of both groups work together to improve industrial relations through in small groups to learn from each developing better mutual understanding of business and



People's careers are also helped

pefore they join GEC - whether it

through a Government Training

by training which they receive

is from university courses or

and was awarded a PhD in 1971. hen she joined Hirst Research Centre in 1973 to do research on novel surface acoustic wave action learning via organisations devices. In 1975 she was promoted to the position of group leader and in 1977 became head of department responsible for research on a range of specialised

Sam Gill of Marconi Radar

Systems, Leicester emigrated from

India in 1955 and worked for a

number of years as a bus driver,

before taking a Government

training course in centre lathe

turning. He joined GEC in 1969 as

a machine operator and was later

promoted to a skilled centre

lathe turner. Subsequently he was

elected ALIEW convenor

promoted to foreman of the Light

Machine Shop and also became

City of Leicester.

Justice of the Peace for the

**TOGETHER** materials and devices. After a short leave of absence in 1978 for the birth of her son, she further With many different activities at broadened her research many locations, methods of activities to include work on light communication between GEC emitting diodes and charge managers and the people for coupled devices. She has recently whom they are responsible, are been promoted to divisional varied.



Newsheets are popular. Managers and employee representatives on the Plant Joint Consultative Council at the Express Lift Company in Northampton recently decided to launch a newsletter for employees. This presents a livelier and more interesting account of meetings than the minutes of meetings previously published.

**WORKING** 

Satchwell's engineers. It isn't easy

to keep in touch when some

employees work in many



newspaper 'Contactor.'

For several years the company has also published the newspaper 'Contactor' which reports on orders and plans for improvement. It goes to all employees, including those who work away from the factory on the escalators in buildings all over

Productivity up by 50 per cent. At Bilston in the West Midlands the meaning of 'added value' – even 3 ousiness plans and performance out of every 10 managers didn't of Cannon gas cooker and fires get it right company are regularly discusse with all employees. Profit, product The majority of employees found policy and plans for investment and employment are open for debate. Employee relations used to be poor. Now productivity is up picture of GEC; the other half that by one half, indifferent results are behind them and further investment programmes have

been approved.



A few more of the many

Business' reports for its employees. This report contains things better. information on orders, sales, product development and organisation as large and diverse As you'd expect with GEC, all employment prospects. In addition. MSDS issues 'What's as GEC, there are many routes by useful forms of involvement find a Happening' leaflets when there is place. Cost reduction and methods of working are some of urgent news or a major change in the important subjects discussed prospect. Managers and regularly at GEC Measurements, employees meet on a regula basis to discuss these reports. Stafford. One example is the 'Action Groups' also meet Ouality Circle when groups of regularly, each group considering how best it can inspectors - meet each month to contribute to the wellbeing of the consider ideas for improving business upon which the quality and reducing costs, and to livelihoods of all employees

Stafford's Quality Circles

volunteers – supervisors,

develop ways of solving

Ruston's people go fact finding.

Merseyside was about to be

re-equipped with compute

entrolled machines and

systems, everyone knew big

supervisors and managers.

changes in working methods

would be needed for operators,

flown to Germany - small mixed groups of operators, foremen,

manufacturing superintendents

and managers. They spent a few

the working practices of people

manning modern machines to

high levels of efficiency. After

the way for the successful and

equipment.

Incidentally, the

these visits, the employees

days visiting factories to observe

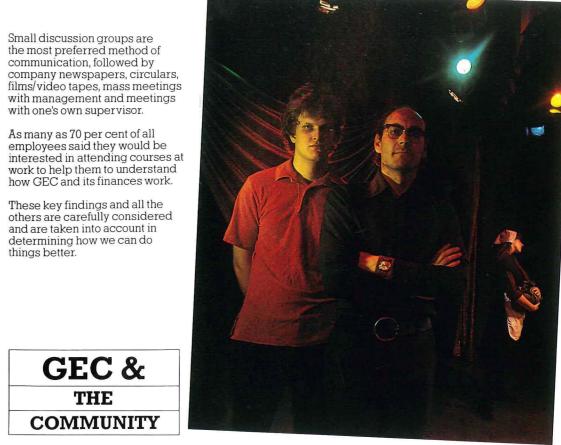
computer-aided draughting

at Newton-le-Willows,

When the Ruston Diesels' factory

problems.

assemblers, testers and



John Rhodes (right) and Here are just a few by way of Mike Thornton.

Behind the scenes in Chelmsford. Two men with leading backstage roles in the amateur theatrical world of Chelmsford are John Rhodes and Mike Thornton who operate as sound engineers for groups in the area. Of the two, both of whom work in

the TV test department at Marcon Communication Systems, John has 20 years' experience behind the scenes, particularly with the Chelmsford Operatic and Dramatic Society for whom he has worked on 34 separate productions covering some 270 performances.

