

OTIS

MAGAZINE



Otis Elevator Company Limited
New Year 1982

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New Year 1982

Front cover: Otis Elevonic 401 lift is controlled by three computers, has a vision panel to display floor positions and show special messages, and an electronically synthesised voice to announce arrivals at each floor. See page 14 for the full story.

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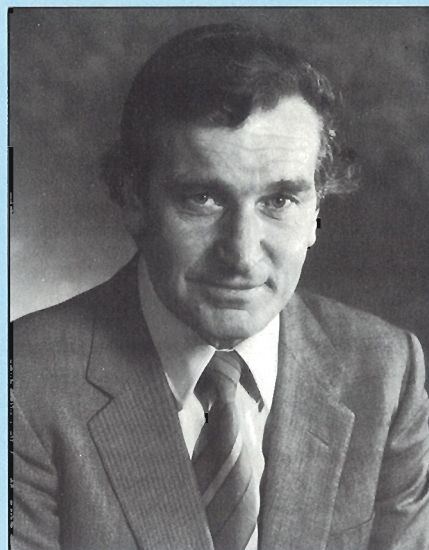
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A FAREWELL MESSAGE

In Otis we can all look back with pride on our performance last year. In a downturn economic situation, we have proven that skill, determination and obsession with quality are unbeatable in ensuring that we give our customer both product and service performance unequalled by our competitors.

It has not been easy, though. We have had to reduce the number of people working with Otis, mainly through voluntary redundancies both in the factory and in the field, but we ended the year even stronger than we started and we are in a very good position to take advantage of any upturn in the construction industry. Mrs. Thatcher has to prime the pump soon. When she

presses the button I am sure that the construction industry will be number one on her priorities.

We are certainly topical with our new arrivals! In 1980 we welcomed Becker to the Otis family and early in 1981 Budget Lifts joined Becker. Now Otis has brought into the family Evans Lifts of Leicester and William Wadsworth & Sons of Bolton, two long-established lift companies who have an excellent reputation in the trade.

Becker, Evans and Wadsworth will remain independent, both in management and in the market place, so that they can continue to give their customers the quality, cost and performance they have

enjoyed in the past.

I face a new era in my business life which offers for me challenge, danger and reward—a combination which I could not resist.

I take this opportunity of thanking everyone in Otis for their tremendous support to me over the last ten years. Together we have built up the company from a low base to a company with a track record of outstanding profits and prospects. I know that the new Group Managing Director in Otis will have every possible support from you all.

To all our customers, and to the Otis family, a most happy and prosperous New Year. My best wishes to you all for every success in the future.

Norman Cunningham

François Jaulin writes from Corporate Headquarters

Norman Cunningham, during his ten years of service, introduced a new momentum within Otis UK leading to significant profitability in spite of radically changing business conditions.

Just before leaving, he succeeded in completing a major acquisition, giving us a substantial opportunity for future development and growth.

His deep commitment to Otis and his customers has been much appreciated by me, his associates and the senior management of the corporation.

I would like to extend to Norman my appreciation for his tireless efforts for the company and my very best wishes for his continuing success. **François Jaulin, President, Otis Elevator Company, Hartford, Conn.**

The Changing Face Of CROYDON

By the end of the 1960s The London Borough of Croydon had become, in the words of one commentator, 'a mini-Manhattan . . . the most sensational phenomenon thrown up by the office boom in south-east England.' But development has not stopped. Major projects under way include a further large office block, a new hotel and, most dramatic of all, a new £23 million shopping centre to be completed by 1984. DAVID CRAWFORD takes a look at this booming town



Croydon from the air. It has come to be called a mini-Manhattan

One place that seems healthily immune to downtrends elsewhere is Croydon, the south London suburb which, during the 1960s, leapt into national and international prominence as one of the country's fastest-growing office locations.

Major projects under way in the autumn of 1981 include a 30 000 m² office block in a previously unexploited commercial growth zone near West Croydon station, and a brand-new

hotel near East Croydon for the Holiday Inn chain.

But the most dramatic step for a decade is undoubtedly the £23 million shopping centre planned for completion in 1984 by the St Martins Property Corporation.

The largest single development currently under construction in the town, it will create a multi-level complex of over 40 000 m² of modern retail space across the main North End shopping

artery from the established Whitgift Centre, completed in 1970.

The main elements are a new department store for Debenhams, who occupy part of the site, along the North End frontage, as well as 48 individual shops and a supermarket on an adjoining site to be linked in by overhead footbridge. (A further footbridge will connect the new shopping centre with a multi-storey carpark).

Designed by architects

John Clark Associates, the scheme takes advantage of the way in which the site falls away from North End to provide underground servicing and lorry access from the rear. Inside, escalators and lifts will move shoppers between levels, and yet another footbridge is destined to span North End and plug in to the Whitgift Centre—so providing one of the largest concentrated areas of pedestrianised shopping in the country.



As such, it is of a piece with the scale of Croydon's recent expansion into a major office centre—the most dramatic transformation that this once quiet rural oasis has ever undergone.

Croydon's recorded history of 1000 years sets its origins well back in in Anglo-Saxon times when the Archbishop of Canterbury owned land there. The Domesday Book notes it as Croindene and in Norman times its archiepiscopal palace became a fit place to entertain kings.

By the seventeenth century, it was one of the principal towns of Surrey,

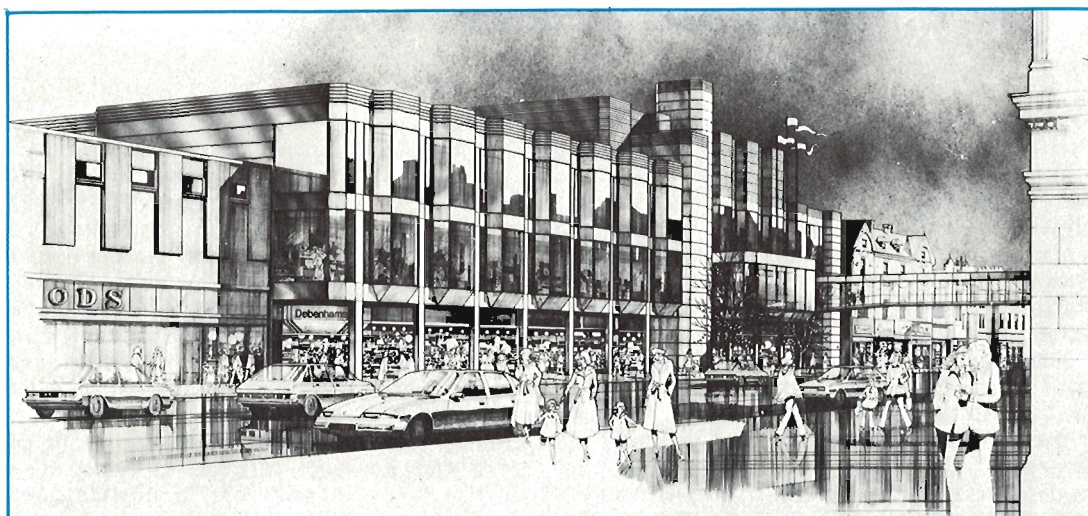
At the beginning of the nineteenth century, however, Croydon had not progressed beyond being a small market town in Surrey—not yet even incorporated as a borough despite a series of attempts dating back as early as 1691.

