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CONFIDENTIAL FILING

Prime Minister's meeting with INDUSTRIALISTS, 24 February 1985, on the SWITCH to Engineering and Technology

SCIENCE AND TECHNOLOGY

IN ATTACHED FOLDER: PM's BRIEFING / LETTERS TO DES FOR INDUSTRIALISTS

January 1986

Referred to	Date	Referred to	Date	Referred to	Date	Referred to	Date
~~16.1.86~~							
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Seminar file

File

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10 DOWNING STREET
LONDON SW1A 2AA

From the Private Secretary

7 March 1986

Thank you for your letter of 4 March. I am glad you found the discussion at our meeting last week worthwhile and constructive. I and my colleagues certainly felt that a number of very interesting points were put forward, and Sir Keith Joseph I know is considering them carefully.

With best wishes,

(Mark Addison)

Graham Hill, Esq.

University
of Strathclyde

Principal and
Vice-Chancellor: Graham Hills, PhD, DSc, CChem, FRSC, FRSE

McCance Building, 16 Richmond Street,
Glasgow G1 1XQ Tel: 041-552 4400

Our Ref: GJH/GRW

4 March 1986

RB13

Rt Hon Mrs Margaret Thatcher PC FRS
Prime Minister
10 Downing Street
LONDON

Dear Prime Minister

I very much enjoyed the Engineering Technology Seminar. It seemed to me that many of the contributions were concerned to ensure an adequate supply of young people able and willing to embark on courses leading to good qualifications in science or technology. As I tried to say, one of the obstacles is the constraining requirements of university entrance. It is the principal cause of early specialisation and, in turn, of a premature commitment to careers linked to school subjects. When that same early specialisation is then projected into universities, many able people become locked into their chosen subject and lose the confidence to adapt to other disciplines.

This lack of intellectual agility is a high price to pay for elementary scholarship. It sharply differentiates us from many other countries. As an Englishmn I do not wish to beat the Scottish drum too loudly but Scotland's more relaxed attitude to sixth form studies and to university entrance has many advantages, not least that vital subjects like Mathematics can be picked up and reinforced in the universities themselves where there is no shortage of gifted teachers. All students here enter the University with both Mathematics and English. Their knowledge of these subjects is far from adequate but we can build them up as necessary.

My fear is that we cannot change the British system as a whole in time to meet the country's needs. I therefore regard the Scottish system as a parallel pathway of excellence which might come to be regarded as an experiment which has succeeded. It is for that reason and that reason alone that I support the proposals of the STEAC enquiry.

Once again, thank you for inviting me to the seminar. I very much enjoyed the occasion.

Yours sincerely

Graham Hills

Graham Hill

10 DOWNING STREET

From the Private Secretary

27 February, 1986.

Many thanks for your letter of 25 February. It was kind of you to write, and I know the Prime Minister will be pleased to see your letter.

I do not think we shall need to ask you for a short note about your contribution, though I shall certainly bear in mind your willingness to provide one if necessary.

(Mark Addison)

Sir Peter Masefield

SUBJECT
& Master

LO3AVB

10 DOWNING STREET

From the Private Secretary

26 February 1986

PRIME MINISTER'S MEETING WITH INDUSTRIALISTS AND EDUCATIONALISTS ON 24 FEBRUARY 1986

I enclose a record of the meeting, together with a copy of the Press Notice, which includes the final list of all those who attended the meeting.

I have not attempted to provide a record which sets out the contributions of each participant fully. But the note I hope captures the key points made at the meeting.

I am copying this letter, and enclosures, to John Lambert (Department of Employment), John Mogg (Department of Trade and Industry), Robert Gordon (Scottish Office), Colin Williams (Welsh Office), Tim Abraham (Mr. Pattie's Office, DTI), Ros Turp (Mr. Walden's Office, DES), Sir Robin Nicholson and John Wiggins (Cabinet Office).

MARK ADDISON

Rob Smith, Esq.,
Department of Education and Science.

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MEETING WITH INDUSTRIALISTS AND EDUCATIONALISTS ON 24 FEBRUARY 1986

A list of those who attended is attached.

The Prime Minister opened the meeting by welcoming all those present and congratulating them on the progress which had been made under the engineering and technology programme. Industry had provided £24 million as well as more uncosted help, to match the £43 million from Government. But it was not simply the money which was significant. The programme had demonstrated that industry and education could co-operate in new ways to improve provision. And the idea of competitive bidding had kept down costs per student place. The Prime Minister noted that Sir Keith and his colleagues had held meetings with industrialists since last May. She was aware of their concerns that the programme needed to be broadened beyond the information technology field. This meeting offered the opportunity to take stock of progress, and to consider the way forward.

Sir Robert Clayton (Chairman, Information Technology Skills Agency) noted that it was the effective collaboration between industry, education and Government which had ensured the successful launch of the ETP. It was particularly important that the views of industry had been sought on the courses which should be supported. The impact of the programme should be publicised as widely as possible, in particular to children, parents and teachers. ITSA and the Engineering Council were worried that the success of the ETP might be compromised by a shortage of suitable entrants to higher education, particularly a shortage of those with physics qualifications. There was a need for greater emphasis on the teaching of science and mathematics in schools. ITSA were putting forward proposals for tackling these questions to the DES. But there might also be a need to look to other sources of supply, including the training of mature students, introducing part-time and shared work to encourage women to

return to employment, developing in-career education and training for existing staff and so on. Sir Robert accepted that much of the responsibility for this work lay with industry. But Government had a role to play as well. The pick-up programme for instance had been helpful, but had not yet had a major impact in the high technology field.

Sir Francis Tombs (Chairman, Engineering Council) agreed that the ETP had drawn an enthusiastic response from industry, to complement the contribution industrialists were already making in the vocational training and educational field. The Engineering Council believed that the ETP had been mainly focused on the area of IT and that a broader approach was now needed. The shortages which remained in other engineering fields were still critical. Both short-term palliatives and longer-term solutions were required. The EC had put a paper to DES setting out their proposals. These included the broadening of entrance requirements to higher education, the need for "foundation" and "access" courses in maths and physics to ease the way for "conversion", and the encouragement of women scientists and technologists, who may have left their field, into teaching.

Sir Francis also noted the resources per engineering student had been falling, and were now unacceptably low. It was, therefore, no good simply increasing the number of places, unless the resources backing them up were increased also.

The EC hoped to publish a report on training later this year. They expected to look to the Manpower Services Commission to play an increased role in meeting needs.

Sir Terence Beckett (CBI) said that since the last meeting the CBI had been considering the appropriate balance of contribution from taxpayers and the business community to the funding of higher education. Companies had indeed shown themselves to be remarkably generous in the support they had given particular institutions. But industry had concluded

that first and second degree courses must remain primarily a Government responsibility. A review of the rules for tax relief on donations to charitable institutions, including educational institutions, was called for.

The contribution industry had made to ITSA showed how much it was prepared to do. But it was important to be aware of the enormous demands being placed on it at present, e.g., through the extension of YTS to two years, the TVEI, the CPVE and so on. There was a need to take stock of where all this work was leading.

Mr. Derek Roberts (GEC) agreed with much of what had already been said. One way forward was for industry to increase its sponsorship of under graduates; this could help demonstrate to young people at school that industry was willing to take positive action. Generally, industry could do more in schools to encourage maths and engineering teachers. The world of higher education needed to become more creative in thinking of ways to improve the efficiency of teaching. It was important as well to avoid rushing now for an increase in engineering and technology places, for instance at polytechnics, if there were not going to be sufficient bright youngsters wishing to take them up.

Sir Austin Pearce (British Aerospace) agreed that the ETP had been a success. Government money had encouraged industry to come forward with funding. The need now was to pay more attention to "post experience" trainees. The UGC, as well, needed to adopt a more forward looking basis for the costing of its courses.

Mr. Orr-Ewing (Rank Xerox) noted that a better atmosphere was needed in schools and that industry could do more to help achieve it. He agreed that a better system of up-dating the skills of existing employees needed to be set in hand. The arrangements for tax relief for charitable donations also discriminated against public sector higher education institutions; universities generally were charitable bodies,

whereas polytechnics were not.

Professor Sir Peter Swinnerton-Dyer summarised the problem as being one of providing enough school-leavers who wished to go into engineering and technology careers, and seeing that they took up these careers in the end. The educational system provided a number of natural points of 'wastage'. These were where attention should be focussed.

The first key decision point was at the ages of thirteen or fourteen when critical decisions about subjects were made. These were much influenced by the teacher. And it was regrettably the case that many maths and physics teachers did not naturally have the same force of personality as others. It ought nonetheless be possible to persuade schoolchildren that taking maths and physics subjects would pay off in the end; that was a task largely for employers.

The second key decision point was at about the age of eighteen. More than half of those with the appropriate qualifications to go into engineering and technology and higher education did not in fact do so. Here again, employers could help by generating the right kind of image about the career prospects of scientists.

Finally, after the course had been completed, it was increasingly the case that those with engineering qualifications only became engineers if they could not find an accountancy firm to take them on. This was largely a simple question of pay differentials.

On unit costs, Sir Peter explained that the UGC did not calculate their figures solely on historic costs. The Committee were trying to achieve parity between the unit of grant per engineering student and that per physics student; but this was being achieved through aiming to reduce the physics cost and keeping the engineering figure constant. So far as in-service training was concerned, industry and Government had been unable to agree who should pay for this.

There was little the universities could do until they did so.

Dr. Hills (Strathclyde University) set out some of the positive ways in which Strathclyde was developing links with local industry under the ETP. He noted that conversion courses could be highly successful; students could be transformed in a year. He believed that in England young people had to specialise in schools too early. At Strathclyde, students who straddled both arts and sciences to begin with, had often proved to be the most promising material for engineering and technology courses. He did not believe there was a shortage of young people in Scotland wishing to take technology subjects.

Mr. Ball (NABB) believed the fundamental problem in the public sector was that career prospects in industry were not perceived to be sufficiently attractive, as against fields like accountancy. In the long run, markets did not fail. If industry wanted to make the market work in their favour, the remedy lay in their hands. More work was needed in schools to encourage young people into the right courses. Subjects other than IT, such as production engineering, now needed more of a boost. The question was how this could be satisfactorily achieved when suitable candidates had been exhausted. Conversion courses offered one answer. But problems remained with the availability of teachers, and shortage of resources.

Professor Gowar (Open University) believed that the problem in schools was in fact still getting worse. The Open University had a key role to play. Ten thousand schoolteachers were studying maths, science and technology subjects with them. The OU could help retrain adults in the short term, and had a longer term contribution to make as well.

Professor Thompson (Polytechnic of Central London) noted the difficulties in getting the right teaching staff in engineering technology subjects. It was difficult to see how

the education service could obtain the staff it needed in these subjects, in competition with others, unless they were paid higher and differential salaries. There was also a need for more people from industry to go into the schools to get the message across. Professor Thompson hoped that other sharply focussed schemes, for instance in computer engineering, electronic and power engineering could be provided to follow up the ETP.

The Prime Minister noted that the Government fully accepted that higher salaries should be paid to good maths and physics teachers. But the difficulty was obtaining the unions' agreement to this. She hoped that all those present would help press the case for introducing differential salaries for teachers.

Mr. David Baldwin (Hewlett Packard) thought that more attention should be paid to encouraging children at primary school level to develop interests which would lead them towards science and technology subjects.

Sir John Harvey Jones (ICI) reported briefly on the work ICI was already doing in schools. He believed this was having a good return, and that ICI's recent intake of graduates was the best they had ever had. Sir Alex Jarrett (Smith's) agreed that much more could be done in schools to develop the appropriate approach to industry.

Mr. Duthie (SDA) believed that Scotland, where universities were often closely linked with industries in their area, was a step in front of the rest of the UK. He suggested the Government or the CBI might establish groups in cities in the rest of the country to bring together industry and universities following the Scottish model. There were many small and medium sized companies who were still unaware of the opportunities which a local University could offer.

Mr. Uttiger (IT) stressed the need for similar programmes outside the IT sector; there was, for instance, a serious shortage of production engineers.

Mr. Root (Ford) spoke from a labour relations point of view. Shortages in specific skill areas were nothing new. But it should be remembered that changing pay structures to make the market work was always an expensive option.

Sir George Jefferson (BT) reported on the efforts BT was making in a large number of schools, by providing short periods of work experience to teachers. He agreed that primary schools should not be overlooked.

Mr. Alan Jones (Ferranti) agreed that teachers had a key role in encouraging students to come forward and succeed in technology subjects. He noted that there could be a case for reducing the supply of arts graduates; there seemed little point in providing conversion courses for those who might have taken science and technology in the first place.

Mr. Gill (Lucas) reported that in the new technology area, sufficient spending on R & D had enabled Lucas to compete effectively with, for instance, Japan. But the key need was to improve the competitiveness of manufacture. This called for people with broader skills. Universities should be encouraged to devote more resources to courses such as manufacturing systems engineering, business systems engineering and design engineering.