Mike was a voluntary chief ngineer for the local hospital adio service until he joined John a year ago. Since then their stomers have included Colchester Tattoo and Chelmsford Theatre Workshop performances at the Edinburgh Festival. Other regulars include Chelmsford ung Generation and the Chelmsford Ballet company.



And more hands than the Navy (Population 74,000)

year's report to employees 'Into

blood donations.

professional and technical people. minority could identify the

Only one third of GEC employees think that GEC is run locally by local managers, whereas two-thirds of the managers

'Your Future in GEC' is the title of a film made to complement last

Peter Hobday of 'Newsnight,' the film was prepared independently governors, lay preachers, sports established at GEC's main factory. Of the 99 youngsters, who have reported back to their colleagues of GEC so that it would take a at Newton-le-Willows. This paved detached though expert look at GEC's prospects.

usually in video format – to nearly all employees at every site, it was GEC unit, their jobs and their concerns.

physically handicapped people,

Highland dancing, cycle racing, restoring steam engines, buildin

These were a few of the key

Despite much publicity, only a

Britain, the population of GEC is larger than some cities. We are part of many communities. In our councillors, JP's, school referees, fire brigades, scout and complex in Trafford Park, guide organisers, college lecturers - you name them, we lmost certainly have them. But GEC's involvement with the

community goes much further The workshop takes girls and than this. For example, GEC units or GEC people undertake: Work experience programmes for young people. Endeavour Training for

teenagers. Fund raising for cancer research, kidney machines, and guide dogs for the blind. Support for mentally and

Apprenticeships for girls. Support for sports pastimes. including ladies' football,

extends beyond the commercial

world, and there are literally

thousands of relationships and

hospital audio systems. Yes, GEC's place in Britain

> local involvements through which GEC and its people link with the community.

the film and discussions interesting and worthwhile. Half thought the film was a true it was management propaganda. Craftsmen were the most suspicious.

believe it.

Training Workshop in Manchester. Giving youngsters some active help in learning a ranks are mayors, former mayors, skill and finding them a job is the aim of the training workshop Manchester, in conjunction with the Manpower Services Commission.

> boys aged between 16 and 19 and usually living within five miles of the factory. Beginning two years ago with 20 recruits, it now has places for 90.

> > to be repaired.

One section teaches welding machining, mechanical fitting, sheet metal work and car maintenance as well as woodworking; and anothe section teaches clerical skills Students not only learn, they also make products which are put to use. Belle Vue Speedway ordered a frame for levelling cinders on its track, a local firm bought window guards, and local schools have asked for furniture

Some of the young people from

Trafford Park's Training

Workshop at Belle Vue with the

track, which was made in the

Workshop.

The sewing and assembly

section obtained a contract for

making table lamps and now has

another for sewing lamp shades.

frame for levelling the cinder

(1 with GEC), 35 went on to work experience programmes (9 with GEC). 2 went to technical college. 24 left voluntarily, 15 had their courses terminated (usually because of prolonged absence) and 3, who completed the course. were unable to find a job they Young Enterprise. found satisfying.

Ringing bells in Lincoln Phil Pitchford and Geoff Parker between them have been helping to ring the changes in Lincoln for nearly 50 years. Both belong to the 18-strong Cathedral Company of Bellringers and also work for the city's largest private employer - Ruston Gas Turbines. Phil is the shipping manager and Geoff is the machine shop superintendent

passed through the workshop,

15 went to full time jobs (5 with

GEC) 5 began apprenticeships

completely unaware. Lincoln Cathedral has 12 bells explains Phil, and a full peal of Now Martin Simon has spread his

The link between Ruston and the local community was further strengthened when the Bishop of Lincoln set up a working party to look into ways in which the cathedral could help with the city's problems brought about by

5,000 changes, which is rung out

on certain holy days, takes the

ringers about  $3\frac{1}{2}$  hours.