By the end of the century, Victorian commercial and industrial drive had increased its population more than 20-fold and turned it into an important and busy borough with new shops, industries and houses, which had seen the opening of Britain's first public passenger railway. All the ingredients, in other words, of an urban prosperity which seems to have accompanied the town ever since.

Croydon's recent commercial expansion, which began at the end of the 1950s and continued throughout the 1960s, was the earliest and most dramatic example of concentrated post-war office growth outside central London.

In the words of Oliver Marriott, author of the definitive book on the subject, *The Property Boom*, published in 1967, it was "the most sensational phenomenon thrown up by the office boom in south-east England."

Ten years previously virtually no new offices had been built in the borough. A "mini-Manhattan" is Marriott's summation of the result which has, in turn, generated the term "mini-Croydon" to describe later such expansions in decentralised areas throughout the





Opposite page, above: model of Croydon's new North End shopping development seen from the Whitgift Centre. Opposite page, below: architect's perspective of the North End centre (both illustrations courtesy of John Clark Associates). This

page, above: Croydon ancient and modern at the corner of North End and George Street. The late-16th century Whitgift's Hospital (left) flanks the view along George Street to the 20th century office towers clustered around East Croydon Station

English regions.

The first tentative indication of what was to come was Surrey House, a small-scale shops and offices scheme and one of the earliest decentralised commercial developments anywhere in the country.

But the real trigger was the commercial drive of Croydon's local authority in the days when, before being engulfed in Greater London, it ran what had by then become the largest town in Surrey. (A town which, had it not been for the 1960s reorganisation of London government, would before long have had a fair claim to upgrading to city status).

In the mid-1950s, Croydon wanted to widen George Street, which runs past its busiest station, East Croydon. On the inspiration of its planning committee chairman, Sir James Marshall, the council

promoted its own private Parliamentary Bill which became law in 1956 as the Croydon Corporation Act, and gave the council powers to acquire the land it needed for the widening.

It then leased the surplus land to a commercial partnership involving the Norwich Union. Soon George Street was lined by three new speculative office blocks with ground-floor shopping—Norfolk House (1958-9) and Suffolk and Essex Houses (1960-1). When these proved able to attract tenants, developers decided to investigate what was happening—and Croydon's boom had begun. As further schemes got under way, values rose, as did rents—by over 220 per cent in one early period of under two years.

Croydon was fertile soil for an office boom for a number of reasons: good

communications; closeness to London; the fact that it was already an established town with major shops and services as well as residential areas, and hence a sense of belonging; and comparatively low rents.

(Subsequently, of course, the locational advantages have improved, with the growth of the London motorway network complementing excellent rail links and the expansion of Gatwick airport.)

By the beginning of 1965, 250 000 m² of new office space had been built or was under construction in the central area, and as much again under way through the planning machinery, the whole process taking Croydon to a point where it could threaten to outrank the central areas of major regional capitals.

Modern shopping centres have followed in the wake of

offices. The earliest was the Croydon Centre, with 85 shops and some 30 000 m² of offices off the High Street.

The second, and the best known so far by shoppers coming from outside the town, is the Whitgift Centre, with a host of shops including Alders department store.

It occupies the site of the four century-old Whitgift School, founded and named after a Tudor Archbishop of Canterbury. In a property deal of a kind that was to become classic, the school acquired a fresh site and new buildings in a quieter and more attractive area of the borough, plus a rent from the new development, in return for what had become, in less than a decade, the most precious piece of real estate in the whole of Croydon.

Since then, Croydon has continued to develop, keeping pace with compet-



Above: first morning traffic crosses the flyover. Left: Wellesley Road, looking north from George Street. Below: site works for the North End development to include a new Debenhams department store

ition from other growth points, until it is now the sixth largest office location outside central London.

By the end of 1980, there were over one million m² of office floor space in the borough, two thirds of it concentrated in the area which witnessed the beginning of the whole process towards the end of the 1950s. At the same time, there were existing planning permissions for a further 130 000 m² of space, a quarter of it under construction.

Nearly half the borough's total workforce is employed in offices and half of these are Croydon residents. (Interestingly enough, the majority of the town's office employers tend to be small concerns, occupying no more than 300 m² of floor space. A survey conducted in 1972 showed that just over half were engaged in such

service sectors as finance, insurance, computing or professional activities).

The council's draft district plan, published in October 1980, concludes that "Croydon will undoubtedly remain attractive to office-based firms in the foreseeable future. In addition to its locational advantages, it now has the impetus created by the large number of firms already located here."

For the future, it is assumed that a further 300 000 m² of office space will eventually be built in Croydon, and the area around the previously backwaterish West Croydon railway and bus stations is being pointed out as the town's next growth area.

Croydon, in other words, has a good few office blocks yet to come before the end of the present decade.

OTIS HELPS DIG FOR COAL

**At Ellington
Colliery,
Northumberland,
Otis installed
a new-style lift
to take miners
to the coal face.
WILLIAM
FOSTER
took a ride
with them to get
their reactions**



Colliery general manager Jack Tubby. His coal is under the sea bed.

At Ellington Colliery in Northumberland things were pretty peaceful that morning. The 10 o'clock shift had gone down an hour previously and the next flurry of activity was not due till 1.30 p.m., when the next shift reported.

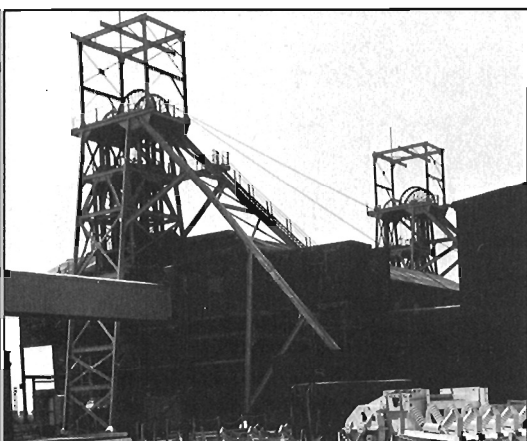
Colliery general manager Jack Tubby was in his large, airy office, pouring over a map of the workings. But you had to look over his shoulder to find out what kind of colliery Ellington is. The plans showed quite clearly where the coal was being worked. Under the seabed.

I doubt if any of the sunbathers and swimmers along the fabulous stretch of sands at Druridge Bay that afternoon

knew what was going on only 400 ft. beneath them. Nor would they have realised that the combined collieries of Ellington and Lynemouth are the world's biggest undersea mining complex, producing over 2½ million tonnes annually—and nearly all of it snatched dramatically from under the sea.

A record like this is not easily won. Hard and gruelling work is part of the story. That is where the quality of the men tells. But the best tools for the job are another part, from the swift and silent Otis lift that brings the men, 20 at a time, to the bottom of the shaft at the beginning of the shift—to the splash of hot water from the pithead shower at

Below, at the pit head. Right, installing the Otis lift.



the end.

Efficient pithead baths or showers are commonplace at every National Coal Board mine these days—and so they should be. But the Otis lift that aids efficiency at Ellington is unique. No other pit in Britain has one and as Norman Watson, the chief engineer for the North-East Area of the National Coal Board put it to me: "It's a pioneer effort and it does a very good job".

Mr. Watson says it was the evidence given by Otis after the Markham mining disaster in the 1970s that started the ball rolling. "Otis had definite ideas about lifts that were different from conventional winding practice.