Mr. Cleaver (IBM) agreed that the major focus of attention should now be on schools. Industry Year was an appropriate time to tackle that. Industry could help with work experience for teachers. Mr. Cleaver also agreed that the programme should be broadened beyond IT.

Mr. Hughes (Logica) was grateful to the Prime Minister for providing the opportunity for such a constructive discussion. He agreed that the Scottish system, of late

specialisation in schools, helped enormously in generating sufficient engineering and technology students and he urged that its extension to the rest of the country be looked at. Logica had developed its work with schools. He had been shocked by the deep despair in some parts of the school system, and believed that as well as selling industry to schools, there was a pressing need to raise morale in schools generally.

Sir William Barlow (BICC) believed that Industry Year provided a good opportunity to improve industry's image in schools and colleges. BICC was making a major effort to get their young recruits into the schools to explain the company's work. The message should be that it was possible to get to the top of a company as an engineer; you did not have to be an accountant.

Mr. Kroch (AB Electronics) noted his agreement with much that had already been said, and suggested that it might be possible for those recently retired from industry to take up part-time teaching jobs at colleges, and so pass on their experience to others.

Mr. Lomer (RACAL) thought that specialisation in schools at thirteen was too early. In any case, there was a need to ensure that children wherever possible studied maths beyond that age to avoid ruling out engineering and scientific careers later. He thought more research needed to be done into the reasons why children took particular decisions on the subjects they wished to study at around the age of thirteen. Finally, it was important to get across that some engineering jobs did pay very well. Neither should industry be quick to condemn engineers and scientists joining the City, if that helped the City better to understand industry and commerce.

Professor Gosling (Plessey) noted how much the Government and industry had achieved in changing the culture of the country, so that wealth creation had been made respectable. The next step was to make manufacturing respectable.

Mr. Swinstead (Systems Designers Ltd.) noted the importance of the software industry going jointly into innovative projects with local Universities and colleges. It could help the universities generate income, and be helpful for the firm too.

Sir Francis Tombs recalled the scheme launched by the EC on problem solving in primary schools. This had been particularly rewarding in that it had enlightened not only the children but also the teachers. Sir Keith Joseph also noted how well the new craft and design subjects were going in schools, despite current difficulties.

Sir Terence Beckett responded to the points raised about the levels of pay in industry. He noted the tremendous variation in rates, and the fact that some engineers were in fact overpaid by any standard. He believed that industry was going through a developmental phase, at the end of which pay would reach a sensible level, and supply problems would be eased. It was impossible for industry to compete with some of the salaries paid in the city, but he did not believe these levels would be maintained for long. The market would out in the end.

Sir Peter Masefield (Chairman, Industry Year) noted that everything that had been said underlined the importance of Industry Year's objectives. There was a critical need for good teachers, for students well equipped to study science and technology, and for parents and others to influence choices in the right direction.

Industry Year had a daunting task, to change the attitude of indifference on the part of the public at large to industry. Real progress, with the co-operation of many industrialists, was being made. Sir Peter was grateful for the support which all present had given to Industry Year. He set out the organisational structure which had been set up in the regions and districts. Much, however, remained to be done. Applications for University places in law, economics

and accountancy had risen recently. But applications for engineering were down. The basic reason was a widespread negative attitude to industry on the part of many parents and teachers. Industry Year's slogan was the key: "Industry matters". A lot had been achieved, but there was a long way to go. It was vital that the efforts must not end when 1986 came to a close.

The Prime Minister, summing up the points made in discussion, noted how appropriate it was that Industry Year had coincided with the development of the engineering and technology programme. The points which had been raised in discussion would be taken forward with the Engineering Council and with others, and consideration would be given to whether there was a need to extend the programme. Particular attention needed to be paid to the schools. The Prime Minister thanked all those who had contributed to the meeting, and who had written to Sir Keith with their reports beforehand. She noted that a press notice would be issued after the meeting to summarise all the points which had been agreed.

Mark Addison
24 February 1986

AUZ

RS

FROM:

SIR PETER G. MASEFIELD

M.A., C.ENG., HON.D.SC., HON.D.TECH.,
HON.F.R.AE.S., F.C.I.T., HON.F.A.I.A.A.,
HON.F.C.A.S.I., HON.F.I.R.T.E.

"ROSEHILL,"
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SURREY, RH2 0JT

TEL: REIGATE 42396
(STD CODE 07372)
(LONDON CODE 74)

PGM/MB - 135/86

25th February, 1986.

Mark Addison Esq.,
Private Secretary to the Prime Minister,
10 Downing Street,
London, S.W.1.

Dear Mr. Addison,

Just a brief note to thank you very much for your letter of 14th February with the list of those who came to the Engineering and Technology Programme Meeting on 24th February, to thank you very much for all your help and guidance about it and to say what a success I thought it was.

The Prime Minister conducted the meeting in, of course, a masterly way and there seemed to me no doubt that a great many points of substantial importance were made which, I hope, will be helpful to the future.

I was grateful for the opportunity of saying just a few words about the progress of Industry Year.

I don't know whether a short note about that, for the record, might be of use - if so, of course I shall be delighted to send it. But no doubt there is enough paper around already!

I enclose a short letter of appreciation to the Prime Minister which I shall be grateful if, at a suitable moment, you will be so kind as to lay before her.

With every good wish,

Yours sincerely,

P. G. Masefield

10 DOWNING STREET

Press Notice

PRIME MINISTER HOSTS ENGINEERING AND TECHNOLOGY MEETING

The Prime Minister today met 30 leading industrialists and academics at 10 Downing Street to review an initiative which was launched last year aimed at producing more engineers and technologists.

The meeting was also attended by several Ministers.

The Prime Minister, who held a similar meeting on 21 May last year, praised efforts made by employers, universities and polytechnics to make a success of the 1985 Engineering and Technology Programme which was announced by Sir Keith Joseph on Budget Day last year.

"I congratulate industry on the extensive help that it has already offered the universities and polytechnics selected for this Programme", she said. "Over 200 companies have contributed in various ways, for example, by donating equipment, lending staff for part-time teaching, helping with the design of courses, providing more training places with firms and sponsoring more students."

"The value of the assistance given has been estimated at £24 million - and not all of the help provided has been costed."

Telephone 01-930 4433

The meeting welcomed industry's increased assistance to the institutions in the Programme as well as to higher education more generally.

It was agreed that an excellent start had been made but more needed to be done if Britain's future requirements for engineers and technologists were to be fully met. In the light of changing circumstances, certain areas of engineering - including some not covered by the 1985 Programme - might call for priority attention.

Industry Year '86 was also discussed and its contribution to the reinforcing of links between education and industry was fully supported.

DETAILED POINTS OF AGREEMENT

The meeting endorsed the following points on future policy for education and training in engineering and technology.

- First degree courses ought to instruct students in the foundations of engineering and science and their application to broad areas of engineering practice.

  There should be an increased emphasis on problem-solving. Some courses could reasonably have a specialist element but, in a fast changing and highly competitive world, more broadly based courses were needed. The Engineering Council was actively purusing the reform of degree courses with these aims in view.

- It was recognisd that competent science, technology and mathematics teachers in schools were likely to remain in short supply. The school teachers' pay system needed to provide for more flexible use of differentials so as to attract and retain more

competent teachers of these subjects and the Government's proposals for increasing the pay of teachers were designed to have this effect.

Industry and higher education could help to ease the immediate and serious shortage by making staff available to contribute to teaching programmes in school, to help with the in-service training of school teachers and to stimulate interest in school teaching as a career.

- More students had to be persuaded to enroll for engineering and technology degree courses. Institutions of higher education needed to sell these courses to students and also their post experience courses to industry. There was scope for a more vigorous marketing approach by many higher education institutions. Some were doing well but others could do better.

- A first degree alone was not a sufficient qualification for a full career in engineering of science. More employers should take responsibility for the induction of new graduates and the provision of specialised knowledge, for example through post-experience courses at higher education institutions.

  Employers and education institutions needed to develop updating courses supported, as necessary, by pump-priming funds. The DES's Pickup programme was already achieving success in stimulating such development.

- One problem was how to improve the quality and quantity of careers advice to school children at all ages from 12 upwards. Employers should extend their initiative in offering help to schools and should also provide

secondment and training for school teachers.

The many Industry Year initiatives now in train to tackle these problems must be developed and sustained in future years. Engineers had a professional responsibility to visit schools and to convince children that engineering and industry could provide a stimulating and worthwhile career.

- The sponsorship of students by industry was an important means of attracting talent into engineering. More employerss needed to make it clear to school children and to undergraduates that they offered worthwhile careers to engineers, with routes into management for those with the right qualities.

- Government policies were already designed to remove the obstacles that had in the past prevented an adequate supply of the right quality of engineers and technologists. The £43 million allocated over a 3 years period to the engineering and technology initiative was one example.

  The new General Certificate of Secondary Education would also be of crucial importance by encouraging a more practical curriculum with greater emphasis on problem-solving. Ministers agreed to consider what more could be done.

- The Government departments concerned would now discuss with the Engineering Council and the Information Technology Skills Agency how to increase the supply of school leavers with science, technology and maths qualifications and would discuss with the Engineering Council whether there were branches of engineering other than IT which needed special attention.

NOTES TO EDITORS

1. A full list of those who attended the meeting is attached. The previous meeting at Number 10 was held on 21 May 1985 and a Press Notice was issued.

2. The Engineering and Technology Programme (DES Press Notice 62/85, 19 march 1985) provides £43m of public funds over the three years 1985-88 to pay for more students in higher education to study engineering and technology - mainly on courses with a strong IT focus. Further public funding will be made available to continue the Programme into 1988-89 and behond. By 1990 the Programme will have created an extra 5,000 engineering and technology places in a total of thirty-four university institutions and eight polytechnics.

3. The programme is being launched in two phases. The twenty universities in Phase 1 (DES Press Notice 83/85, 3 April 1985) received their first students under the Programme last autumn. The provisional list of universities and polytechnics in Phase 2 was announced on October 7, 1985 (DES Press Notice 249/85). At that time, the Government stated that these institutions were being asked to supply information on new and existing industrial support as a condition of receiving grant under the Programme. All the Phase 2 institutions have subsequently supplied satisfactory evidence on industrial support and their grants have been confirmed. They will receive their first students under the Programme this autumn.

4. Sir Keith Joseph, Secretary of State for Education and Science, told the Commons today, in a Written Answer, that the Government was heartened by the impressive response from industry to the Engineering and Technology Programme.

ENGINEERING AND TECHNOLOGY PROGRAMME MEETING: 24 FEBRUARY

LIST OF PARTICIPANTS

Sir Francis Tombs	Rolls Royce
Mr. J. D. Alun-Jones	Ferranti plc
Mr. Henry Kroch	A. B. Electronics
Mr. Paul Roots	Ford Motor Co. Ltd.
Mr. A. B. Cleaver	IBM Holdings (UK)
Mr. Robin Duthie	Scottish Development Agency
Sir Robert Clayton	Information Technology Skills Agency
Mr. G. J. Lomer	Racal Electronics plc
Sir George Jefferson	British Telecom plc
Professor William Gosling	Plessey Company plc (also rep. for National Electronic Council)
Sir Terence Beckett	CBI
Mr. A. K. Gill	Lucas Industries plc
Mr. Derek Roberts	General Electric Company plc
Sir Alex Jarratt	Smiths Industries plc
Mr. Philip Swinstead	Systems Designers Ltd.
Sir Peter Masefield	Chairman, Industry Year 1986
Mr. David Baldwin	Hewlett-Packard Ltd.
Mr. H. Orr-Ewing	Rank Xerox Ltd.
Mr. A. Poot	Philips Electronics and Assoc. Industries Ltd.
Mr. R. E. Utiger	TI Group plc
Sir Austin Pearce	British Aerospace plc
Sir William Barlow	BICC plc
Lord Boardman	National Westminster Bank plc
Mr. P. A. B. Hughes	Logica Holdings plc
Mr. C. Ball	Board of National Advisory Body for Public Sector Higher Educ.