All the youngsters are both directors and workers and sell 25p shares in their company to friends, relatives, colleagues and teachers. Key executives are appointed and all decisions and problems relating to the company are handled by the young people at their weekly, two-hour

managing director Kelvin Bray,

nd Alan Hall, a shop steward in

The company also supported the

creasing maintenance costs of

Young enterprise in Motherwell.

ousiness in Lanarkshire have an

Company, one of which has been

ach sponsored by one of eleven

authority and bring together each

people who set about running a

This year's Satchwell company

epacked and resold them in

Christmas and Easter novelties.

smaller quantities. They also

made and sold cushions,

jewellery, macramé and

ought sweets in bulk and

opportunity to test their skills by

run for the past seven years by

Satchwell Sunvic of Motherwell

These enterprise companies

ocal employers are run in

year groups of 20/30 young

company in miniature.

conjunction with the education

oungsters with an eye for

oining a Young Enterprise

activities of the Fabric Fund,

stablished to meet the

on the committee

Lincoln Cathedral.

ersonnel director Peter Johnson

Ruston's sheet metal shop served

meetings. At the outset many Young Enterprise companies lose money, and it is at this point that management advisers from the sponsoring companies, such as Satchwell Sunvic. take a hand and help them to overcome their

The Satchwell advice must be very sound indeed for its Young Enterprise people have made a profit and paid a dividend for each of the seven years that the company has participated in

Understanding one another in Rugby. If you are young and in ndustry, it is pretty hard to get older people to listen to your suggestions. Sometimes you get sent on a course, which sharpens you up and what do you come

back to? The same old thing. GEC Large Machines at Rugby recognised this failing and sponsored Martin Simon of the National Youth Bureau to write a report about the problems encountered in industry by young people. When he had written it, hey asked him to do something

It is a big subject, but briefly it means a lot of effort spent encouraging both the factory and ocal schools to spend time really nding out what one expects from he other. Local teachers have een invited along to the factory or a few days to see at first hand what life is like there.

And as for getting older people to isten, progress on this matter was made by sending supervisors on a similar course as the youngsters so that they began to appreciate nere was a problem of which up o that time they were probably

net. Local industry in Rugby has

stumped up £28,000 to pay for a wo-year project enabling more nelp to be given to youngsters, companies and schools.

Professionally presented by

**FILM** 

SURVEY

efficient introduction of the new Not only was the film shown -Newton-le-Willows factory followed by countless small group meetings of employees and managers so that everyone could have the chance to talk about GEC as a whole, their own

> A wealth of useful ideas came out of these meetings and, in addition to following them up, some units have been stimulated to make their own films and video tapes in order to improve employee communications.

An attitude survey - also carried out by independent specialists was used to see what employees thought of the film, the discussions and of GEC.

findings: The greatest demand for

'participation' comes from



"In our ranks are mayors...

www.rochesteravionicarchives.co.uk



The GEC headquarters is tiny. It is an unobtrusive building in London's West End – not much bigger than the houses nearby. Fewer than one in a thousand of GEC's 193,000 employees worldwide work there. GEC's style of management avoids the bureaucracy which slows down decision making. The Group Personnel Department at headquarters employs eight people. There is no Corporate Planning Department.

The focus is on the units - the operating companies where all GEC's endeavours eventually succeed or fail. The role of headquarters is to support the businesses. It acts as a guardian, scrutinising budgets, monitoring the performance of each unit every month, helping each local management to cope with changing market conditions and encouraging efficiency in all its activities.

Headquarters also acts as a banker, controlling cash and making sure that funds are available to units when needed Even in the days when GEC had an overdraft, no worthwhile investment proposal was ever turned down because cash was not readily available. That substantial funds at GEC's disposal, there are no queues, no jostling by the separate businesses having to compete for money at the expense of each



Headquarters also offers advice The GEC approach has worked on a variety of topics such as well over the years, but it is contract law, export finance, always open to further product licensing, trade marks adaptation Wider and deeper axation, community affairs and consultation, participation and employee involvement will industrial relations - which the inevitably extend GEC's range of units are free to seek if they wish. management styles. The search leadquarters promotes collaboration between the for more effective ways of running a profitable community of nearly separate businesses and also 200,000 people is never ending. with GEC's central research and development laboratories, which reinforce the units' own development activities.

**MANAGING** 

**IN GEC** 

The story of 'How GEC Works'

might give you the impression

that being a manager in GEC is an

The units themselves operate ir diverse ways. GEC's companies make so many different products and are in so many different markets that it would be a nonsense to have one set pattern forganisation, GEC dislikes peing bound by rigid procedures That's why GEC has a motto 'Our system is to have no one system'. If an idea works well, it is encouraged.