"So in the official report the National Coal Board said it would investigate lifts further. And we did. At Ellington we had the ideal conditions for a major trial. The shaft was already there, a nice, dry 400 ft. depth that needed the old fittings removed before a new lift went in.

"I would say it was a model of industrial co-operation. The National Coal Board monitored the whole thing, put in new steelwork, cleaned out the shaft, installed lighting and put up the tower. Then the Otis engineers came into the picture.

"They worked from a platform, which was winched upwards by two

'Sky Climber' devices, each attached to a steel rope suspended from the shaft top. And, of course, they looked after the guides, the cage, the hoist gear. Everything went smoothly and there were no snags".

I had to wait till the next day to try out the lift for myself—a day of high summer with the cornfields burnished gold and the empty roads proving the truth of the Northumbria Tourist Board slogan: that this really is "Britain's undiscovered county"—and not only above ground level but below it, too!

"But if you want to go down", said Jack Tubby, once a miner himself, "You'll need this". There were boots, socks, orange shirt, orange overalls, helmet, miner's lamp, the lot.

"And you're not taking those down No. 3 shaft", he added, whisking away my clipboard and Parker pen, "because they'll only get dirty". He fished a pencil and regulation National Coal Board spiral notebook out of the cupboard and added them to the pile.

It would be nice if I could say that the ride at 17½ ft. per second was the most dramatic and amazing in my life. It wasn't. Lift operator Ted Staines merely pushed the button, the way the girl does in the department store, and we took a smooth and uneventful 32 seconds to reach the bottom of the shaft.

Ted looked at me and grinned. "What did you expect?" he asked. "It's extremely safe. It's got lots of built-in safety factors. And it's well-maintained by the Otis team, who turn up every six months to give it a complete overhaul".

When the maintenance boys arrive, they examine the shaft by means of a control panel on the top of the car.

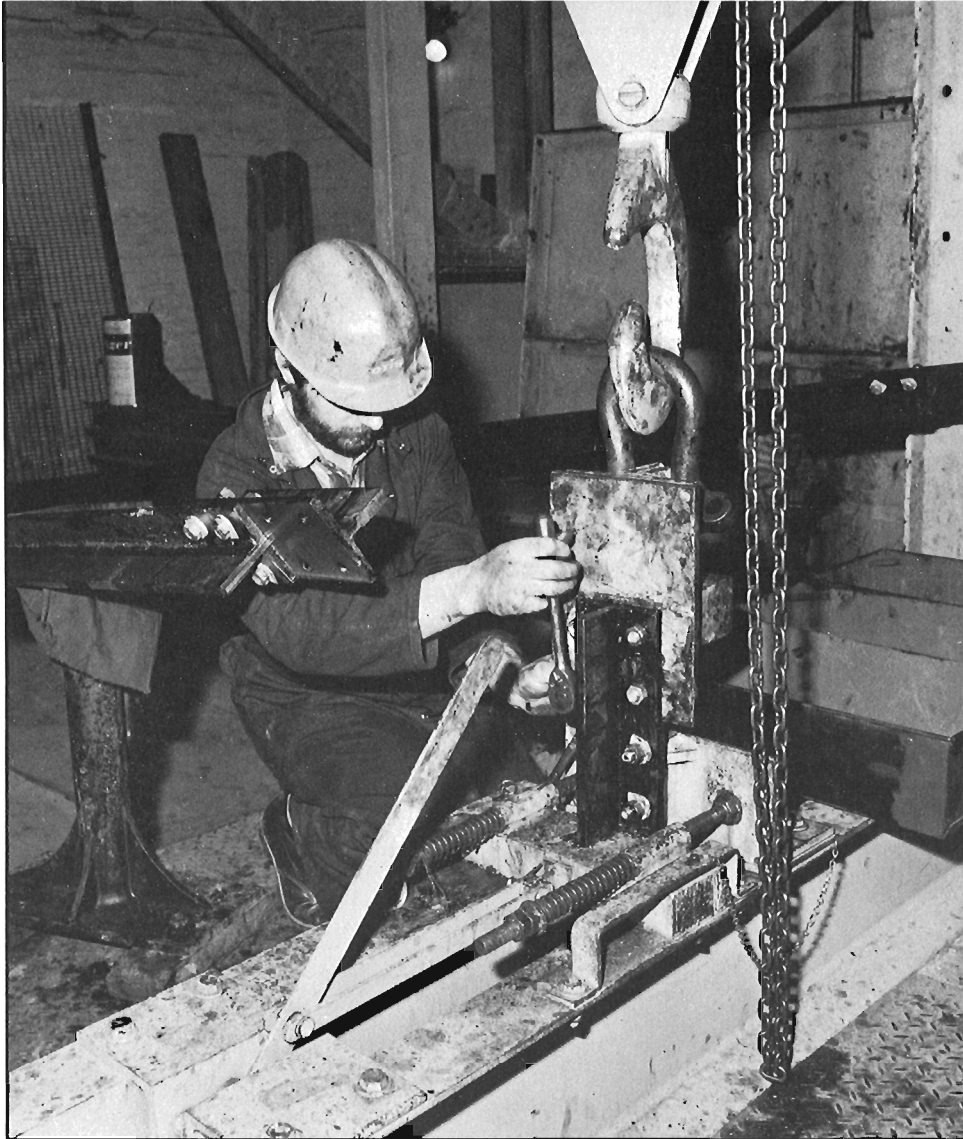
Special keys enable them to override the shaft gate interlocks and operate the lift from its roof. Speed is automatically cut right back and there is telephone contact from lift to control room.

From the bottom of the shaft, there is a short walk to the small, sturdy train that conveys as many as 240 miners at a time to the pitface. I asked train driver Alexander Crichton what he thought of the Otis lift.

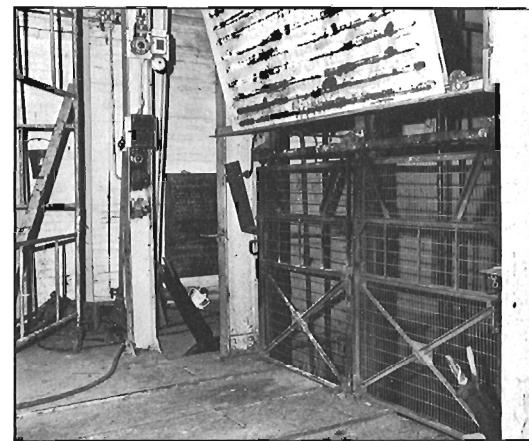
"Listen", he said. "I can remember the old days before 1953 when they used a sort of double-layered cage to take miners to the bottom of the shaft. Ten men half-crouched or sat in the bottom half, with another ten in the top half.

"Things began to improve when we switched to an open cage with only one deck. But this job beats the lot. It's a lot quicker and it's very smooth".

I clambered into my seat and we roared off into the darkness, the strip lighting set into the roof of the tunnel flicking past at rapid intervals. The ride



Left, installation continues, Below, entrance to the lift at No. 3 shaft.



to No. 3 North workings lasted for 3½ miles and the first thing you saw on leaving the train was the swiftly-running conveyor belt, bringing back the steam coal that would keep British power stations going during the winter that lies ahead.

The image I had of coal-mining was completely out of date. I think I visualised the man who used to beat the mighty gong just before the credits went up on a J. Arthur Rank film.