Professor Sir Peter Swinnerton-Dyer	University Grants Committee
Sir John Harvey-Jones	ICI plc
Professor P. Thompson	Deputy Rector, Polytechnic of Central London
Dr. Graham Hills	Principal, Strathclyde University
Professor Norman Gowar	Deputy Vice Chancellor, Open University

The Rt. Hon. Sir Keith Joseph, M.P.	Secretary of State for Education and Science
The Rt. Hon. Nicholas Edwards, M.P.	Secretary of State for Wales
The Rt. Hon. Lord Young of Graffham	Secretary of State for Employment
The Rt. Hon. Malcolm Rifkind, Q.C., M.P.	Secretary of State for Scotland
The Rt. Hon. Paul Channon, M.P.	Secretary of State for Trade and Industry
Mr. George Walden, M.P.	PUSS, Department of Education and Science
Mr. Geoffrey Pattie, M.P.	Minister of State, Department of Trade and Industry

PRIME MINISTER

MEETING WITH INDUSTRIALISTS AND EDUCATIONALISTS:
MONDAY 24 FEBRUARY
ENGINEERING AND TECHNOLOGY PROGRAMME

This is a follow-up meeting to the one you chaired with industrialists last May. It gives you an opportunity to discuss:

(i) the progress which industry and education has made under the engineering and technology programme, and the way forward from here;

(ii) industry year.

Participants were asked to let Sir Keith have their views before the meeting, and many have done so. Sir Keith has also held a number of meetings with the industrialists since last May.

Generally, the ETP appears to be a success story. Industry has come up with £24 million to match the £43 million from Government. DES are keen to make as much of this good news as they can, and Sir Keith's written answer and the draft press notice have been drawn up with that in mind.

DES, as usual, have provided voluminous briefing:

Flag A — the list of those attending, and the seating plan (the latter to follow on Monday)

Flag B — the draft press notice for circulation and agreement at the meeting

Flag C — the main briefing (covering the purpose of the meeting and the issues likely to arise)

Flag D — your handling brief (including a short speaking

note for your opening remarks)

Flag E background material (annexes 2 to 7)

Flag F summary of the points made by industrialists in response to my letter of invitation (which asked for advance comments)

Flag G a Policy Unit note from Christopher Monckton (which is sceptical about the existence of skill shortages, but which is not I think convincingly argued).

You do not need to look at all this material. Flags A, B, C, and D are the key items. Sir Robin Nicholson's note is also very helpful.

Arrangements for the Meeting

As you know, we have added one or two educationalists and there have been one or two other changes since last time. But many of the same faces will be present. The meeting is taking place in the Pillared Room. You will have Ministers on either side of you at the table. The others attending will be arranged in two crescent rows. The key spokesmen in the group will be towards the middle of the front row. They are:

Sir Robert Clayton (Information Technology Skills Agency)
Sir Francis Tombs (Chairman, Engineering Council)
Sir Peter Masefield (Chairman, Industry Year)
Sir Terence Beckett (CBI)
Professor Sir Peter Swinnerton-Dyer (UGC)
Mr. Christopher Ball (Chairman, NAB)

Some of the participants (underlined in Flag A) are also coming to Tuesday's 'Better Made in Britain' seminar. Sir Robin Nicholson will unfortunately not be able to come to the meeting.

I think the pre meeting will need to take place in the Cabinet Room. You will then move up to the Pillared Room at 1530, by when all those attending will be in their place. You will have a seating plan to identify who's who.

Most participants will be expecting the meeting to last 1½ hours.

Briefing Meeting

You have an half-hour briefing with Ministers (Sir Keith Joseph, Mr. Channon, Lord Young, Mr. Rifkind, Mr. Pattie, Mr. Edwards, Mr. Walden) before the meeting. You will wish:

(i) To get a feel of how DES and DTI think the programme has gone.

(ii) Go through the Press Notice (Flag B) to ensure you are content with it (NB the references to changing the focus of Government initiatives away from IT, a point Sir Francis will stress; and the reference to the GCSE).

(iii) Agree the order of play and the handling of the press notice (ie, distribute before the end of the meeting).

(iv) Consider what to say about the follow-up. You could either agree to hold a further meeting to take stock of progress in say a year's time. Alternatively, you could ask Sir Keith to keep you closely informed of progress, and avoid committing yourself to another meeting.

Mark Addison

(MARK ADDISON)
21 February 1986

SRWAPL

SCBU

WO932

MR ADDISON 21 February 1986

ENGINEERING AND TECHNOLOGY PROGRAMME: MEETING WITH INDUSTRILISTS AND EDUCATIONALISTS ON 24 FEBRUARY.

As I explained to you this morning, I am afraid that I cannot be at the meeting with industrialists on Monday because I have to attend a Board of Governors meeting of the Joint Research Centre of the European Communities. I am not allowed to send an alternate to that Board and, since I am conducting a one-man campaign against the £150m per annum expenditure at this research centre, I feel that I have to be there rather than at the Prime Minister's meeting which I am sure will be a much more interesting and enjoyable occasion.

2. I have had a look at the DES briefing (without the Draft Press Release) and I just wish to make three points:

i. I believe the programme **has** been remarkably successful in meeting a real need with very good value for money, the reason for this is that industry has put its money where its mouth is and the idea of competitive bidding amongst universities has produced much lower cost per student place than had been anticipated. There are lessons in both these points.

ii. The criticism that the programme has been too IT oriented (which I am sure will be pressed strongly at the meeting particularly by Sir Francis Tombs) is real and justified. Nevertheless the programme would probably not got off the ground without the momentum provided by IT and by Sir Robert Clayton and the IT Skills Agency in particular. Nevertheless if

there are future programmes, I strongly recommend that the emphasis be switched to other areas and that this would be best done by bringing in Sir Francis Tombs and the Engineering Council who can take a much broader view of the needs than ITSA.

iii. I do not disagree with the comments in the briefing about the relative financial responsibilities of Government and industry in first and second degree courses on the one hand and short courses and research projects on the other. However, since it is unlikely that differential salaries for science and engineering academics from public sources can be agreed in the foreseeable future, I think that industry will have an increasingly important role in topping up academic salaries of scientists and engineers to keep some of the best in the university system. If, as a quid pro quo, industry presses again for an examination of tax relief for gifts to higher education, my feeling is that that could be a good bargain for Government. I am not convinced that the tax situation has yet been looked at very imaginatively and there is no question that it is inferior to that enjoyed by American companies supporting American universities. *

RBN.

SIR ROBIN NICHOLSON
Chief Scientific Adviser

Prime Minister

* There has in fact been quite a tussle recently between Treasury & DES on this point, as you may recall. Treasury won. MEA 22/2

DEPARTMENT OF EDUCATION AND SCIENCE

ELIZABETH HOUSE YORK ROAD LONDON SE1 7PH
TELEPHONE 01-934 9000

FROM THE SECRETARY OF STATE

Mark Addison, Esq.,
Private Secretary,
10 Downing Street,
London. SW1

20th February 1986

Dear Mark

ENGINEERING AND TECHNOLOGY PROGRAMME: MEETING WITH INDUSTRIALISTS AND EDUCATIONALISTS ON FEBRUARY 24th

I attach briefing for the Prime Minister for this meeting. It is complete save for two sections which will be sent tomorrow. These are:-

1. The draft Press Notice, which is to form Annex 1 of the main brief. This is being revised to take on board some of the amendments suggested at yesterday's preparatory meeting of the industrialists, who were not able to accept it quite as originally drafted. We believe that this revision will increase the probability that the Government will be able to issue a Press Notice which has the support of the industrialists.

2. A set of the letters from industrialists, answering points raised in your letter of January 14th, together with a summary of the significant points made in their letters. Unfortunately most of these have arrived rather late in the day and it has therefore not been possible to incorporate more than a few of the industrialists' points in the attached briefing.

I am sending copies of this letter and the enclosure to the Private Secretaries of State for Employment, Trade and Industry, Scotland and Wales and Mr. Butcher at the DTI. Copies also go to John Wiggins (Cabinet Office) and Sir Robin Nicholson.

Yours sincerely
Alison Kennedy

R.L. SMITH
Private Secretary
PP

ENGINEERING AND TECHNOLOGY PROGRAMME MEETING: 24 FEBRUARY

LIST OF PARTICIPANTS

Sir Francis Tombs	Rolls Royce
Mr. J. D. Alun-Jones	Ferranti plc
Mr. Henry Kroch	A. B. Electronics
Mr. Paul Roots	Ford Motor Co. Ltd.
Mr. A. B. Cleaver	IBM Holdings (UK)
Mr. Robin Duthie	Scottish Development Agency
Sir Robert Clayton	Information Technology Skills Agency
Mr. G. J. Lomer	Racal Electronics plc
Sir George Jefferson	British Telecom plc
Professor William Gosling	Plessey Company plc (also rep. for National Electronic Council)
Sir Terence Beckett	CBI
Mr. A. K. Gill	Lucas Industries plc
Mr. Derek Roberts	General Electric Company plc
Sir Alex Jarratt	Smiths Industries plc
Mr. Philip Swinstead	Systems Designers Ltd.
Sir Peter Masefield	Chairman, Industry Year 1986
Mr. David Baldwin	Hewlett-Packard Ltd.
Mr. H. Orr-Ewing	Rank Xerox Ltd.
Mr. A. Poot	Philips Electronics and Assoc. Industries Ltd.
Mr. R. E. Utiger	TI Group plc
Sir Austin Pearce	British Aerospace plc
Sir William Barlow	BICC plc
Lord Boardman	National Westminster Bank plc
Mr. P. A. B. Hughes	Logica Holdings plc
Mr. C. Ball	Board of National Advisory Body for Public Sector Higher Educ.

Professor Sir Peter Swinnerton-Dyer	University Grants Committee
Sir John Harvey-Jones	ICI plc
Professor P. Thompson	Deputy Rector, Polytechnic of Central London
Dr. Graham Hills	Principal, Strathclyde University
Professor Norman Gowar	Deputy Vice Chancellor, Open University

The Rt. Hon. Sir Keith Joseph, M.P.	Secretary of State for Education and Science
The Rt. Hon. Nicholas Edwards, M.P.	Secretary of State for Wales
The Rt. Hon. Lord Young of Graffham	Secretary of State for Employment
The Rt. Hon. Malcolm Rifkind, Q.C., M.P.	Secretary of State for Scotland
The Rt. Hon. Paul Channon, M.P.	Secretary of State for Trade and Industry
Mr. George Walden, M.P.	PUSS, Department of Education and Science
Mr. Geoffrey Pattie, M.P.	Minister of State, Department of Trade and Industry
~~Sir Robin Nicholson~~	~~Cabinet Office~~

B

ANNEX 1

DRAFT PRESS NOTICE

PRIME MINISTER HOSTS ENGINEERING AND TECHNOLOGY MEETING

The Prime Minister today met 34 leading industrialists and academics at 10 Downing Street to review an initiative which was launched last year aimed at producing more engineers and technologists.

The meeting was also attended by (insert list of Ministers).

The Prime Minister, who held a similar meeting on 21 May last year, praised efforts made by employers, universities and polytechnics to make a success of the 1985 Engineering and Technology Programme which was announced by Sir Keith Joseph on Budget Day last year.

(1) "I congratulate industry on the extensive help that it has already offered the universities and polytechnics selected for this Programme", she said. "Over 200 companies have contributed in various ways, for example, by donating equipment, lending staff for part-time teaching, helping with the design of courses, providing more training places with firms and sponsoring more students."

"The value of the assistance given has been estimated at £24 million - and not all of the help provided has been costed."

The meeting welcomed industry's increased assistance to the institutions in the Programme as well as to higher education more generally.

It was agreed that an excellent start had been made but more needed to be done if Britain's future requirements for engineers and technologists were to be fully met. In the light of changing circumstances, certain areas of engineering - including some not covered by the 1985 Programme - might call for priority attention.

Industry Year '86 was also discussed and its contribution to the reinforcing of links between education and industry was fully supported.

DETAILED POINTS OF AGREEMENT

The meeting endorsed the following points on future policy for education and training in engineering and technology.

- First degree courses ought to instruct students in the foundations of engineering and science and their application to broad areas of engineering practice.

  There should be an increased emphasis on problem-solving. Some courses could reasonably have a specialist element(1) but, in a fast changing and highly competitive world, more broadly based courses were needed. The Engineering Council was actively pursuing the reform of degree courses with these aims in view.

- It was recognised that competent science, technology and mathematics teachers in schools were likely to remain in short supply. The school teachers' pay system needed to provide for more flexible use of differentials so as to attract and retain more competent teachers of these subjects and the Government's proposals for increasing the pay of teachers were designed to have this effect.

  Industry and higher education could help to ease the immediate and serious shortage by making staff available to contribute to teaching programmes in school, to help with the in-service training of school teachers and to stimulate interest in school teaching as a career.

- More(2) students had to be persuaded to enroll for engineering and technology degree courses. Institutions of higher education needed to sell these courses to students and

(1) *the immediately succeeding phrase in earlier draft - "such as information technology" - now omitted.*

(2) *the two immediately succeeding words in earlier draft - "highly qualified" - now omitted.*

also their post experience courses to industry. There was scope for a more vigorous marketing approach by many higher education institutions. Some were doing well but others could do better.

- A first degree alone was not a sufficient qualification for a full career in engineering or science. More employers should take responsibility for the induction of new graduates and the provision of specialised knowledge, for example through post-experience courses at higher education institutions.