Each GEC business prepares its easy task one which has been refined to take out stress and own annual budget, its operating plan for the year to come Every exertion autumn it submits its budget t headquarters for review where Theories of management often ts senior managers discuss the give the same misleading oudget with GEC's management impression by showing the directors. These meetings can be manager reflecting on long-term ively. Sometimes the unit needs strategy, manipulating a to revise its plan, but whatever the well-honed system and outcome of the review, the local dispassionately choosing the management is still solely most elegant way to extract esponsible for the plan's maximum advantage from clear. alfilment and is left free to straightforward alternatives. achieve – or preferably beat – its It's not like that at all. Managers' budgeted performance in the way that it thinks best. That's why central monitoring is largely

watching the yardsticks of

wages, profit, overheads,

ventories, debtors, capital

ndirect employees, exports,

iobs are characterised by brief. varied, fragmented activities. It is not unusual for a manager to deal with 200 separate incidents in a day and talk with over 100 people. Supervisors' jobs are sometimes even more complicated. Of Every month each unit sends to course, some of the items appear several times over as problems report on the key components of wax and wane, but the complexity its operations – the sales, orders, requires real skill and application if it is to be coped with properly. employed, number of direct and It's rare for there to be one simple master stroke. Often the problem bank balance - some 30 figures in is to define the problem. Once all, each compared with budget that is clear, the solutions can and with what actually happened

**EMPLOYEES** 

the year before. It is accompanied by a monthly commentary together with the figures for GEC's 7 key ratios, which will normally indicate whether efficiency is improving or not. GEC places great emphasis on efficiency, which is considered to be much more important than the size of operations. If the performance of a business

budget and its explanations are not totally satisfactory, the phone will ring and headquarters will ask exactly what is being done to put matters right. Headquarters is not known to be backward in offering the odd suggestion and, indeed, some suggestions can be pretty powerfully put, but the responsibility for deciding what to do still stays with the local management. Not every individual target is met, because markets change and other factors may intervene. However, it is rare for the aggregate budget profit not to be attained, for many of GEC's businesses will have found opportunities for improvement

beyond their original targets.

constantly for new business

opportunities - particularly

where GEC's skills can be

introduced beneficially into

companies which GEC can

Some factors do change for the better!

GEC has no divisiona organisation and largely avoids naving layers of management between headquarters and the separate businesses, although here are some groupings where it is sensible to have a few senior managers to help the individual usinesses to deal with their situation remains true today. With day-to-day problems. GEC encourages enterprise, independence and resourcefulness, and each unit is expected to put forward its plans to invest in developing its business, for headquarters' review and support Headquarters also looks

What distinguishes good anagement is a never-ending search for day by day nprovements - each item perhaps insignificant in itself but all adding up to a sustained. resourceful drive towards better and better performance. It's not easy. Some people prefer not to be involved, for there are many instances of capable employees declining the offer of promotion But for those who accept the challenge, the achievement which comes from grappling with conflicting needs and finding a way through, is an exhilarating experience.

Controlling and developing a business effectively in these turbulent times is a challenge to even the most robust and resourceful people. We, in GEC are glad that we have more than our share of them.

## **NEWS** OF THE YEAR

Once again, GEC has achieved some notable successes, not only by winning some welcome record-breaking orders, but also through heavy investment in new technologies, youth opportunity programmes and a strengthening of the Company's position in major overseas markets, particularly the USA. These are all vital ingredients of GEC's plans to ensure healthy growth over the

Two important new product fields in communications are optical fibres and viewdata. Here, years of research and development are now being translated into practical, cost-effective systems for the industrial and business user. For example, optical fibres which are being developed with a wide variety of uses in mind are now in operation on British 'elecom telephone routes and London Transport signalling networks. In viewdata, GEC has

opened a service bureau for

customers in the UK. Two GEC firms, Marconi Radar Systems and GEC Turbine which aimed to show what rein to film where and whom they liked, and shop floor employees had the opportunity to give their frank opinions about their MY MESSAGE TO OUR

Experience over the las wenty years in the electrica and electronics industry

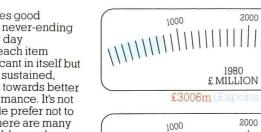
should have taught us never to expect trading conditions to be easy. Any form of boom could always be expected to give way to some form of recession. So we have tried over many years to cultivate silience in our organisation distribution network. and our attitudes in order to stay competitive in all

conditions in the world markets where we have to nduct our business. It is not therefore surprising that despite difficult conditions many of our units have cceeded in increasing their exports and their export order books. Neither should it be first of its type to reach surprising that GEC has fared better than some others in protecting jobs and improving employment prospects. others to place similar orders

But in order to maintain our position in the world, and to make further progress, we nust continue to improve our products and, therefore, our skills. And this requires that we should find ever more effective ways of working together. There are welcome signs that managements are taking more trouble with our people to give them more nformation about business performance and prospects and to encourage greater participation in bringing about vements helpful to the businesses in which they work, and to give all nployees opportunities to be