Bombardier Billy Wells played that part and he was often the best thing in the film. But there were no glistening muscles down the mine that day, not even picks and shovels to replace the gong-stick.

The reality is rather different. The coal is dug by a Joy Continuous Miner, an immense mobile machine with multiple cutting heads that scours its way busily into the coalface.

But let no one imagine the work is easy.

It seemed safer, somehow, to talk to one or two miners on the 1.30 shift who had already reached the bottom of the shaft on their way to No. 4 North, whose workings stretch even further out to sea.

John Wilkinson and Jimmy English, both in their twenties, had no doubts about their lift. "A big improvement",

they said, "and a much more comfortable ride. They don't let us take tools, such as picks or axes, on board with us—they go down the old hoist in No. 2 shaft. So it's no different in atmosphere from a modern department store lift".

"Let's put it this way", said silver-haired David Airey, now nearing retirement. He had done every mining job from handfilling with a shovel to facework with a pick and was obviously the nearest I would get to the Bombardier Billy Wells image.

He pushed his helmet to the back of his head and put it his way. "The British miner is the best in the world, so he deserves the best equipment. It's as simple as that".

The coal that Otis has been helping to dig for nearly three years comes from one of the world's largest undersea mining. And the more coal that is brought to the surface, the more the problems multiply, needing quick brains and a rigid adherence to stringent safety regulations to ensure success.

Yet without cutting any corners, output has gone up since the mid-1960s from 4,500 tonnes a day to 7,500 tonnes a day.

When I had showered and checked in my boots and miner's lamp, I found colliery manager Jack Tubby brooding over his next problem. "It's a fascinating

one", he said. "We're planning to drill a hole on the shoreline to sink a surface borehole down into the existing workings. We get water leaking through the impervious strata and this would enable us to pump it back into the sea through the borehole.

"I'll tell you something else", he said. "There's a slightly frustrating side to undersea mining. You have to leave so much coal behind.

"We can't go charging in and grabbing all there is. We mine only a proportion of the reserves and leave sufficient behind to support the seabed.

"So we're as careful as anyone else about the amount of power we use. And one of the advantages of our lift is that it does the work that two cages did before. Its capacity is better and it saves energy into the bargain.

"North Sea coal is like North Sea oil. It's the devil to get out and it won't last for ever. Which is why we talk about energy-saving, even though we work in a sea of coal".

● We would like to thank the National Coal Board and the colliery manager and personnel department of Ellington Colliery for making this feature possible.

Spotlight on Nottingham

HIS KIND OF TOWN

Francis Albert Sinatra used to sing that Chicago was his kind of town, and for a lot of people Nottingham brings on the same feeling. It is a warm and friendly city, but cosmopolitan too, and definitely not what we like to think of as provincial. Although a community with roots in early history, Nottingham has always been forward-looking.

Nottingham means the hosiery industry and lace, Players cigarettes and Raleigh bicycles, and it is

the headquarters of Boots the Chemists. Wherever you are in England you are unlikely to be far from a Boots shop.

But Nottingham is also very diversified industrially. There is coal, and the power stations in the Trent Valley support much electrical engineering in the area.

The Otis Nottingham branch office is in St. Peter's Church Walk, not surprisingly in the shadow of St. Peter's church, a prominent landmark in the city.

The branch covers Nottinghamshire, Derbyshire, Leicestershire and Lincolnshire, but not South Humberside. Its area stretches from a point south of Cleethorpes on the coast, down to the Wash turning west to Stamford, then Market Harborough, Leicester and Hinckley, north to Ashby-de-la-Zouch and Matlock, then turning east again to Mansfield, Worksop, Gainsborough and across to the east coast once more.

Branch manager Keith Riley has a service supervisor, John Hands, who is assisted by chargehand Ralph Eminson. Bill Murphy, a former fitter, gives valuable assistance in the office, and Karen Langford and Kathleen Bailey maintain the communications and secretarial back-up. Construction supervision is provided by John Coss from Birmingham branch.

In addition to Ralph Eminson, the branch has 18



We visit branch manager Keith Riley in the series which introduces Otis staff around the country to customers

service men and 3 construction fitters in the field.

Nottingham branch has a lot of good customers. There are Otis units installed in the Boots Nottingham offices and its associated factories. The Broad Marsh Shopping Centre and car park opened by HRH The Duke of Gloucester in 1975, and one of the finest of its type in the country, has 25 Otis units.

There are 9 units in the modern Trent Wing of the General Hospital, 11 units in the prestigious Trust Houses Forte Albany Hotel, and all the lifts are Otis in the head office complex of the British Shoe Corporation.

Very good customers are the City of Nottingham and the Greater Nottingham Co-operative Society, along with the Central Electricity Generating Board, because there are many Otis units in the Trent Valley power stations.

Lewis's Leicester has 9 units and Waitrose Supermarket 6. Also in Nottingham branch area there are installations in Jessops, Debenhams, C.&A. Modes, BHS, Holiday Inn, Rolls-Royce, British Rail HQ, Fine Fare, Fenwicks, Binns and many other well-known names.

The Duke of Rutland is also a customer, because he owns the George Hotel in Nottingham where, incidentally, the branch held its last very successful party.

When Otis Magazine visited Keith Riley, a most interesting job in progress was the reconstruction of two lifts for the City of Nottingham in the Council House.

The lifts were originally installed in 1927 and the lift cars and gearless machines are to be refurbished and preserved while all other mechanical and electrical equipment will be replaced.

The architect of the day visited the United States to examine what Otis were

doing in some prestige buildings and came back full of ideas based on what he had seen in America.

One of the old cars is currently with a specialist firm for refurbishment. It has a domed roof with concealed lighting, polished and veneered hardwood side walls, and a back wall which is one huge mirror with bevelled edges machined in. New doors in bronze will bear the coat of arms of the City of Nottingham.

On display in Keith Riley's

office is the 1920s American car switch, which has been removed from the lift and is now a rare and fine example of the period.

A word about Keith Riley. He joined Otis in 1957 and later did National Service in the Royal Signals, returning to the company in 1962. After a short break elsewhere he was in the field as an adjuster, became a service supervisor in 1967 and a service sales representative in 1973. He has been branch manager at Nottingham

since 1978.

Keith is a Nottinghamshire man born and bred, and now lives near Newstead Abbey, notable for its association with Lord Byron, with his wife and two children—a daughter of 16 and a son of 12.

Keith loves the city in which he works and which he knows so well. It is his kind of town. And many seasoned travellers, who pass through a lot of cities, have no difficulty in sharing his affection for Nottingham.



Above, The Council House, Nottingham, where two 1927 Otis lifts are currently being refurbished. Left, Otis branch office staff in front of the Robin Hood statue at Nottingham Castle. L to r, John Hands, Ralph Eminson, Keith Riley, Karen Langford and Kathleen Bailey

MEET OUR CUSTOMERS



LLOYD'S OF LONDON

Unique is not a word which should be used loosely. But Lloyd's of London is truly unique among the world's insurance organisations. An international market of a kind to be found nowhere else, the great Room at Lloyd's houses a vast concentration of underwriting expertise.

Lloyd's is not an insurance company as we have come to understand the phrase. It has no shareholders and accepts no joint liability for risks insured. It is a society of underwriters whose members, all private individuals, accept insurance business for their own personal profit or loss, and are individually liable to the full extent of their personal fortunes to meet their insurance commitments.