Employers and education institutions needed to develop updating courses supported, as necessary, by pump-priming funds. The DES's Pickup programme was already achieving success in stimulating such development.+

- One problem was how to improve the quality and quantity of careers advice to school children at all ages from 12 upwards. Employers should extend their initiative in offering help to schools and should also provide secondment and training for school teachers.

The many Industry Year initiatives now in train to tackle these problems must be developed and sustained in future years. Engineers had a professional responsibility to visit schools and to convince children that engineering and industry could provide a stimulating and worthwhile career.

- The sponsorship of students by industry was an important means of attracting talent into engineering. More employers needed to make it clear to school children and to undergraduates that they offered worthwhile careers to engineers, with routes into management for those with the right qualities.

+ *Final sentence of this paragraph in earlier draft: "Employers should encourage their engineers to take them." is now omitted.*

Note a word about training in enterprise [see CPS. Column] not extended schools

- Government policies were already designed to remove the obstacles that had in the past prevented an adequate supply of the right quality of engineers and technologists. The £43 million allocated over a 3 year period to the engineering and technology initiative was one example.

The new General Certificate of Secondary Education would also be of crucial importance by encouraging a more practical curriculum with greater emphasis on problem-solving. Ministers agreed to consider what more could be done.

- The Government departments concerned would now discuss with the Engineering Council and the Information Technology Skills Agency how to increase the supply of school leavers with science, technology and maths qualifications and would discuss with the Engineering Council whether there were branches of engineering other than IT which needed special attention.

BRIEF FOR PRIME MINISTER'S MEETING WITH INDUSTRIALISTS AND EDUCATIONALISTS - MONDAY 24th FEBRUARY 1986

PURPOSE OF MEETING

The purpose of the meeting is:

i. To congratulate all involved in the co-operation between industry and higher education demonstrated since the Prime Minister's meeting with industrialists on May 21st 1985, and most particularly in the form of the generous industrial assistance to the universities and polytechnics selected for inclusion in the Engineering and Technology Programme (E&TP). This generosity of donation is recorded in the draft Press Notice (at Annex 1) and the written Parliamentary Answer which Sir Keith Joseph is to give on the day of the meeting.

ii. To encourage the further development of links between industry and the education system, in the interests of the economy. The agreement of the meeting to the content of the draft Press Notice would signal the importance which government, education and industry attach to this endeavour; record the subjects on which substantial agreement has already been reached; and set out areas for futher action.

iii. Within this co-operative framework, to seek agreement to the need to develop and sustain Industry Year initiatives in future years.

BACKGROUND

2. The Engineering and Technology Programme was launched by Sir Keith Joseph on Budget Day 1985. £43m was found to pay for the first three years of the Programme, £31m by transfer

from Departmental programmes (including those of DTI and Department of Employment) and £12m by redeployment of part of the UGC's budget. Last November Sir Keith Joseph announced that the costs of continuing the Programme into 1988-89 and beyond would be met from within the DES's programme. By the end of the decade, the Programme will have created some 5,000 extra places in universities and polytechnics, largely on courses focused on the new technologies. (The Programme is described in more detail at Annex 2).

3. The Government agreed to find the money for this Programme principally as a result of the advice of industry that, without such action, critical shortages of vital skilled manpower would arise. The E&TP followed other Government initiatives to increase the supply of manpower skilled in the new technologies. (Details of these other programmes are at Annex 3). In agreeing to this further significant injection of public money, the Government made it plain that they expected industry to play its part by providing assistance to institutions selected for inclusion in the Programme. To underline the importance it attached to this aspect of the Programme, the Government decided that universities and polytechnics selected for inclusion in the second, and larger, phase of the Programme should be required to provide evidence of specific industrial assistance related to their provisional inclusion in the Programme, before Government funding could be confirmed.

4. The Prime Minister convened a meeting of 26 leading British industrialists on May 21st, 1985 to emphasise the crucial importance of industrial involvement in the Programme. They committed their firms to give substantial help to all the universities and polytechnics included in the Engineering and Technology Programme. It was agreed at that meeting, that a second meeting should be held early this year, when progress in securing industrial support for institutions in the Engineering and Technology Programme would be reported.

INDUSTRIAL ASSISTANCE TO PROGRAMME INSTITUTIONS

5. The eighteen university institutions and eight polytechnics selected last October for inclusion in Phase 2 duly supplied evidence of Programme-related industrial assistance by the end of last year and all have now had their Programme funding confirmed (although in the case of three universities confirmation was only forthcoming after they had supplied supplementary evidence). In addition, most of the universities in Phase 1 have supplied detailed evidence of new industrial assistance.

6. On the basis of the evidence supplied by the universities and polytechnics in the Programme, the Government estimates that some £24m of costed assistance directly related to the Programme has been given by industry: and there is a great deal more besides, whose costs to the donating firms have not been calculated, but which in aggregate are likely to be considerable. ITSA and the Engineering Council agree with the Government's assessment of the scale of assistance given. Assistance takes a number of forms: donations of equipment, loan of staff for part-time lecturing; "top-ups" for academic salaries; additional student sponsorships; and provision of more training places (e.g. sandwich places), help with the design of courses (further details are at Annex 4).

ISSUES LIKELY TO ARISE

Background: DES Meetings

7. As a result of criticisms of certain aspects of the higher education system by some of the industrialists at the May 21st meeting, Sir Keith Joseph and Mr. George Walden held meetings last month with eight of the industrialists* who will also be at the Prime Minister's meeting, together with representatives of the UGC and the National Advisory Body for Public Sector Higher Education (including the respective Chairmen, Sir Peter Swinnerton-Dyer and Mr. Christopher Ball, who will be at the Prime Minister's meeting). Consensus was reached on a number

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* *Sir Robert Clayton, Sir Francis Tombs, Sir Terence Beckett, Mr. R.E. Utiger, Professor W. Gosling, Mr. H. Orr-Ewing, Mr. R. Duthie, Mr. A. Poot.*

of issues: these are set out in the draft Press Notice. A wider group of the industrialists attending the Prime Minister's meeting has been made aware of the intention to issue a Press Notice, and the draft takes account of most of their suggested amendments to the earlier one. Some of the issues discussed at the DES meetings should therefore require little discussion on this occasion. However other issues discussed at these meetings, e.g.: mathematics and science teaching in the schools; in-career education and training for engineers and technologists, on which a measure of agreement has been reached, are ones which we understand the industrialists will wish to explore further at this meeting, and ask Ministers to agree to further discussions between Government, industry and education.

HIGHER EDUCATION: THE ENGINEERING AND TECHNOLOGY PROGRAMME AS A PARADIGM FOR FURTHER INITIATIVES

8. The Engineering and Technology Programme is focused on those aspects of engineering with a major IT element. However, the Engineering Council, among others, argues that other areas of engineering are likely soon to be suffering from manpower shortages and that action on the lines of the E&TP is required. Sir Francis Tombs of the Engineering Council is likely to quote the result of a questionnaire survey of their 120 affiliate companies: 47 companies said there should be further programmes along the lines of the E&TP, in specified areas of engineering. The Engineering Council believe that these areas would require much more modest funding than was required for the E&TP. Two other industrialists attending the meeting - Mr. Roberts (GEC) and Mr. Utiger (TI) - have suggested the need for further special programmes in, respectively, areas of engineering and science, and production engineering. Prospects for Government funding of such initiatives must at this stage be uncertain. The Government would in any case wish carefully to study the evidence concerning potential manpower shortages in these new areas: even if the evidence was convincing, it might be feasible for the necessary action to be taken within existing resources,

through the redesign of courses, for example. The DES meetings with higher educationalists and industrialists (described above) have helped lay the foundations for future collaboration between the two parties in tackling such matters.

THE SCHOOLS: CURRICULUM AND TEACHER SUPPLY

9. The success both of the E&TP and any further action to meet skills shortages ultimately depends on an adequate supply of suitably qualified candidates for the relevant university and polytechnic courses. And this supply critically depends on the output of school pupils with good mathematics and science (particularly physics) A-levels (or equivalent). A particular effort has to be made in regard to schoolgirls: despite the significant rise over the past decade in the proportion of women engineers (they now constitute about 10% of the profession), the number of girls taking mathematics and science A-levels remains particularly low (e.g. in 1984 the number of girls in England taking physics A-level was equivalent to a quarter of the number of boys taking A-level in that subject).

10. A note on Government action to reform the curriculum in order to widen the basis of mathematics and science in the schools is at Annex 5. To have the desired effect, the reformed curriculum should be operated in a school context which is positively orientated towards industry, and engineering and technological careers within industry: hence the importance of school-industry links. Industry Year represents an important opportunity (see paragraph 20 below). And the curriculum requires an adequate supply of competent teachers in the relevant subjects: increasing concern is being expressed on this score by industrialists and higher educationalists.

11. Pay, morale, working conditions and the demands of curricular change are all factors influencing the shortfall in recruitment to training in mathematics and science, and the problems which schools are apparently experiencing in retaining the better qualified teachers. Pay is clearly a key issue, given the strong

competition amongst employers for good graduates in these subjects, and the Government is working for a more flexible system of teachers' pay, in order to attract and retain competent teachers on these subjects.

12. Industry could help in a number of ways:

(i) encouraging a public perception of teaching as a career of importance to the country's future prosperity and counselling their own redundant employees with suitable qualifications and experience to consider taking a teacher training course for mature students in a shortage subject.

(ii) assisting with the costs of up-to-date equipment for school science laboratories.

(iii) making their own staff time available to contribute to in-service training for teachers and to co-operative activities likely to stimulate interest in schools.

In addition it may be that industry could also find ways of supplementing the income of the most effective teachers by paying them for consultancy services.

13. There is action too for the partners in the education service:

(i) LEAs need to deploy their specialist teaching resources to best effect and to reach out to possible sources of additional supply, such as married women returners who may require updating courses or part-time teaching arrangements.

(ii) higher education institutions may be able to mount more specially-designed initial teacher training courses for mature entrants, or more "conversion" courses for people with a non-scientific background who want to change direction.

(iii) Government Departments need to consider where they can best give a lead, (e.g. through publicity campaigns, or through incentive schemes such as the bursaries now being offered to the trainee teachers most needed by the schools) and must be prepared to look at the scope for reducing specialist teacher demand which may be offered by new developments such as interactive video.

14. If the industrial relations climate permitted, the various agencies could work together on the full range of possible initiatives, but the dispute of recent months has tended to prevent co-operation in this field, except on an informal basis. A pay settlement and a revised pay structure are probably essential to real progress.

OTHER PATHS TO HE PLACES IN ENGINEERING AND TECHNOLOGY

15. Schools are not the only source of supply of degree-level students in engineering and technology. In some subjects, notably in the field of computer science, postgraduate "conversion" courses have been devised for those with first degrees in subjects other than mathematics and science: the products of these courses have provided a useful and significant boost to manpower supply in this area. At the "harder" end of engineering, another source of supply which could probably be further tapped to fill more higher education places in engineering and technology subjects is that of students (many of them part-time) undertaking BTEC courses in polytechnics or FE colleges. Already, a significant proportion of first degree engineering places in some polytechnics are filled by those with a BTEC qualification. Increasing this proportion depends to some extent on devising more effective means of encouraging promising BTEC students - particularly those in FE colleges who would have to change institutions - that the pursuit of degree level studies is a realistic option. (And in the case of part-time students, they would also have to leave their jobs and re-enter full-time education.)

IN-CAREER EDUCATION AND TRAINING FOR ENGINEERS AND TECHNOLOGISTS

16. Government, industrialists and educationalists agree that in an age of rapidly changing technology, engineers and technologists should have access to education and training throughout their working lives: a career cannot be built on the basis only of knowledge acquired in a first degree course. Primary responsibility for ensuring, and funding, appropriate in-career education and training for their employees rests with the employers. (The evidence suggests that, in this area, UK employers lag behind those in competitor economies.) And the professional institutions should make continued professional status dependent upon evidence of regular and appropriate updating.

17. To stimulate and augment the efforts of employers, however, the Government has launched a number of pump-priming schemes - notably PICKUP and the MSC/DES Local Collaborative Projects. (Details are at Annex 6).

18. Institutions of higher and further education have a potentially a major role to play in employee in-service education and training. In the higher education sector, the UGC and NAB have established a committee, chaired by Lord Perry, to examine this area of provision and make recommendations as to possible improvements. A key point is that institutions must effectively market their provision of short courses etc. to industry. Details of Government work to assist institutions in this marketing task are at Annex 7.

OTHER ISSUES

19. Among the other issues which may be raised are:

i. the need to ensure that technician education is not overlooked in the drive to produce more technologists.