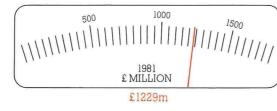
personally involved. This is often not easy to achieve, but it is necessary that we should overcome the difficulties. There is every indication that most of our employees are keen to learn more about GEC. and its activities. They must be given every encouragement to do so, and to play a full part in shaping the future of the

Company. Amold Woundtock

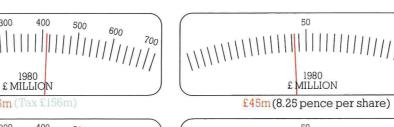




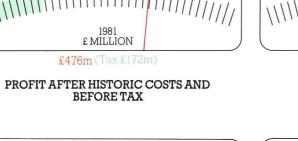
SALES TO CUSTOMERS



WAGES AND SALARIES INCLUDING NATIONAL INSURANCE AND GEC CONTRIBUTION TO PENSIONS



£416m (





CURRENT COST PROFIT Part of the profit after historic cost and before tax is treated as being required to offset some of the effects of inflation. Notably there is extra lepreciation to recognize the rising prices of the plant and buildings used in the business. To replace something bought five or ten years ago is going to cost much more money than when it was bought originally. Similarly there is the extra cost of replenishing raw materials and components used in

producing goods.

At home, the group strengthened

its specialist semiconductor

based in Lincoln, drawing

breadth of semiconductor

activity with the formation of

Marconi Electronic Devices:

together the operations of three

separate GEC companies. The

technology available to the new

unit puts it in a unique position to

ments in this fast-growing sphere

is involved in the acquisitions in

echnology Inc. a leader in the

the United States of Circuit

design and manufacture of

microelectronic circuits, and

manufactures defence

In the field of medical

Cincinnati Electronics which

Picker Corporation adds sales

of almost 650 million dollars

annually. The resulting new

Picker Corporation, GEC's

of Cambridge Instrument

Medical Equipment Group and

the medical instrument divisions

Company; it is the fourth largest

medical electronics business in

the world, with 7000 employees.

GEC owns 80 per cent of Picker

nternational, whose diagnostic

scanners, X-ray, ultrasound and

imaging equipment includes

computerized tomography

nuclear medical equipment.

cardiological and neurological

patient and ambulatory

monitoring systems and

instruments.

hybrid thick-film

electronics.

equipment.the

acquisition in the

United States of the

organisation, Picker nternational, comprises the

The same area of high technology

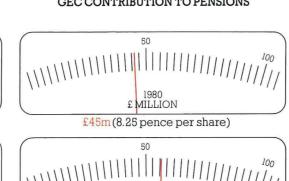
tackle a wide range of require-

enerators, were honoured with the Oueen's Award to Industry during the year, and fame in a lifferent form came to Salford Electrical Instruments of Eccles when it was selected to take par in a Panorama special. 'Work 80. employment in industry meant t typical working people and to look at the day-to-day role of the trade unions. The camera crev and reporters were given free iobs, work surroundings wages, unions and

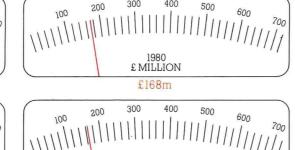
As part of the search for new energy sources, GEC is at work on a scheme on Orkney to build the UK's first full scale wind turbine generator. This is expected to come into operation in 1983/4 and will provide 3 MW of power directly into the island's

At Birmingham airport, GEC is engaged in the design and installation of an advanced technology, low cost people mover system between the air terminal, railway station and the National Exhibition Centre. Based on a 'magnetic suspension principle, the project will be the commercial operation. It will provide a valuable shop window for British technology and expertise and will encourage

GEC Medical Equipment Ltd's mobile capacitor discharge X-ray unit. The unit takes consistently good pictures even when mains electricity supply is poor.



£56m (10.25 pence per share) DIVIDENDS ON SHARES



£ MILLION

NEW INVESTMENT BY GEC In addition to the £161 million shown above, which GEC invested in new plant and factories, GEC spent £84 million on buying Scriptomatic, Circuit echnology, Picker and Cincinnati Electronics making a total New Investment for the year of £245 million



Back in the UK, GEC continued its

specialists to Bristol where some

GEC technology. Growth markets

Arabia and Nigeria among many

in furthering engineering as a

Technician of the Year Award

Space and Defence Systems,

In the International Year of

are helping to raise funds on

pehalf of the disabled, and GEC

companies are playing their part

by providing jobs. One such GEC

company, Vacuum Interrupters o

'Fit for Work' award by the Prime

outstanding achievements in the

employment of disabled people

company helps the disabled at

Mrs Thatcher also travelled to

Neston in the Wirral to open a

new torpedo manufacturing plan

or Marconi Space and Defence

Systems. The plant is situated on

expected to rise to 500 by the end

number will exceed 1000 during

a 36-acre site in an area of high

unemployment. Starting with

over 200 jobs, employment is

of 1981, and it is hoped that the

Several of the Marcon

companies came up

rumps too: Marconi

Avionics produced a

£40 million order for

China and a \$100 mi

Minister, in recognition of its

and the ways in which the

chley, was presented with a

Marconi Avionics.