The origins of Lloyd's can be traced back nearly 300 years to a coffee house in the City of London frequented by shipowners, seafaring men and merchants, all with a common interest in shipping and marine insurance.



Above, Underwriting Room at Lloyd's. It measures 340 ft Over the Caller's head hangs the Lutine Bell which is rung

In those days an insurance policy on a ship and its cargo would be underwritten by wealthy individuals, each one pledging himself to the full extent of his personal means to cover his share of the risk.

Lloyd's Coffee House, with its unrivalled sources of shipping information, soon became the focus for marine insurance in London, and by natural evolution developed into a kind of club, an autonomous society of underwriters which in course of time became a world market for insurance of almost every description.

Interestingly, Edward Lloyd, the owner of the coffee house, is not known to have taken part in underwriting. He contented himself with providing congenial surroundings and the facilities for his customers to do business. He died in 1713, but the underwriters, when they finally set up in more businesslike premises, took his name with them. And Lloyd's

by 120 ft and at busy periods some 4,000 people may be working there. Top left, 'Calling' for a broker in the Room. before important announcements are made—two strokes for good news, one stroke for bad news.

it has been ever since.

Almost anything can be insured at Lloyd's these days. The world's shipping and aircraft fleets, factories, civil engineering projects, oil rigs and refineries are but a few of the risks placed at Lloyd's and account for £2 billion in annual premium income—some £8 million every working day.

Lloyd's will insure a footballer's legs, or wine taster's palate—even payment of a large prize which has been offered for evidence of extra-terrestrial life.

Some three-quarters of Lloyd's business comes from outside the United Kingdom and makes a substantial contribution to the country's balance of payments.

The Underwriting Room at Lloyd's is an impressive sight. It curves along the length of Fenchurch Avenue, in the City of London, with the main entrance in Lime Street.

'The Room', as it is known, is 340 ft long by 120 ft wide

and is fully air-conditioned, as is the basement and second floor. Marine, aviation and motor business is transacted on the ground floor; the gallery handles non-marine business.

During a busy period it is estimated that some 4,000 people may be working in the room, and there are 17,000 underwriting members grouped in 400 syndicates.

The affairs of Lloyd's are controlled by a committee of 16 members who meet every Wednesday morning—they are elected by and from their fellow members. In 1972 the committee began investigating options to meet expanding space requirements for the future needs of the market, and in 1976 the members voted to accept recommendations by the architects, Richard Rogers & Partners, for the redevelopment of the site of a previous building in Leadenhall Street.

Lloyd's is, indeed, a unique institution, and Otis is proud to serve it with 29 lift installations.

INTO THE '80s

This month, Otis introduces a complete range of new products specifically designed to meet the stringent requirements of the CEN code and ISO standards and also to utilise the latest developments in micro-technology. Below, specialist members of the Marketing Department tell the customer what it all means. Not that it is the end of the story. The lift industry remains in a constant state of change, and you have Marketing Manager Lindsay Harvey's assurance that Otis updating of products and services will continue, backed by the constant research and development for which Otis is world-renowned

Elevonic—the new industry standard

by John Mizon, Otis Advanced Technology Manager

This month sees the launch of Elevonic 401, an entirely new concept in lift control technology.

Elevonic 401 is not a development of an existing system. It is the result of a complete re-design by Otis engineers, incorporating their many years of lift group control experience into a top-class micro-electronics package designed by our sister company, Hamilton Standard.

It was two years ago that Otis first reflected the micro-revolution by launching the Otis 90 range of microprocessor based products. These lifts, with their combination of micro-electronics and solid state motion control, represented a significant development in the mid-range sector of the market.

However, even whilst this launch was taking place, the next step was being planned. This was the production of a top range group control system for gearless lifts.

Early in the design phase, it was realised that the constraints of the traditional controller technology, where to build even a small amount of intelligence into a lift system required the provision of many banks of bulky and

costly relays, no longer applied. Lift systems using microprocessor controllers could be as smart as their designers chose to make them. Since the designer programmed his *elevator* control patterns into microcomputer electronics, the system was named Elevonic.

The Elevonic system does not use one microcomputer but three! Every aspect of the lift operation is controlled by a computer and the computers all talk to each other, exchanging information to co-ordinate their actions.

Each individual lift is controlled by a computer which has two basic functions. Firstly, it has to decide the lift's next destination and control the various peripheral operations e.g. door motion and indicator operation that are involved in getting it there.

Secondly, it has to drive the lift to its destination in the fastest possible way while ensuring maximum passenger comfort.

To do this, it receives signals from transducers on the lift equipment which tell it the exact location and speed of the lift car. These are compared with an optimum velocity/position generated by

**Right, luxury styling of an Elevonic lift car.
Below, Elevonic lift car operating panel**



INTO THE '80s



the computer which makes any corrections necessary. Motor control may either be via a traditional motor generator system or, another new feature of Elevonic, via an all solid state DC drive unit.

The group of lifts is controlled by another computer. This group computer's job is to look at all the calls in the system and calculate the most efficient way in which they can be answered. This type of group operation is one of the most significant features of Elevonic.

Previous group systems have relied on a few rough indicators to place lifts

in a shaft position where it was thought that they would best serve the requirements of the building. With Elevonic, whenever a new hall call comes into the system, the load, direction and existing assignments of each car in the group are examined and the call is allocated to the car which is best placed to handle it, thus ensuring that the building's requirements are served in the optimum manner.

The final computer in the Elevonic system is the cab controller. This is located in the lift car operating panel and gathers information such as the number of people in the car and their

required destinations. This information is then fed to the machine room computers along a single pair of wires—a major saving in installation costs. This means that (for the first time) Otis have an intelligent lift car operating panel which can do much more than just register passengers' calls.

The panel itself is distinctive, with both top and bottom canted at a 14 degree angle. This enhances the relationship between touch and sight by placing the lower call buttons perpendicular to the eye while giving a 160 degree angle of view of the visual display in the upper panel.

INTO THE '80s

The upper vision panel itself is a new idea, allowing not only the floor position to be displayed, but also any messages that the client requires via the optional alphanumeric display unit. Each button provides both an audio and tactile feedback when pushed and, as a final touch, the panel even has its own electronically synthesised voice to announce the arrival of the lifts at each floor and give special messages.

The remainder of the Elevonic fixtures have again been completely redesigned to embody a high degree of aesthetic appeal, together with a modular building strategy. The many combinations of hall pushes, lanterns and position indicators which are available are all

constructed from remarkably few basic components to give a dramatic reduction in the number of spare parts required for service.

The Elevonic system is software-based. Control changes can be made easily and swiftly, simply by unplugging one program chip and replacing it with another. Each system has its own automatic fault diagnosis package and any controller problem can quickly be corrected by the replacement of a printed circuit board.

Otis have always been leaders in the field of lift group control technology. Elevonic continues this trend and shows Otis engineering at its very best.



Elevonic lift lobby

New sales products— the complete range

*by Paul Kirk-Browne,
Otis New Sales Marketing Manager*



Sovereign lift car



Atlantic lift car

The advent of new technology coupled with the introduction of the CEN code and ISO standards, has presented a major challenge to the lift industry. The enormous research and development resources of Otis have enabled us to meet this challenge with a number of new products. The culmination of this effort is the launch this month of a complete range designed to meet the stringent requirements of the lift market in the 80s.