The Committee on IT Skills Shortages chaired by John Butcher M.P. - which included several leading industrialists - reported in 1984 that the more immediate priority was to deal with shortages at the technologist level - hence the Engineering and Technology Programme. However, through other Programmes, for example Information Technology in Higher Education, and Information Technology in NAFE, (see Annex 3) the Government is taking action to increase resources, and places, for technician education.

ii. tax incentives for industry to invest in the education and training system.

Industrialists continue to press for further concessions in this area. In its White Paper response (published last November) to the House of Lords Select Committee report on Education and Training for the New Technologies, the Government said it saw no case for extending existing tax reliefs on business donations to higher education and research. There has been recent publicity that further changes in relevant tax arrangements might be in the air.

INDUSTRY YEAR 1986

20. At the meeting on May 21st, 1985, it was agreed that this should feature on the agenda for this second meeting. The objective of IY 86 is to raise the esteem in which industry is held, and the IY organisation has working groups on, inter alia, publicity, design, churches, women and education. The IY educational programme places special emphasis on school-industry links. Schools are being encouraged to review their objectives in relation to industry and to draw up a list of shared objectives with local industry. From this may stem "industry weeks", teacher secondments to industry, visits by industrialists to the schools. (Prolongation of the teachers' dispute may well curtail such activities.)

CAREERS ADVICE

21. Careers advice and guidance have an important role to play in encouraging more young people to aspire to careers in engineering and technology. At present, there is too wide a variation in the quality of provision between and within LEAs. Industry Year should encourage more employers to help schools in this area, as part of the burgeoning school-industry links.

HANDLING BRIEF

OPENING STATEMENT

To open the meeting the Prime Minister could make the following points:

i. Industry has responded most generously to the request to provide concrete support to the universities and polytechnics included in the Engineering and Technology Programme.

ii. Because of this industrial support, the Government has been able to confirm funding for all the institutions provisionally selected for inclusion in Phase 2.

iii. The Government is publicising this generosity of donation, both through a Parliamentary Answer to be given on the afternoon of the meeting by Sir Keith Joseph, as well as through a Press Notice which will be circulated in draft form later in the meeting.

iv. This co-operation between higher education and industry in the matter of the Engineering and Technology Programme, is an indication of the wish of both parties to develop closer links. The good work of this Programme must be built on.

v. Sir Keith Joseph and Mr. Walden have recently held meetings with some of those present. These made useful progress on certain key issues. The agreements reached on those occasions should form the basis for further progress.

DISCUSSION

2. After these opening remarks, the Prime Minister might then turn to Sir Robert Clayton (Chairman, Information Technology Skills Agency±), Sir Francis Tombs (Chairman, Engineering Council), and Sir Terence Beckett (Director-General, CBI) in that order to make their opening statements.

3. The Prime Minister could then throw the discussion open, perhaps first inviting the other industrialists either to augment some of the points made by the first three speakers or else put their own points. She might call on the academics present to respond to points made by the industrialists when it seemed best to do so.

4. We understand that Sir Robert Clayton will make the following points:-

i. The effective collaboration of industry, education and government had ensured the successful launch of the Engineering and Technology Programme.

Later in the meeting, the Prime Minister might invite one or more of the academics from institutions in the Programme (Dr. Hills, Professors Gower and Thompson) to describe briefly their experience of this exercise. Mr. Robin Duthie might also wish to comment. The Scottish Development Agency performed north of the border the function of facilitating the necessary contacts between the academic institutions and industry, which was in England and Wales the responsibility of ITSA.

ii. The Programme could provide a paradigm for initiatives - albeit on a smaller scale - in other areas of engineering, where were less focused on IT, so long as in each case effective demand for relevant manpower was demonstrated.

± ***Note:*** *Sir Robert Clayton and Sir Francis Tombs have canvassed the view of most of the industrialists present on some of the key issues in advance of this meeting.*

This point is likely to be amplified by Sir Francis Tombs - see 4i, below. (And Mr. Roberts (GEC) and Mr. Utiger (TI) may wish to return to this question in later discussion.) The issue is covered in paragraph 8 of the main brief. The prospects for funding to support initiatives on the model of E&TP could be by no means certain. If modest adjustments in higher education provision were all that was required, these could perhaps be provided for within existing resources, through, for example, the redesign of courses. Government departments could consider further with the Engineering Council whether there were any branches of engineering, other than in the IT area, which need special attention. (See paragraph 5.7 of the draft Press Notice.)

iii. The need for greater emphasis on the teaching of science and mathematics in schools so as to ensure a sufficient supply of students equipped to take engineering-related higher education courses.

The school curriculum and the associated question of the supply of mathematics and science teachers are discussed in paragraphs 9 - 14 of the main brief. The ITSA attach a high priority to this issue. They are considering a number of ways in which industry might help to deal with the problems created by the current shortage of competent mathematics and science teachers (particularly physics) and which might usefully complement the more flexible pay system which the Government sees as the key to the attraction and retention of more competent teachers of these subjects. A draft ITSA paper has been shown to the DES and Sir Keith Joseph should be asked to comment on ITSA's proposals for possible action on this front. It is hoped that the meeting will be able to agree on the need for a more flexible system of teachers' pay; and welcome the suggestion that Government Departments hold more detailed discussions with ITSA about their proposals (see paragraph 5.6 of draft Press Notice).

iv. Sources other than the schools can be tapped to increase the supply of suitable graduates.

This issue is covered in paragraph 15 of the brief. The Government is itself examining this issue. It recognises the importance of maximizing the supply of engineering and technology students from sources other than the schools - particularly in view of the imminent, demographically-induced decline in the number of sixth formers. If this issue is further discussed at a later point in the meeting, the Prime Minister might ask Professor Thompson to describe a one-year course which the Polytechnic of Central London are launching, with industrial support and E&TP funding, to prepare students, with little background in mathematics and science, to undertake engineering degrees. This might be a model for others to follow.

v. Greater attention should be paid to in-career education and training.

This issue is covered in paragraphs 16 - 18 of the main brief. ITSA recognise the responsibilities of industry in this matter, but they and the Engineering Council look to the Government (principally, DES and MSC) to provide more funds for pump-priming operations. The Government has invested significantly in this area and it is not clear what scale of further Government funding ITSA and the Engineering Council are looking for. There can be no dilution of the principle that responsibility for fees lies primarily with the employers or the students. DES and Department of Employment have seen a draft paper on this issue prepared by ITSA. In later discussion, the Prime Minister should ask Sir Keith Joseph and Lord Young to speak.

vi. Industrialists will wish to continue the dialogue which they have now established with the DES.

Sir Keith Joseph might speak briefly on this. The Department values this dialogue as contributing helpfully to policy formulation and implementation - as with the Engineering and Technology Programme.

5. Sir Francis Tombs may elaborate, in particular, on (i) the need for further Programmes, modelled on the E&TP, to meet potential manpower shortages in other areas of engineering (see 4i above); and (ii) the importance which the Engineering Council attaches to further Government - as well as employer - action in the area of in-career education and training. He is also expected to stress that the engineering profession should build up closer links with the schools: (which chimes with 5.4 of the draft Press Notice).

Sir Terence Beckett is expected to stress that industry should not be expected to bear too much of the cost of the increased effort still needed. While, for example, industry is prepared to: contribute the costs of basic or applied research as it judges them relevant to its needs; pay for short courses; and supply resources for the development of selected undergraduate and postgraduate courses, it is not prepared to contribute to funding the base-load of first and second degree courses. This position is not significantly different from the Government's: although, in the particular case of second degree courses, the Government might expect industry to contribute to the costs of certain courses established at industry's request or specifically to meet the needs of industry.

Other issues may arise in the course of general discussion: paragraph 19 of the main brief cover two of those which may arise.

INDUSTRY YEAR 1986

Towards the end of the meeting, the Prime Minister might move the discussion on to Industry Year 1986. This topic encapsulates the theme of closer links between industry and the education system and therefore suitably falls for discussion towards the end of the meeting. The Prime Minister should ask Sir Peter Masefield chairman of IY 1986 to introduce the topic. She might then ask industrialists whether they have anything to add to

the supportive sentiments expressed in the letters they have sent prior to the meeting: some of the educationalists might then be invited to make brief statements. Sir Keith Joseph and Mr. Paul Channon should be invited to speak. The need to sustain Industry Year initiatives and co-operation beyond 1986 should be stressed.

SUMMING UP

The Prime Minister should ask for the meeting's assent to the "points of agreement" in the draft Press Notice.

The Prime Minister might note the successful launch of the Engineering and Technology Programme, while observing that further progress would depend on continued co-operation. She should welcome the consensus achieved and indicate that No. 10 will be issuing a Press Notice -

- listing those present
- recording the points of agreement
- describing the extent of concrete assistance donated by industry to institutions in the E&TP.

E

ANNEX 2

THE ENGINEERING AND TECHNOLOGY PROGRAMME

1. The Programme was announced in March 1985 and is costed at £43m over the three years, 1985-88. Costs are shared between a number of departments including DTI, the Department of Employment and the Scottish and Welsh Offices: £12m was redeployed from other parts of the UGC budget. The costs of the Programme after 1987-8 will be met from within the DES's programme. The objective is to enable more students in higher education to study engineering and technology subjects on high quality degree courses.

2. Phasing Funding was committed in two phases. Phase One, costing £14.7m, and involving twenty universities was announced in April 1985: only those courses able to accommodate additional students without new building work were included in this course. Under Phase Two, eighteen universities (including the Open University), eight polytechnics and the Cranfield Institute of Technology are to receive a total of £28.3m in the period to March 31st, 1988. By the end of the decade a total of 5,000 additional places will have been created.

3. Allocations were made on the basis of cost-competitive bids from institutions. Advice was taken from the UGC and NAB on the academic quality of, respectively, the university and polytechnic bids and from the Information Technology Skills Agency in particular, on usefulness to industry. (The Engineering Council also gave advice.)

4. The Programme covers a number of subjects within engineering and technology. The percentage distribution of the 5,000 places

eventually created by the Programme, between broad categories of engineering and technology is:-

Electrical and Electronic Engineering	47%
Software Engineering and Design and Computer Science	31%
General Engineering	5%
Production Engineering	14%
Applied Physics and Material Science	3%

5. All institutions with courses approved for inclusion in Phase Two were required to supply information on new and existing industrial support as a condition of receiving grant under the programme. Institutions funded under Phase One were also asked to supply this information, but it was not feasible to make additional industrial support a condition of grant, because of the short time between the announcement of allocations and the arrival of the first students in October 1985.

ANNEX 3

OTHER GOVERNMENT INITIATIVES TO INCREASE THE SUPPLY OF SKILLED MANPOWER

(i) Information Technology in Higher Education

Announced in December 1982 by the Secretary of State for Education and Science, this Programme has provided £38m between 1983 and 1986 for the creation of an additional 5,000 places in electronic engineering and computer science at higher diploma, degree and postgraduate level in polytechnics and universities. Funding has also been provided for 150 new teaching and research posts in IT in universities.

(ii) Non-advanced further education

Under the Education Support Grant scheme the Government has allocated £13m in 1985/6 and a further £9m in 1986/7 in order to help equip further education colleges to ensure that students in vocational subjects receive an education which takes account of the industrial and commercial applications of IT. Further grant is expected to be made available to support expenditure in1987-90.

(iii) Scottish Central Institutions Programme

The Government is providing £14m over three years from 1985 to create additional engineering and technology places in the Central Institutions, with the objective of increasing the Institutions' graduate output in these subjects by around one-third by 1989-90.

ANNEX 4

INDUSTRIAL ASSISTANCE

1. All universities and polytechnics included in the E&TP were asked to produce evidence of industrial assistance associated with the additional provision under the Programme. Institutions provisionally selected for inclusion in Phase 2 had to supply such evidence before Government grant under this Programme was confirmed.

2. Evidence of new industrial assistance has now been received from forty of the forty-two institutions in the Programme. Assistance associated with the Programme has been given in a variety of ways, including: donations of equipment; sponsorship of students; training (including "sandwich") placements; help with the design of courses; company-funding (in whole or part) of teaching posts; "top-ups" for academic salaries; and loan of staff for part-time teaching. Over 200 firms have contributed assistance. Some of the larger companies - e.g. GEC and Hewlett Packard - are assisting a considerable number of institutions. On the other hand, some institutions have benefitted from close links with locally-based firms.

3. The Government estimates that some £24m of additional costed assistance, associated with the Programme, has been contributed by industry. But there is a great deal more besides - as by no means all the assistance has been costed; and some donations have been made on a recurrent basis, so their eventual value may prove higher than the current estimates show.

4. In addition to assistance associated with the Programme, the university and polytechnics also reported some offers of assistance linked to the Programme, but not yet firmly committed as well as a considerable amount of industrial assistance which was not directly linked to the Programme. This is consistent with evidence from the Engineering Council which suggests that the assistance to higher education institutions in the Programme has not been at the expense of those institutions not in the Programme.