GEC Telecommunications and

profession. Three of the six

inalists' places in the 'Girl

exhibitions when 30 GEC

overseas were high on the

exhibitions list also, with

companies took products and

2000 visitors saw the latest in

avourable showings in Saudi

ower station in South Africa and he Torness station in Scotland the company expects to land the largest single export order ever placed for manufacture in the UK, for a new coal-fired power station in Hong Kong worth £550 million. This will be quite a triumph owed to the steady, dedicated and skilled teams of managers, engineers, and workers of all descriptions in the Power Engineering factories, laboratories and offices.

Artist's impression of a wind

turbine generator which is to be

built on Orkney.

ADDED VALUE FROM OPERATIONS

**PURCHASES** 

£2396m

Purchases of raw materials

omponents, goods and services

electricity, rates, etc.) including

those bought from other GEC

£1733m The difference between GEC's turnover and what we had to pay for purchases is the value which was added by our own efforts in converting raw materials and components into products which can be sold.



Interest and Income earned on GEC's cash savings and investments which are invested in companies, deposited with banks (net of interest on overdrafts) and loaned to Governments.



The total amount of the value added by our efforts in operating GEC units and associated companies, together with the interest and investment incomearned from GEC's cash and

## TOTAL ADDED VALUE FINANCIAL

£1844m

This column shows how we

spent it

ontribution to Pensions for its

157,000 Employees in the UK and

36,000 Employees overseas.

TAXATION

£172m

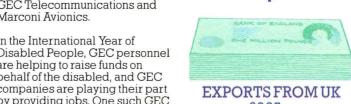
INTEREST ON LOANS

Providers of Loans: To lenders to

GEC of £313 million.

**SALES IN UK** 

£2088m Women in GEC did valuable work The year's sales in the UK by GEC units, including sales of components and other products between GEC units at arm's vere taken by women engineers length prices, and GEC's share of rom GEC companies - Marconi associated companies sales.



£965m Sales from the UK by GEC units.



COMPANIES' SALES £1076m Sales made by GEC units based overseas, and GEC's share of sales of its overseas associated

companies.

Preserving jobs and creating new job opportunities requires he winning of new business. Ruston Gas Turbines of Lincoln developed its successful associ ation with the Mexican state oil company, Pemex, with an order worth 18 million US dollars for gas turbine driven pump sets to be used on a pipeline on Mexico's eastern seaboard. TOTAL TURNOVER

shareholders with funds in GEO of £1.610 million £4129m

Turnover in sales to outside ustomers (£3,462 million), gether with sales at arm's length her GEC units at home and oad (£246 million) and GEC's share of the sales of its associated **DEPRECIATION** companies (£421 million).

£98m Retained in the Business: Set aside for renewal of buildings plant and machinery based on their original cost. Because replacement costs have risen and because it is updating and improving its assets. GEC actually spent £161 million on new property, machinery and

equipment.



RETAINED PROFIT Retained in the Business: This

differs from the increase in cash resources of £62 million because we spent £63 million more on plant than was available from reciation, bought businesses osting £84 million, repaid loans of £37 million and needed more money to finance working capital.



**NEW ACQUISITIONS** £84m These were Scriptomatic and

Circuit Technology and at the year end Picker and Cincinnati Electronics, all United States companies helping GEC to widen its product range and its distribution base.

## **ADDED VALUE** WHAT IT MEANS

It is the amount of value we add to the materials and services we buy in the course of making them into saleable products. It is measured by subtracting from what we receive from our even brighter view of the customers (Sales) the payments we make for goods and services we buy (Purchases). field of vision.

WAGES AND SALARIES Added value is increased by £1229m ngenious design and efficient Employees: In wages, salaries, production, supplying customers National Insurance and GEC's

with goods giving them high value for their money and the Company decent margins. Added value is also increased by better house-keeping, keen buying and sensible savings such as in energy costs, and so on.

we achieve, we have to pay wages and salaries (about

tools; and

It is not the 'Profit' made by the

Company. Out of the Value Added

Governments: Company taxes two-thirds of Value Added); payable to UK and other Governments; (actually paid in provide 'depreciation' to the year, £135 million). pay for renewal of

> on interest paid to lenders and received from borrowers. Profit' is what is left. But then, out

account for the difference

buildings, machinery and

of profit we have to pay Company taxes to governments and dividends to shareholders, who have provided the capital we use.