Whatever the needs of our clients, from the single tenancy building for local authority apartment development, to prestige high-rise office buildings, we can offer a solution embodying the very latest lift engineering techniques at a competitive price.

The Europa range meets the small hotel or office development requirement, yet retains the style and finish normally associated with higher-priced equipment. Each lift in the range is designed to comply with CEN and ISO. As well as a choice of between 4 and 13 person capacity, a wide variety of finishes and car designs are available.

As buildings become higher, lift requirements change, become more sophisticated and require more flexibility. The Atlantic range meets these criteria by incorporating microprocessor control equipment together with a wide number of finishes and designs to

INTO THE '80s

provide the service required in medium to high-quality office developments.

Every lift in the Europa and Atlantic range is pre-engineered and manufactured on a volume basis. This means that both quality and value for money are inherent features of these products.

Building design limitations sometimes mean that the advantages of standardised lifts cannot be obtained. Previously, this has always meant the installation of a tailor-made lift with its associated high engineering costs. The new Otis Sovereign range is designed to solve this problem, offering the flexibility of a custom built lift, while retaining many of the pre-engineered volume components of the standard model.

Where there is unrestricted access to buildings, casual vandalism can be a problem. Here again, Otis has a product specifically designed for this application. The design of the Otis Vandal Resistant (VR) range reflects extensive research into the psychology of vandalism. An aesthetically pleasing appearance is combined with rugged finishes to provide a car which will remain comfortable despite the possibility of unsociable behaviour.

For prestige installations, Otis offer the Elevonic system. Available in both geared and gearless versions, Elevonic represents the very best in lift engineering. Where performance, efficiency and aesthetic appeal are the prime

considerations, an Elevonic installation is in a class of its own.

In addition to the products mentioned, Otis' new complete range includes escalators, hydraulic lifts and service lifts, all incorporating significant advantages over previous systems.

A new standard of product requires a new standard of service. This is provided by the Otis Comprehensive Maintenance package, supported by a nationwide team of skilled engineers on call 24 hours a day, 365 days of the year.

As the lift industry becomes more competitive, the new complete range will ensure that Otis maintains the position it has held for many years—the market leader.

Service products—today's approach

by Bill Noon, Otis Service Marketing Manager

The difficult economic situation of the last few years has caused Otis to re-think their approach to service modernisation.

The result is a new set of packages which not only individually make a significant contribution to the improvement of a lift's performance but also form the building blocks of a total modernisation scheme which may be phased to suit client requirements.

Many different packages are available. They broadly fall into three categories.

The first category concerns performance and includes such items as the replacement of a relay controller by a modern microprocessor-based system and the upgrading of a two-speed motor control to give improved comfort and levelling accuracy.

The Gamma S motor control package uses an electronic comparator system to send the lift along a pre-set optimal velocity profile, giving a smooth ride and accurate levelling, while the simpler SALC package uses a microprocessor to measure lift load and speed and calculate

the exact velocity transition times, giving a 50 per cent improved floor level stopping accuracy.

Appearance is the next category, and here packages cater for the entire range of architectural products. A lift car refurbishment may be complemented by the provision of a new car operating panel and segmented numerical car position indicator, both with aesthetic appeal. Matching hall pushes reflecting modern technology can be provided.

Last, but by no means least, is safety. Here again packages have been developed to reflect the latest thinking on the subject. An inspection control package allows total control of the lift from the top of the car. A door-hold magnet system prevents the car doors being forced open during the lift motion while redesigned door detectors prevent them closing on passengers entering.

For gearless models, a separate modernisation scheme is available. Called the Cosmos 400 system, it will eventually enable the upgrading of an

installation to an Elevonic performance level by either a phased or total modernisation route. The upgrade involves the replacement of the existing control system by a microprocessor operational controller plus a smart DC motor drive system together with the provision of new advanced and landing fixtures.

The client who wants to upgrade to the very best in group supervisory control is given the opportunity to do so with the launch of the Cosmos 401 modernisation system. This system adds the unrivalled features of Elevonic 401 to existing Otis group control installations.

New technology means that service products must be carefully designed to interface with and upgrade the equipment to which they are applied. The new range of Otis service products has been designed in this way and offers our clients the very best in modern technology combined with the flexible approach required by financial planners in the eighties.

OUR MAN IN DERBYSHIRE

We meet David Oakland

Early on a misty, autumn morning Otis Magazine went to see David Oakland, resident mechanic based at Belper in Derbyshire.

His service route extends as far south as Market Harborough, north to Alfreton and west to Burton-upon-Trent.

Belper is strategically placed for him. It is a hosiery town approximately mid-way between Derby and Matlock on the A6 trunk road.

David Oakland came to Belper 17 years ago when he took on his present route. He joined Otis in 1960 at Nottingham as a mate to Keith Riley, now manager of Nottingham branch (see page 10). He was later on construction for a short period and then had a service route in Leicester.

His present route covers a considerable mix of installations, from a power station near Burton (it is a long climb up into the motor room) to a 1930 Waygood-Otis lift at Kedleston Hall, the seat of Lord Scarsdale.

David is a great sportsman. In the hall of his house 18 silver trophies are displayed, proof of his football skill, and there are framed photographs of the teams he has been in.

These days he plays golf and badminton, the latter at the new Belper sports centre, and he is proud that Belper now has a badminton team in the first division.

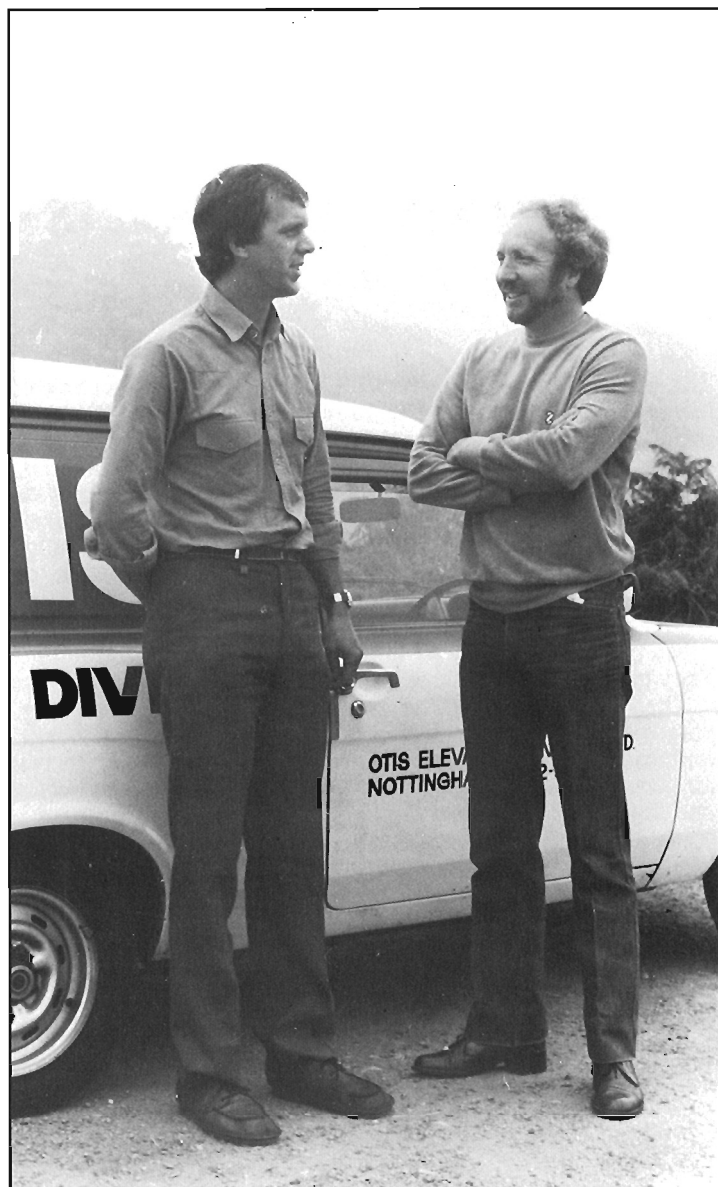
Busy both at work and at play, David leads a happy, family life with his wife, Irene, and their two children, 15-year-old Andrew and 11-year-old Lisa.