5. £15m of the additional costed assistance has been given to the universities in the Programme; £2m in respect of the undergraduate provision in IT at Cranfield; and £7m to the polytechnics.

AG

Annex 5.

ACTION IN THE SCHOOLS

1. The usual qualifications for engineering and technology degree courses are mathematics and physics 'A' levels. It would be a waste of many more undergraduate places if the supply of school-leavers with these qualifications does not increase in line with this provision. Hence the importance of the Government's policies on schools.

2. As well as the formal qualifications, positive attitudes to engineering and technology need to be developed in school. The Government's policies are intended to widen the base of mathematics and science in schools. The introduction of AS levels (first courses in 1987) will encourage those taking Arts 'A' levels to continue the study of mathematics or science. The policies for the curriculum set out recently in Better Schools and in Science 5-16: A Statement of Policy are designed to ensure that all pupils continue the study of a broad and balanced science course to age 16. This is at present true of too few pupils, especially girls, and options post-16 are correspondingly foreclosed.

3. Science 5-16 has attracted wide support from science teachers. And the Government has followed it up by supporting the development of primary school science through education support grants totalling over £6m a year, and by providing some £2m annually towards in-service training for science teachers. The Secondary Science Curriculum Review, funded by the School Curriculum Development Committee, is another important instrument for bringing science teaching practice into line with Government policy. Lasting change in the curriculum requires the support of all the partners in the education service and is inevitably slower than we would wish, but valuable progress is being made by means of these and other steps.

4. More widely, it is Government policy that subjects should be taught so as to bring out their relevance for adult life. For all pupils, the practical dimension to learning should be reflected in the content and teaching of subjects as well as in the balance between subjects. Thus more pupils of all abilities should study craft, design and technology to age 16. The Cockcroft Report on Mathematics, which emphasised the practical approach, has been followed up by the appointment of some 350 advisory staff funded through education support grants (£6m per annum) who are helping teachers make mathematics more relevant and enjoyable for all pupils; and the interest of mathematics teachers in new approaches is also being stimulated by courses funded under the in-service training grant scheme (£2m per annum).

5. The national criteria for the new GCSE examinations (first courses in 1986) stress practical skills, reasoning and the application of knowledge in all subjects. It is an important part of Government policy that these principles should equally inform the curriculum in primary schools, where the foundations for later attitudes and enthusiams are laid. At 'A' level there are some interesting developments - in particular, the well respected Cambridge 'A' level in Technology and the London Board's Design and Technology 'A' level which contains a module on computer-aided engineering and encourages projects with industry.

6. Under the Technical and Vocational Education Initiative pilot projects are running in most local education authorities. These projects are designed to test ways of organising and managing a variety of new approaches to the provision of full-time general, technical, vocational and pre-vocational courses for young people 14 - 18. The Initiative is being administered by the MSC and will contribute to the Government's aims as set out in Better Schools.

ANNEX 6

GOVERNMENT SCHEMES FOR IN-CAREER EDUCATION AND TRAINING

(i) PICKUP (Professional Industrial and Commercial Updating Programme)

This Programme was launched by DES in 1982 and is designed to encourage universities, polytechnics and further education colleges to offer more post-experience (in-career) vocational provision to meet the needs of adults in employment. The Programme has a budget of over £5m in 1985-6 and has the following components:

- 10 PICKUP Regional Development Agents have been appointed in England (and 1 in Wales) in order to promote efective and lasting collaboration at local level between training providers and employers.

- Over 50 PICKUP curriculum development projects are now underway, providing guidance on course content, presentation and industrial/commercial demand for adult training and updating provision.

- An electronic directory with over 6,000 records of adult training programmes has been developed and is now operational.

- In 1985/6,52 bids were approved under the Education Support Grants Scheme to support expenditure of over £2.2m designed to improve the responsiveness of further education to industry's need for updating and retraining courses through PICKUP. For 1986/87, 36 bids have been approved to a total of £1.6m worth of expenditure.

- the in-service teacher training scheme has allocated £1.4m for in-service teacher training in PICKUP skills and subject updating and 1985-86 the PICKUP Programme has funded the development of over 100 new in-service teacher training courses for updating in specialist subjects and PICKUP skills.

- 17 projects were approved in 1985-86 to help universities enhance their PICKUP provision.

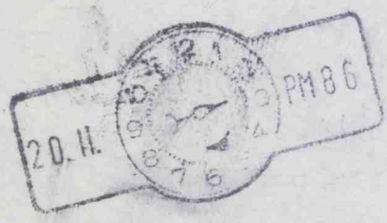
(ii) Local collaborative projects (LCPs)

Jointly funded by DES, MSC, Scottish and Welsh Offices, LCPs bring together educational providers and firms in adult training development schemes. At present, 250 projects are underway, of which about one-third involve updating in engineering and technology. These projects require significant investment by employers in both the development and delivery of updating courses.

ANNEX 7

MARKETING OF HIGHER EDUCATION SHORT COURSES

Once higher education institutions have devised short courses for industry, they have to sell them to potential clients. Some institutions find they lack the marketing skills to do this effectively. The PICKUP programme (described in Annex 6) is helping higher education to market its short courses in engineering/technology to industry by means of an electronic directory which now contains 6,000 course offerings. Lecturing staff have also received training in marketing adult education to employers: the training has been conducted through a series of workshops and a training package (which within 9 months of its publication has been purchased by over half the higher education institutions in the UK).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PRIME MINISTER'S MEETING WITH INDUSTRIALISTS AND HIGHER EDUCATIONALISTS

1. No. 10's letter of January 14th to the industrialists, invited them to comment on a number of issues pertinent to the Engineering and Technology Programme. Replies from 14 company Chairmen or their representatives, and from the Deputy Chairman of the National Electronics Council, have been received and analysed:* the list of respondents is annexed. In addition, Sir Terence Beckett has written (his comments are summarised in the handling brief). The main points in the responses are summarised under the headings given in the No. 10 letter.

(i) The relative attraction of university and public sector institutions as the source of relevant graduates.

2. A few of the replies (GEC, Ferranti) expressed a preference for university graduates, on grounds of their perceived superior intellectual quality: a few others (e.g. Lucas) thought polytechnic graduates had received a training more immediately relevant to industry's needs, since universities' curricula were usually slower to move in line with industry's needs. Most respondents took the general line - which also emerged at the DES meetings in January (see para. 7 of the main brief) - that generalised comparisons between the sectors were unhelpful. There were good universities and polytechnics: others - in both sectors - were less good.

3. This issue received considerable attention at the Prime Minister's meeting on May 21st, 1985. It should not be a significant subject for discussion on this occasion.

(ii) Organisations' plans to recruit and develop graduates in the subjects covered by the Engineering and Technology Programme.

* *a further 4 replies have been received today (February 21st)*

4. The responses suggest a healthy demand from companies for graduates in subjects covered by the Programme. This evidence is consistent with the observation of Sir Robert Clayton at Sir Keith Joseph's meeting with industrialists and higher educationalists on January 15th that industry would be able to make good use of all the extra graduates from the Programme. Sir Graham Wilkins (Thorn-EMI) quoted a survey which indicated that electronics engineers would continue to be in high demand relative to other types of engineer. There are, however, two further issues: (a) the relative priority awarded to various subjects within the scope of the Programme; and (b) the balance of provision between those areas of engineering which involve an IT orientation, and other areas - see (iii) below and paragraph 8 of the main brief. A number of the replies gave details of their graduate induction programme.

(iii) Implications of this exercise for future links between industry and higher education in the new technologies.

5. Organisations responded in a variety of ways to this question. There was a general welcome for the Programme and the additional skilled manpower it would deliver. Some spoke of the impetus which this Programme had given to the development of links between industry and higher education: a number referred to the close coincidence between the institutions included in the Programme and those which companies themselves ranked highly. Others spoke of the need for further Programmes along the lines of the E&TP: though there was less agreement on what the focus of such Programmes should be. Mr. Gill (Lucas), thought that there should be a "switch" from science to engineering in higher education: and within engineering a greater emphasis should be placed on systems engineering and design engineering: subjects within the scope of the Engineering and Technology Programme, but to which he considers the Programme gave insufficient emphasis. Mr. Roberts (GEC) on the other hand suggested some science subjects might feature in such new Programmes (and stressed that the potential contribution of science graduates to industry should not be underestimated).

(iv) Companies' future level of investment in training.

6. (This topic is dealt with in paragraphs 16 - 18 of the main brief.) All respondents affirmed their commitment to in-career training for their employees. Some were more specific than others as to how that translated into expenditure. Among those who gave details, Ford spent 2.25% of "value added", Ferranti spent 1.5% of turnover, on training. On the other, TI had cut back expenditure on training, but said that the reduced total was more cost-effectively spent.

(v) Industry Year 1986

The responses were uniformly supportive and many letters included details of particular initiatives to be undertaken in Industry Year. Many stressed the need for initiatives developed in Industry Year to be sustained in future years.

ANNEX

PRIME MINISTER'S MEETING: 24th FEBRUARY 1986

INDUSTRIALISTS' LETTERS RECEIVED BY DES

Mr. J.D. Alun-Jones	Ferranti
Lord Boardman	National Westminster Bank
Mr. T.G. Nicol	Rank Xerox
Mr. J.S. Whyte	National Electronics Council
Mr. Paul Roots	Ford
Sir Austin Pearce	British Aerospace
Sir Alex Jarratt	Smiths Industries
Mr. A. Poot	Philips
Mr. A.R. Gill	Lucas
Sir Graham Wilkins	Thorn-EMI
Mr. R.E. Utiger	TI Group
Mr. Henry Kroch	AB Electronics
Sir George Jefferson	BT
Sir William Barlow	BICC
Mr. Derek Roberts	GEC
Sir Terence Beckett	CBI
Mr. Philip Hughes	Logica
Mr. F. Whitely	ICI
Professor W. Gosling	Plessey
Mr. R. Duthie	Scottish Development Agency

PRIME MINISTER

ENGINEERING AND TECHNOLOGY PROGRAMME

YOUR MEETING WITH INDUSTRIALISTS AND EDUCATIONALISTS: 24 FEBRUARY

You will be congratulating those present on the work they have done in the year since the last meeting. But you should also ask some searching questions:

Is there really a skill shortage at all?

Although there is a general feeling that Britain does not produce enough engineers and scientists, there is remarkably little hard evidence for skill shortages. You may like to ask the industrialists present to send you lists of the numbers and types of engineering and other science graduates whom they have been unable to recruit in the past year, with a note of how the companies concerned overcame the shortages (eg by foreign recruitment). Is the shortage a lack of engineers, or is it a lack of engineers who have management training as well?

Why is there a shortage of graduates in the applied sciences?

If those present, from their practical experience, have been able to vouch for a current shortage in engineering or other science fields, and to indicate in what specific skills there is a shortage, you may like to ask them why it is that the market is not working in this one field, though it is in other fields such as finance and accountancy. After all, in a normal labour market a shortage in a particular skill causes the salary for that skill to rise: yet engineering salaries are generally low.

Can universities be made more responsive to industry's needs?

Academe must be one of the most clogged-up markets in the country, thanks to public funding, long salary scales of academics, security of tenure and high ratios of senior to junior staff in departments. Given this unpromising environment, what practical steps do those present think should be taken to help planners and teachers of university courses to understand and respond to the demands of their consumers in industry? For instance, are universities making their research work available to industry, or, better still, actively marketing it? Are industries making known their specific needs to universities, and are science and engineering faculties tailoring their courses accordingly? Are industries using academic research establishments to the full by placing contracts with them? Are they sponsoring academics to write learned papers on applied subjects rather than theory alone?

Is there scope for private enterprise in public universities?

Could engineering departments form companies (like Texas Instruments in the US) or attract private investment as well as the customary public funding? Or could some of them be privatised altogether?

The annex indicates the rather scant evidence for skill shortages, and the somewhat stronger evidence that this is not as much of a problem as some might think.

CHRISTOPHER MONCKTON 21 February, 1986

ANNEX

EVIDENCE FOR A SHORTAGE OF SKILLED TECHNOLOGICAL MANPOWER

* Plessey have said they would have recruited an extra 700 engineering graduates in the past three years if they could have.

* Not all the 1983 vacancies for qualified IT/electronics staff were filled, according to a survey by the National Electronics Council.

* Unemployment rates are rather lower in engineering than in other subjects.

* Various companies and institutes expect serious skill shortages in the latter part of the decade.

EVIDENCE AGAINST A SHORTAGE

* The number of people with degrees in technical subjects who are emigrating has gone down sharply. The outward flow is now only 4% and falling.

* As much as one-fifth of those with technical degrees fail to seek work in technical fields.

* Between 1961 and 1976, although there were more jobs in engineering occupations than there were engineers with degrees available, in science there were far fewer jobs than people with degrees available.

* Unemployment rates for graduate scientists are roughly equal to those for arts graduates.