DIVIDENDS ON SHARES **WHAT'S** Providers of Capital: To 155,000

> There is a constant flow of new products and new designs from GEC companies. Here are a few current examples:

NEW

FROM GEC

Seeing in the dark. English Electric Valve Company of Chelmsford is making a unique thermal imaging camera

designed to 'see' in the dark. It works through infra-red radiation which behaves in a similar way to light but is able to penetrate fog and smoke. This type of radiation is emitted in varying degrees by all warm or hot surfaces, as well as human beings, and can be detected by EEV's pyroelectric vidicon at the heart of the camera,





A high reliability

thick film hybrid

manufactured by Marcon

Electronic Devices. The

circuit is enlarged in the

photograph to several times

its actual size.

microelectronic circui

A firefighter uses English Electric

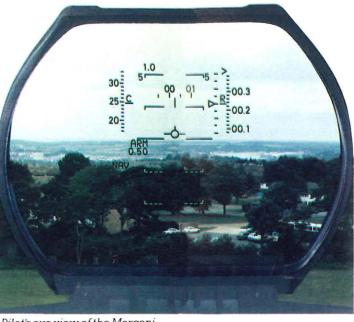
Valve Company's new portable

thermal camera to see through

smoke.

The camera's applications are widespread: use by firemen to see through smoke, monitoring of industrial processes, detection of faults, scientific investigation – and it can even spot an intruder (human or otherwise) in your garden!

Electronic gas cooker. Cannon Industries of Bilston s produced the first Britishmade gas cooker to use microformation at eye level so that nic control. Called the hey do not have to look down when flying at high speed. The outure De Luxe,' this model has latest models are equipped a push-button timer and digital with holographic reflectors readout display, incorporating a developed by the Marconi clock. The housewife can quickly and easily set 'on' and 'off' times esearch Laboratories and and check the information she Marconi Avionics to give an has fed into the controls. Cooking temperatures can be dialled and information before the pilot the heated storage compartment without detracting from his contains a detachable serving module for use at the table.



Autoboil kettle figured

80's' and attracted many

employees. Now the Redring

ninently in last year's 'Into the

Pilot's eye view of the Marconi Redring again. The Redring vionics' holographic head-up display for the USAir Force.

Holography for the pilo

ircraft pilots with vital

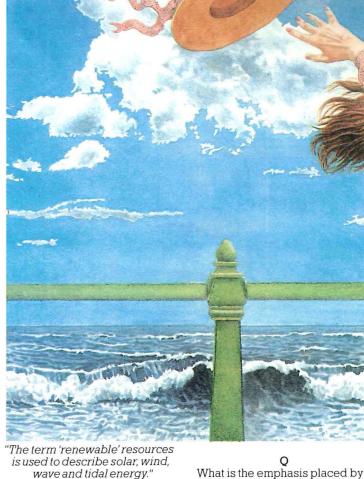
Reducing home fuel bills. On the enquiries from shareholders and domestic scene, the new style energy-saving home of the future, engineers have come up with ar economical touch of luxury for the by the BBC and featured in its bathroom – the new Plus 7 shower 'Money Programme', was fitted Satchwell Control Systems of Slough and Satchwell Sunvic of Motherwell. On this special project it has been estimated that 60 per cent of fuel bills could be

substantial savings for the industrial and commercial user. For those of today's homeowners who have no central heating controls, it has been estimated by British Gas that about 15 per cent of the domestic fuel bill can be saved by using a central heating ogrammer. One of the most up-to-date of these is Satchwell Sunvic's ET 1401, an electronic grammer offering the very test in push-button micro-

Satchwell's products can mean

Designed, developed and roduced at the Redring factory n Peterborough, the Plus 7 is the atest addition to the company's range of energy-saving electric showers. It has many up-to-theminute features, including utomatic on/off water valve nedium and high heat settings stabiliser with a fine tuner. For the relies for its reputation on its perfectionist, there is the ideal nead, the secret of which lies in the computer-designed spray ings. Coming events from Redring Electric include a new water storage heater.

> A first in microchips. Last year we announced an agreement with Mitel Corporation of Canada to obtain advanced ISO-CMOS ntegrated circuit technology Marconi Electronic Devices has now produced the first ISO-CMOS integrated circuits to be made in Europe. The new purpose-designed integrated circuit factory at Lincoln is now in operation, and by January 1982 will be in full production of ISO-CMOS circuits and many others derived from Marconi Electronic Devices' own technology.



wave and tidal energy."