His mate on the route is John Cheetham who has been with Otis for seven years and with David for over two. He lives in Nottingham and they join up in Derby most mornings.

Up in the misty hills above Belper, David and John were discussing one of the problems lift men have to live with in their work.

A lift shaft is a fine place for an echo. When one man is at the top, and the other at the bottom, shouted instructions echo round the shaft amazingly. But it does not make for easy communications.

Above, David covers many miles every day on a route which takes him through these typical stone-wall Derbyshire lanes. Right, with his mate, John Cheetham





Going into Fenwick's!

One of six escalators is hoisted into Fenwick's store at the corner of Brook Street and New Bond Street in London. At 11pm on Friday 23 October 1981 police closed part of Brook Street to traffic while the 250-tonne crane was rigged overnight.

The last escalator was safely put to bed at 7.30pm on the Saturday. This spectacular operation in the heart of London's West End attracted large crowds of cheering onlookers as each escalator went in.

PRODUCT PAGE

Keep up-to-date with Otis

Self-Adaptive Load Compensation

Opposite page top left, Otis SALC (Self-Adaptive Load Compensation) can be fitted to almost every type of Otis single or two-speed AC lift—popular in apartments, hospitals and factories—to give over 50 per cent improvement in floor level stopping accuracy.

SALC is especially recommended for buildings where handicapped people in wheelchairs may require access.

Essentially, SALC is an economical, compact microprocessor which electronically measures car load and speed. Data is fed into a tiny dedicated computer which optimises the transition between the fast and slow speed running of the lift. It accurately determines the final stopping level of the car. A minimum downtime is required to fit SALC and no major modification to existing equipment is needed.

Gamma-S

Opposite page bottom left, Otis Gamma-S is a new electronic system designed to improve the performance of lifts using existing Otis machines and controllers.

Flight time is reduced by a more efficient calculation of flight pattern to give ideal speed characteristics.

There is an improvement in passenger comfort with a quieter ride, smooth and rapid acceleration from the floor and equally smooth deceleration to stop.

The speed and load of the lift are monitored to give more accurate levelling at the landing floor.

The development of Gamma-S, which utilises thyristor control, enables a spectacular improvement in performance to be attained by existing Otis AC geared lifts.

Compact-Door

Opposite page right, Otis developed Compact-Door specifically for a need in the French market but it is a package available in UK and has aroused much interest.

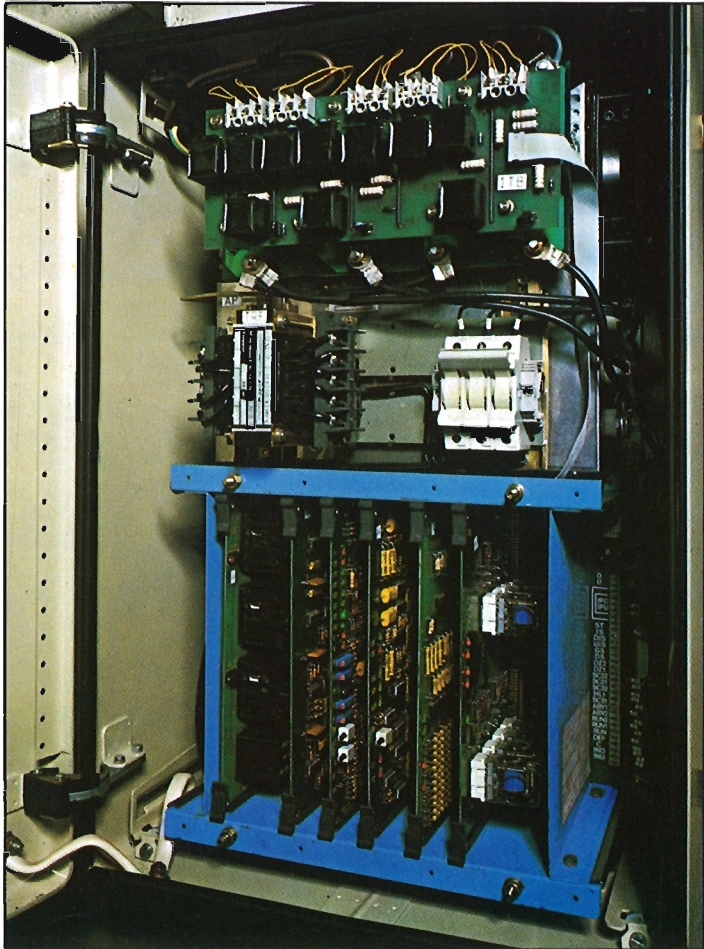
Lift cars without doors are potentially dangerous, especially to children, and it is now mandatory that doors be fitted.

Otis Compact-Door can be fitted to existing installations to comply with current standards and legislation and is far more aesthetically pleasing than gates.

The Otis Compact-Door opens automatically as the lift arrives at the floor and closes automatically when a passenger selects a floor destination or leaves the car. This is an effective modernisation package for passenger comfort and safety.



PRODUCT PAGE



Contract Control at Liverpool

To provide a marketing and tendering service for the promotion of traditional equipment, the Contract Control department at Otis UK Liverpool works has been strengthened and restructured.

Contract Control, headed by Ken Durward, is the interface between all UK departments and Otis sister companies around the world.

Forecasting/scheduling (supervisor Dave Ashcroft) is constantly monitoring domestic, export and intercompany sales forecasts relative to factory workload.

Intercompany (controller Dave O'Brien) is actively selling UK products to Otis sister companies. It also monitors feed-back so that Otis UK can continually develop products for specific markets.

The restructuring of Contract Control has made the inter-company operation a self-sufficient unit, capable of carrying

out or co-ordinating its own estimating and engineering. The aim is to give an efficient turn-round for enquiries and ensuring delivery schedules are achieved.

Domestic/export (controller Bill Bruen) has been restructured and new systems implemented actively to monitor contracts and negotiations from conception to completion.

The declared aim of the restructured Contract Control department, says manager Ken Durward, is to take a more positive role in marketing and the monitoring of production. The intercompany section is going out into the field to win orders from sister companies, while the whole department exercises the tightest control over pre-production activities, manufacturing, quality and delivery dates.

A first speedy result of restructuring is the development for European markets of a new, low-cost traditional elevator. The design work was led by Ron Bartholomew of the Design



Department manager Ken Durward.



Dave Ashcroft, supervisor of forecasting/scheduling.