* "There is here a sharp discrepancy. On the one hand we have 'perceived manpower need' - the number of graduates with research training whom employers are prepared to make worthwhile use of. On the other hand we have 'ideal manpower need' - the number of graduates with research training whom the SERC, the Finniston Committee and other expert bodies think will be needed if the British engineering industry is to remain prosperous into the next century; their estimate is largely based on a comparison withour most successful competitors."

Report of the Working Party on Postgraduate Education, under Sir Peter Swinnerton-Dyer, 1982.

cc RB/SP

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(without attachments)
+ record.

DEPARTMENT OF EDUCATION AND SCIENCE
ELIZABETH HOUSE YORK ROAD LONDON SE1 7PH
TELEPHONE 01-934 9000

FROM THE SECRETARY OF STATE

Mark Addison, Esq.,
10 Downing Street,
London. SW1

21st February 1986

Dear Mark

PRIME MINISTER'S MEETING WITH INDUSTRIALISTS AND HIGHER EDUCATIONALISTS, FEBRUARY 24th

As intimated in my letter of yesterday, I enclose:

(i) a revised version of the draft Press Notice which takes account of some of the points made at the industrialists' preparatory meeting last Wednesday;

(ii) a set of the letters from industrialists in response to your letter of January 14th, which have been received by the Department.

At Monday's meeting the Prime Minister may wish to ask my Secretary of State to speak immediately after her own introductory remarks. He would speak briefly about: the successful launch of the Engineering and Technology Programme; the useful progress made at the meetings he and George Walden chaired in January; and thank the industrialists for their letters on the points listed in the No. 10 letter. He would probably wish to suggest that, while some of the issues would no doubt arise in the course of the discussion, others might more appropriately be pursued with DES Ministers or officials.

I am sending copies of this letter and the enclosures to the Private Secretaries to the Secretaries of State for Employment, Trade and Industry, Scotland and Wales and Mr. Butcher at the DTI. Copies alsogo to John Wiggins (Cabinet Office) and Sir Robin Nicholson.

Yours sincerely

Alison Kennedy

pp R.L. SMITH
Private Secretary

TOP COPY OF BRIEFING IS ~~HERE~~ IN THE ATTACHED FOLDER

CCB/W

DEPARTMENT OF EDUCATION AND SCIENCE
ELIZABETH HOUSE YORK ROAD LONDON SE1 7PH
TELEPHONE 01-934 9000

FROM THE SECRETARY OF STATE

Mark Addison, Esq.,
Private Secretary,
10 Downing Street,
London. SW1

20th February 1986

spk JW

Dear Mark

ENGINEERING AND TECHNOLOGY PROGRAMME: MEETING WITH INDUSTRIALISTS AND EDUCATIONALISTS ON FEBRUARY 24th

I attach briefing for the Prime Minister for this meeting. It is complete save for two sections which will be sent tomorrow. These are:-

1. The draft Press Notice, which is to form Annex 1 of the main brief. This is being revised to take on board some of the amendments suggested at yesterday's preparatory meeting of the industrialists, who were not able to accept it quite as originally drafted. We believe that this revision will increase the probability that the Government will be able to issue a Press Notice which has the support of the industrialists.

2. A set of the letters from industrialists, answering points raised in your letter of January 14th, together with a summary of the significant points made in their letters. Unfortunately most of these have arrived rather late in the day and it has therefore not been possible to incorporate more than a few of the industrialists' points in the attached briefing.

I am sending copies of this letter and the enclosure to the Private Secretaries of State for Employment, Trade and Industry, Scotland and Wales and Mr. Butcher at the DTI. Copies also go to John Wiggins (Cabinet Office) and Sir Robin Nicholson.

Yours sincerely
Alison Kennedy

R.L. SMITH
Private Secretary

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BRIEF FOR PRIME MINISTER'S MEETING WITH INDUSTRIALISTS AND EDUCATIONALISTS - MONDAY 24th FEBRUARY 1986

PURPOSE OF MEETING

The purpose of the meeting is:

i. To congratulate all involved in the co-operation between industry and higher education demonstrated since the Prime Minister's meeting with industrialists on May 21st 1985, and most particularly in the form of the generous industrial assistance to the universities and polytechnics selected for inclusion in the Engineering and Technology Programme (E&TP). This generosity of donation is recorded in the draft Press Notice (at Annex 1) and the written Parliamentary Answer which Sir Keith Joseph is to give on the day of the meeting.

ii. To encourage the further development of links between industry and the education system, in the interests of the economy. The agreement of the meeting to the content of the draft Press Notice would signal the importance which government, education and industry attach to this endeavour; record the subjects on which substantial agreement has already been reached; and set out areas for futher action.

iii. Within this co-operative framework, to seek agreement to the need to develop and sustain Industry Year initiatives in future years.

BACKGROUND

2. The Engineering and Technology Programme was launched by Sir Keith Joseph on Budget Day 1985. £43m was found to pay for the first three years of the Programme, £31m by transfer

from Departmental programmes (including those of DTI and Department of Employment) and £12m by redeployment of part of the UGC's budget. Last November Sir Keith Joseph announced that the costs of continuing the Programme into 1988-89 and beyond would be met from within the DES's programme. By the end of the decade, the Programme will have created some 5,000 extra places in universities and polytechnics, largely on courses focused on the new technologies. (The Programme is described in more detail at Annex 2).

3. The Government agreed to find the money for this Programme principally as a result of the advice of industry that, without such action, critical shortages of vital skilled manpower would arise. The E&TP followed other Government initiatives to increase the supply of manpower skilled in the new technologies. (Details of these other programmes are at Annex 3). In agreeing to this further significant injection of public money, the Government made it plain that they expected industry to play its part by providing assistance to institutions selected for inclusion in the Programme. To underline the importance it attached to this aspect of the Programme, the Government decided that universities and polytechnics selected for inclusion in the second, and larger, phase of the Programme should be required to provide evidence of specific industrial assistance related to their provisional inclusion in the Programme, before Government funding could be confirmed.

4. The Prime Minister convened a meeting of 26 leading British industrialists on May 21st, 1985 to emphasise the crucial importance of industrial involvement in the Programme. They committed their firms to give substantial help to all the universities and polytechnics included in the Engineering and Technology Programme. It was agreed at that meeting, that a second meeting should be held early this year, when progress in securing industrial support for institutions in the Engineering and Technology Programme would be reported.

INDUSTRIAL ASSISTANCE TO PROGRAMME INSTITUTIONS

5. The eighteen university institutions and eight polytechnics selected last October for inclusion in Phase 2 duly supplied evidence of Programme-related industrial assistance by the end of last year and all have now had their Programme funding confirmed (although in the case of three universities confirmation was only forthcoming after they had supplied supplementary evidence). In addition, most of the universities in Phase 1 have supplied detailed evidence of new industrial assistance.

6. On the basis of the evidence supplied by the universities and polytechnics in the Programme, the Government estimates that some £24m of costed assistance directly related to the Programme has been given by industry: and there is a great deal more besides, whose costs to the donating firms have not been calculated, but which in aggregate are likely to be considerable. ITSA and the Engineering Council agree with the Government's assessment of the scale of assistance given. Assistance takes a number of forms: donations of equipment, loan of staff for part-time lecturing; "top-ups" for academic salaries; additional student sponsorships; and provision of more training places (e.g. sandwich places), help with the design of courses (further details are at Annex 4).

ISSUES LIKELY TO ARISE

Background: DES Meetings

7. As a result of criticisms of certain aspects of the higher education system by some of the industrialists at the May 21st meeting, Sir Keith Joseph and Mr. George Walden held meetings last month with eight of the industrialists* who will also be at the Prime Minister's meeting, together with representatives of the UGC and the National Advisory Body for Public Sector Higher Education (including the respective Chairmen, Sir Peter Swinnerton-Dyer and Mr. Christopher Ball, who will be at the Prime Minister's meeting). Consensus was reached on a number

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* *Sir Robert Clayton, Sir Francis Tombs, Sir Terence Beckett, Mr. R.E. Utiger, Professor W. Gosling, Mr. H. Orr-Ewing, Mr. R. Duthie, Mr. A. Poot.*

of issues: these are set out in the draft Press Notice. A wider group of the industrialists attending the Prime Minister's meeting has been made aware of the intention to issue a Press Notice, and the draft takes account of most of their suggested amendments to the earlier one. Some of the issues discussed at the DES meetings should therefore require little discussion on this occasion. However other issues discussed at these meetings, e.g.: mathematics and science teaching in the schools; in-career education and training for engineers and technologists, on which a measure of agreement has been reached, are ones which we understand the industrialists will wish to explore further at this meeting, and ask Ministers to agree to further discussions between Government, industry and education.

HIGHER EDUCATION: THE ENGINEERING AND TECHNOLOGY PROGRAMME AS A PARADIGM FOR FURTHER INITIATIVES

8. The Engineering and Technology Programme is focused on those aspects of engineering with a major IT element. However, the Engineering Council, among others, argues that other areas of engineering are likely soon to be suffering from manpower shortages and that action on the lines of the E&TP is required. Sir Francis Tombs of the Engineering Council is likely to quote the result of a questionnaire survey of their 120 affiliate companies: 47 companies said there should be further programmes along the lines of the E&TP, in specified areas of engineering. The Engineering Council believe that these areas would require much more modest funding than was required for the E&TP. Two other industrialists attending the meeting - Mr. Roberts (GEC) and Mr. Utiger (TI) - have suggested the need for further special programmes in, respectively, areas of engineering and science, and production engineering. Prospects for Government funding of such initiatives must at this stage be uncertain. The Government would in any case wish carefully to study the evidence concerning potential manpower shortages in these new areas: even if the evidence was convincing, it might be feasible for the necessary action to be taken within existing resources,

through the redesign of courses, for example. The DES meetings with higher educationalists and industrialists (described above) have helped lay the foundations for future collaboration between the two parties in tackling such matters.

THE SCHOOLS: CURRICULUM AND TEACHER SUPPLY

9. The success both of the E&TP and any further action to meet skills shortages ultimately depends on an adequate supply of suitably qualified candidates for the relevant university and polytechnic courses. And this supply critically depends on the output of school pupils with good mathematics and science (particularly physics) A-levels (or equivalent). A particular effort has to be made in regard to schoolgirls: despite the significant rise over the past decade in the proportion of women engineers (they now constitute about 10% of the profession), the number of girls taking mathematics and science A-levels remains particularly low (e.g. in 1984 the number of girls in England taking physics A-level was equivalent to a quarter of the number of boys taking A-level in that subject).

10. A note on Government action to reform the curriculum in order to widen the basis of mathematics and science in the schools is at Annex 5. To have the desired effect, the reformed curriculum should be operated in a school context which is positively orientated towards industry, and engineering and technological careers within industry: hence the importance of school-industry links. Industry Year represents an important opportunity (see paragraph 20 below). And the curriculum requires an adequate supply of competent teachers in the relevant subjects: increasing concern is being expressed on this score by industrialists and higher educationalists.

11. Pay, morale, working conditions and the demands of curricular change are all factors influencing the shortfall in recruitment to training in mathematics and science, and the problems which schools are apparently experiencing in retaining the better qualified teachers. Pay is clearly a key issue, given the strong

competition amongst employers for good graduates in these subjects, and the Government is working for a more flexible system of teachers' pay, in order to attract and retain competent teachers on these subjects.

12. Industry could help in a number of ways:

(i) encouraging a public perception of teaching as a career of importance to the country's future prosperity and counselling their own redundant employees with suitable qualifications and experience to consider taking a teacher training course for mature students in a shortage subject.

(ii) assisting with the costs of up-to-date equipment for school science laboratories.

(iii) making their own staff time available to contribute to in-service training for teachers and to co-operative activities likely to stimulate interest in schools.

In addition it may be that industry could also find ways of supplementing the income of the most effective teachers by paying them for consultancy services.

13. There is action too for the partners in the education service:

(i) LEAs need to deploy their specialist teaching resources to best effect and to reach out to possible sources of additional supply, such as married women returners who may require updating courses or part-time teaching arrangements.

(ii) higher education institutions may be able to mount more specially-designed initial teacher training courses for mature entrants, or more "conversion" courses for people with a non-scientific background who want to change direction.

(iii) Government Departments need to consider where they can best give a lead, (e.g. through publicity campaigns, or through incentive schemes such as the bursaries now being offered to the trainee teachers most needed by the schools) and must be prepared to look at the scope for reducing specialist teacher demand which may be offered by new developments such as interactive video.

14. If the industrial relations climate permitted, the various agencies could work together on the full range of possible initiatives, but the dispute of recent months has tended to prevent co-operation in this field, except on an informal basis. A pay settlement and a revised pay structure are probably essential to real progress.