YOUR

**LETTERS** 

Many large companies go in for

penefit from such a campaign?

This advertising is often part of

the total publicity campaign of

companies which have products

mainly sold directly to members

of the public. The greater part of

GEC's business is in products not

bought directly by the public –

heavy capital equipment in

machinery for industry.

equipment for defence,

manufacturers, and so on.

Consumer products, such as

cookers and extractor fans are

names - 'Hotpoint', 'Schreiber',

the 'GEC' name is indirect.

GEC's corporate image arises

partly as a reflection of press

performance, on close and

comment. But, in general, GEC

and governmental institutions,

although it does issue printed

its products, films, video tapes

What about GEC's expenditure

on research and development?

Apart from the major research

the Hirst Research Centre,

Electrical Engineering

Stafford, and the Marconi

Research Laboratories.

programmes. The total

GEC's total sales value.

businesses fulfil their own

Wembley, the Mechanical and

and development carried out at

Laboratories at Whetstone and

Chelmsford, the separate GEC

development and engineering

expenditure on all this work to

amounts to over 10 per cent of

develop new and better products

and other appropriate material.

material about the Company and

washing machines, furniture, gas

marketed under their own brand

'Cannon', 'Xpelair' and 'Redring',

and therefore the connection with

components for other

technologically advanced

power engineering, plant and

prestige advertising to boost the

ompany Image'. Would not GEC

GEC on its involvement in the nuclear power business compared with the possibilities for other new forms of power energy generation?

All the world's basic energy

resources are natural and include coal, oil and uranium for nuclear power. The term 'renewable' resources is used to describe solar, wind, wave and tidal energy, which are not consumed in the process of generation and the employees and the will not therefore run out. GEC shareholders to do so has carried out studies and experimental work in exploiting these renewable resources, bu their price per kilowatt is too expensive for electricity generation, except in limited, special situations. GEC believes that these renewable resources can be used and will become more attractive in due course, but its main efforts in power generation reflect the definite policy of those responsible for meeting the world's electricity

energy from coal, oil and nuclear Has GEC's Board considered the morality of manufacturing military equipment and has it considered building socially

requirements that, in the

more useful products instead? We would all like to live in a world where peace is secure and where the safety and freedom of individuals is not threatened. B that world does not exist, and successive British governments freely and democratically elected, have decided, in order to protect its own citizens, that it is necessary to maintain an effective means of defending our country should the need

The decision to maintain the country's defences is political, not commercial. But once taken, its effectiveness is dependent upon companies such as ourselves serving the national interest by developing and supplying the necessary equipment.

ever arise.

We regard as socially useful the efficient management of all the Company's activities, from the design and manufacture of the most technologically sophisticated machines to the relatively simple domestic toaster. We satisfy the needs of millions of consumers, and, in the course of doing so, the Company produces jobs for 157,000 of its

ousands more through its suppliers and sub-contractors, as well as the further economic activity consequent upon the re-circulation of money paid in wages, salaries and purchases. GEC exports from its British factories and offices nearly £1000 million annually in goods and services, thus helping the nation's balance of payments. And last year, GEC paid £153 million in national and local taxes, beside: the taxes paid by way of PAYE deductions from employees' earnings and national insurance contributions. On the basis of bigger is not

own people in Britain as well as

necessarily better, is GEC considering splitting itself into several smaller units and how would this affect shareholders'

nake it less difficult for

companies to subdivide

The changes in the tax law now

demerge') without penal ta

onsequences. If GEC were t nive off, say, its electronics company, and its diese isinesses into another new ompany, shareholders would eceive separate shares in these wo new companies oportionate to their preser GEC equity holdings, whilst still retaining their shares in the emainder of GEC. But where here is common technolog here are often commercial and nagement advantages ir perating as a bigger group. The effects of size in relation to the anagement and performance of a business depend very much on the nature of that business. It is not possible, for instance, to have a mall (in absolute terms) but successful turbine generator usiness. GEC has no specific plans for demerging at presen but it is keeping under review the many factors in assessing whether, and in what circumstances, it would be in the best interests of the businesses

Apart from the many, many uestions we receive, we do ge ne occasional bouquet. "... as well as being a good investmen half the fun of being a GEC shareholder is hearing about you research and reading your excellent annual reports. Many thanks." Yes, from a lady shareholder, and from anothe lady shareholder: "Is it not time to appoint a woman director to the prompt action? Sara Morrison picture below) was appointed

foreseeable future, electricity Board?" Was this psychic, or did it will be largely derived from GEC's first lady director in ecember 1980.