Dave Ashcroft's staff.

Behind every Otis salesman or serviceman is a vast back-up of lift experience. We continue our series in which we meet internal departments face-to-face

and Development department at Liverpool works.

The new range of traditional elevators will result from 'value engineering' of existing proven components and the introduction of new products to meet the market requirements. Variable dimensions of car and landing entrances, and in the choice of finishes, is the basic philosophy behind the range.

The new product is based on standard specifying data, and can be offered at a competitive price between that of a model and existing traditional within the range of 5-13 person lifts.

In its new role, the department receives full back-up from Management and Systems Services, including the Otis UK Service Centre at Liverpool works, managed by Joe Power.

This Service Centre has on-line computer stock control, with access to 40,000 parts held in stock, and can supply 75 per cent of stock parts off the shelf when supported by forecast, plus a variety of pre-kitted spares for easy servicing

at spare-part leaflet level. There are on-line communications links eight hours per day for direct telephone and telex enquiries, plus great experience of shipping product overseas.

The men at Contract Control have vast experience of the lift industry. Ken Durward, manager of the department, is a graduate electrical engineer who has held important managerial positions at Otis UK since he joined the company 24 years ago.

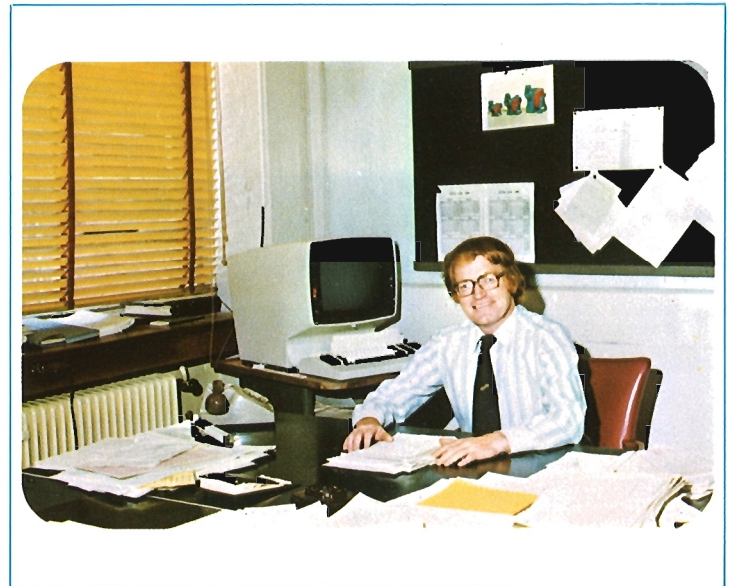
Dave O'Brien, controller of intercompany section has been 17 years with Otis; Dave Ashcroft has 12 years service and Bill Bruen over 20 years.

Joe Power, manager of the Service Centre, has 19 years service with Otis and Ron Bartholomew 26 years. Ron's experience is well-known and he has acted as consultant for Otis Europe in design criteria.

Their knowledge and experience helps to supply the best UK products, at the right price, and on scheduled delivery date.



Ron Bartholomew of Design and Development.



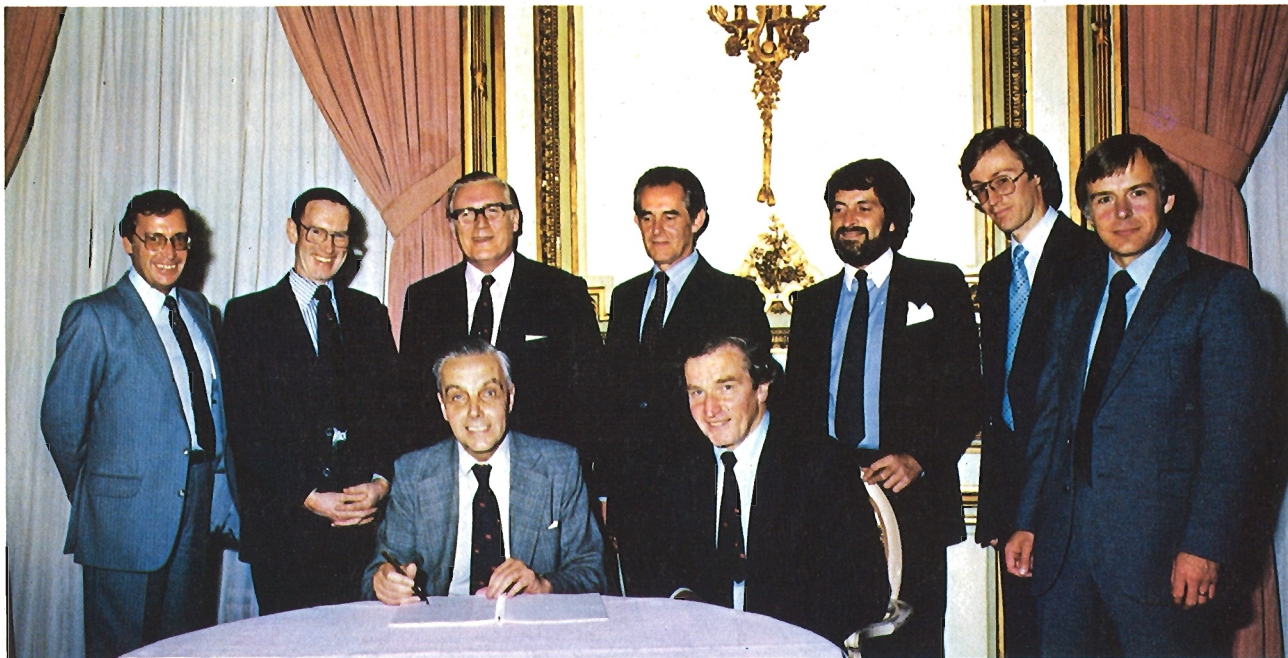
Joe Power, manager of the Service Centre.



Bill Bruen, domestic/export controller.



Bill Bruen's staff.



Mr. J. Park, LTE director of supplies and central services (seated left) signs the contract in the presence of Otis MD Norman Cunningham. Standing l to r are Eddie Dinnadge, Otis commercial co-ordinator for LT contracts, Mr. J. Styles, LT lift and escalator engineer, John Bridge, Otis technical sales manager, Ken Paige, Otis director of zone operations, Mr. J. Needle, LT finance officer (contracts), Mr. D. M. Connelly, LT solicitor (commercial) and Mr. M. Masters, LT contracts officer.

Escalators worth £15m for London Transport

Otis has signed its third consecutive agreement with London Transport for the provision of escalators on the Underground system.

The agreement will run for ten years and on present indications will be worth £15 million.

There are 270 Otis escalators in the London Underground and some are over 50 years old. London Transport is therefore starting an extensive modernis-

ation programme with Otis.

Otis and London Transport have always worked closely together on the design and construction of both lifts and escalators for the Underground. It is a business connection which goes back as far as 1911 for escalators and to 1900 for lifts.

Otis Technical Sales Department, managed by John Bridge, has a team of design engineers and draughtsmen working on

London Transport escalator projects. And in the field there is a team led by Jim Callow, comprising two supervisors and some 20 fitters and mates.

In the late 1970s Otis installed 18 type-48MY-A escalators in stage one of the Jubilee Line, London Transport's recent addition to the Underground network which serves the 30 miles square of Greater London and its vast population.