OTHER PATHS TO HE PLACES IN ENGINEERING AND TECHNOLOGY

15. Schools are not the only source of supply of degree-level students in engineering and technology. In some subjects, notably in the field of computer science, postgraduate "conversion" courses have been devised for those with first degrees in subjects other than mathematics and science: the products of these courses have provided a useful and significant boost to manpower supply in this area. At the "harder" end of engineering, another source of supply which could probably be further tapped to fill more higher education places in engineering and technology subjects is that of students (many of them part-time) undertaking BTEC courses in polytechnics or FE colleges. Already, a significant proportion of first degree engineering places in some polytechnics are filled by those with a BTEC qualification. Increasing this proportion depends to some extent on devising more effective means of encouraging promising BTEC students - particularly those in FE colleges who would have to change institutions - that the pursuit of degree level studies is a realistic option. (And in the case of part-time students, they would also have to leave their jobs and re-enter full-time education.)

IN-CAREER EDUCATION AND TRAINING FOR ENGINEERS AND TECHNOLOGISTS

16. Government, industrialists and educationalists agree that in an age of rapidly changing technology, engineers and technologists should have access to education and training throughout their working lives: a career cannot be built on the basis only of knowledge acquired in a first degree course. Primary responsibility for ensuring, and funding, appropriate in-career education and training for their employees rests with the employers. (The evidence suggests that, in this area, UK employers lag behind those in competitor economies.) And the professional institutions should make continued professional status dependent upon evidence of regular and appropriate updating.

17. To stimulate and augment the efforts of employers, however, the Government has launched a number of pump-priming schemes - notably PICKUP and the MSC/DES Local Collaborative Projects. (Details are at Annex 6).

18. Institutions of higher and further education have a potentially a major role to play in employee in-service education and training. In the higher education sector, the UGC and NAB have established a committee, chaired by Lord Perry, to examine this area of provision and make recommendations as to possible improvements. A key point is that institutions must effectively market their provision of short courses etc. to industry. Details of Government work to assist institutions in this marketing task are at Annex 7.

OTHER ISSUES

19. Among the other issues which may be raised are:

i. <u>the need to ensure that technician education is not overlooked in the drive to produce more technologists.</u>

The Committee on IT Skills Shortages chaired by John Butcher M.P. - which included several leading industrialists - reported in 1984 that the more immediate priority was to deal with shortages at the technologist level - hence the Engineering and Technology Programme. However, through other Programmes, for example Information Technology in Higher Education, and Information Technology in NAFE, (see Annex 3) the Government is taking action to increase resources, and places, for technician education.

ii. <u>tax incentives for industry to invest in the education and training system.</u>

Industrialists continue to press for further concessions in this area. In its White Paper response (published last November) to the House of Lords Select Committee report on Education and Training for the New Technologies, the Government said it saw no case for extending existing tax reliefs on business donations to higher education and research. There has been recent publicity that further changes in relevant tax arrangements might be in the air.

INDUSTRY YEAR 1986

20. At the meeting on May 21st, 1985, it was agreed that this should feature on the agenda for this second meeting. The objective of IY 86 is to raise the esteem in which industry is held, and the IY organisation has working groups on, inter alia, publicity, design, churches, women and education. The IY educational programme places special emphasis on school-industry links. Schools are being encouraged to review their objectives in relation to industry and to draw up a list of shared objectives with local industry. From this may stem "industry weeks", teacher secondments to industry, visits by industrialists to the schools. (Prolongation of the teachers' dispute may well curtail such activities.)

CAREERS ADVICE

21. Careers advice and guidance have an important role to play in encouraging more young people to aspire to careers in engineering and technology. At present, there is too wide a variation in the quality of provision between and within LEAs. Industry Year should encourage more employers to help schools in this area, as part of the burgeoning school-industry links.

HANDLING BRIEF

OPENING STATEMENT

To open the meeting the Prime Minister could make the following points:

i. Industry has responded most generously to the request to provide concrete support to the universities and polytechnics included in the Engineering and Technology Programme.

ii. Because of this industrial support, the Government has been able to confirm funding for all the institutions provisionally selected for inclusion in Phase 2.

iii. The Government is publicising this generosity of donation, both through a Parliamentary Answer to be given on the afternoon of the meeting by Sir Keith Joseph, as well as through a Press Notice which will be circulated in draft form later in the meeting.

iv. This co-operation between higher education and industry in the matter of the Engineering and Technology Programme, is an indication of the wish of both parties to develop closer links. The good work of this Programme must be built on.

v. Sir Keith Joseph and Mr. Walden have recently held meetings with some of those present. These made useful progress on certain key issues. The agreements reached on those occasions should form the basis for further progress.

DISCUSSION

2. After these opening remarks, the Prime Minister might then turn to Sir Robert Clayton (Chairman, Information Technology Skills Agency±), Sir Francis Tombs (Chairman, Engineering Council), and Sir Terence Beckett (Director-General, CBI) in that order to make their opening statements.

3. The Prime Minister could then throw the discussion open, perhaps first inviting the other industrialists either to augment some of the points made by the first three speakers or else put their own points. She might call on the academics present to respond to points made by the industrialists when it seemed best to do so.

4. We understand that Sir Robert Clayton will make the following points:-

i. The effective collaboration of industry, education and government had ensured the successful launch of the Engineering and Technology Programme.

Later in the meeting, the Prime Minister might invite one or more of the academics from institutions in the Programme (Dr. Hills, Professors Gower and Thompson) to describe briefly their experience of this exercise. Mr. Robin Duthie might also wish to comment. The Scottish Development Agency performed north of the border the function of facilitating the necessary contacts between the academic institutions and industry, which was in England and Wales the responsibility of ITSA.

ii. The Programme could provide a paradigm for initiatives - albeit on a smaller scale - in other areas of engineering, where were less focused on IT, so long as in each case effective demand for relevant manpower was demonstrated.

± ***Note:*** *Sir Robert Clayton and Sir Francis Tombs have canvassed the view of most of the industrialists present on some of the key issues in advance of this meeting.*

This point is likely to be amplified by Sir Francis Tombs - see 4i, below. (And Mr. Roberts (GEC) and Mr. Utiger (TI) may wish to return to this question in later discussion.) The issue is covered in paragraph 8 of the main brief. The prospects for funding to support initiatives on the model of E&TP could be by no means certain. If modest adjustments in higher education provision were all that was required, these could perhaps be provided for within existing resources, through, for example, the redesign of courses. Government departments could consider further with the Engineering Council whether there were any branches of engineering, other than in the IT area, which need special attention. (See paragraph 5.7 of the draft Press Notice.)

iii. The need for greater emphasis on the teaching of science and mathematics in schools so as to ensure a sufficient supply of students equipped to take engineering-related higher education courses.

The school curriculum and the associated question of the supply of mathematics and science teachers are discussed in paragraphs 9 - 14 of the main brief. The ITSA attach a high priority to this issue. They are considering a number of ways in which industry might help to deal with the problems created by the current shortage of competent mathematics and science teachers (particularly physics) and which might usefully complement the more flexible pay system which the Government sees as the key to the attraction and retention of more competent teachers of these subjects. A draft ITSA paper has been shown to the DES and Sir Keith Joseph should be asked to comment on ITSA's proposals for possible action on this front. It is hoped that the meeting will be able to agree on the need for a more flexible system of teachers' pay; and welcome the suggestion that Government Departments hold more detailed discussions with ITSA about their proposals (see paragraph 5.6 of draft Press Notice).

iv. Sources other than the schools can be tapped to increase the supply of suitable graduates.

This issue is covered in paragraph 15 of the brief. The Government is itself examining this issue. It recognises the importance of maximizing the supply of engineering and technology students from sources other than the schools - particularly in view of the imminent, demographically-induced decline in the number of sixth formers. If this issue is further discussed at a later point in the meeting, the Prime Minister might ask Professor Thompson to describe a one-year course which the Polytechnic of Central London are launching, with industrial support and E&TP funding, to prepare students, with little background in mathematics and science, to undertake engineering degrees. This might be a model for others to follow.

v. Greater attention should be paid to in-career education and training.

This issue is covered in paragraphs 16 - 18 of the main brief. ITSA recognise the responsibilities of industry in this matter, but they and the Engineering Council look to the Government (principally, DES and MSC) to provide more funds for pump-priming operations. The Government has invested significantly in this area and it is not clear what scale of further Government funding ITSA and the Engineering Council are looking for. There can be no dilution of the principle that responsibility for fees lies primarily with the employers or the students. DES and Department of Employment have seen a draft paper on this issue prepared by ITSA. In later discussion, the Prime Minister should ask Sir Keith Joseph and Lord Young to speak.

vi. Industrialists will wish to continue the dialogue which they have now established with the DES.

Sir Keith Joseph might speak briefly on this. The Department values this dialogue as contributing helpfully to policy formulation and implementation - as with the Engineering and Technology Programme.

5. Sir Francis Tombs may elaborate, in particular, on (i) the need for further Programmes, modelled on the E&TP, to meet potential manpower shortages in other areas of engineering (see 4i above); and (ii) the importance which the Engineering Council attaches to further Government - as well as employer - action in the area of in-career education and training. He is also expected to stress that the engineering profession should build up closer links with the schools: (which chimes with 5.4 of the draft Press Notice).

Sir Terence Beckett is expected to stress that industry should not be expected to bear too much of the cost of the increased effort still needed. While, for example, industry is prepared to: contribute the costs of basic or applied research as it judges them relevant to its needs; pay for short courses; and supply resources for the development of selected undergraduate and postgraduate courses, it is not prepared to contribute to funding the base-load of first and second degree courses. This position is not significantly different from the Government's: although, in the particular case of second degree courses, the Government might expect industry to contribute to the costs of certain courses established at industry's request or specifically to meet the needs of industry.

Other issues may arise in the course of general discussion: paragraph 19 of the main brief cover two of those which may arise.

INDUSTRY YEAR 1986

Towards the end of the meeting, the Prime Minister might move the discussion on to Industry Year 1986. This topic encapsulates the theme of closer links between industry and the education system and therefore suitably falls for discussion towards the end of the meeting. The Prime Minister should ask Sir Peter Masefield chairman of IY 1986 to introduce the topic. She might then ask industrialists whether they have anything to add to

the supportive sentiments expressed in the letters they have sent prior to the meeting: some of the educationalists might then be invited to make brief statements. Sir Keith Joseph and Mr. Paul Channon should be invited to speak. The need to sustain Industry Year initiatives and co-operation beyond 1986 should be stressed.

SUMMING UP

The Prime Minister should ask for the meeting's assent to the "points of agreement" in the draft Press Notice.

The Prime Minister might note the successful launch of the Engineering and Technology Programme, while observing that further progress would depend on continued co-operation. She should welcome the consensus achieved and indicate that No. 10 will be issuing a Press Notice -

- listing those present
- recording the points of agreement
- describing the extent of concrete assistance donated by industry to institutions in the E&TP.

ANNEX 2

THE ENGINEERING AND TECHNOLOGY PROGRAMME

1. The Programme was announced in March 1985 and is costed at £43m over the three years, 1985-88. Costs are shared between a number of departments including DTI, the Department of Employment and the Scottish and Welsh Offices: £12m was redeployed from other parts of the UGC budget. The costs of the Programme after 1987-8 will be met from within the DES's programme. The objective is to enable more students in higher education to study engineering and technology subjects on high quality degree courses.

2. Phasing Funding was committed in two phases. Phase One, costing £14.7m, and involving twenty universities was announced in April 1985: only those courses able to accommodate additional students without new building work were included in this course. Under Phase Two, eighteen universities (including the Open University), eight polytechnics and the Cranfield Institute of Technology are to receive a total of £28.3m in the period to March 31st, 1988. By the end of the decade a total of 5,000 additional places will have been created.

3. Allocations were made on the basis of cost-competitive bids from institutions. Advice was taken from the UGC and NAB on the academic quality of, respectively, the university and polytechnic bids and from the Information Technology Skills Agency in particular, on usefulness to industry. (The Engineering Council also gave advice.)

4. The Programme covers a number of subjects within engineering and technology. The percentage distribution of the 5,000 places

eventually created by the Programme, between broad categories of engineering and technology is:-

Electrical and Electronic Engineering	47%
Software Engineering and Design and Computer Science	31%
General Engineering	5%
Production Engineering	14%
Applied Physics and Material Science	3%

5. All institutions with courses approved for inclusion in Phase Two were required to supply information on new and existing industrial support as a condition of receiving grant under the programme. Institutions funded under Phase One were also asked to supply this information, but it was not feasible to make additional industrial support a condition of grant, because of the short time between the announcement of allocations and the arrival of the first students in October 1985.

ANNEX 3

OTHER GOVERNMENT INITIATIVES TO INCREASE THE SUPPLY OF SKILLED MANPOWER

(i) Information Technology in Higher Education

Announced in December 1982 by the Secretary of State for Education and Science, this Programme has provided £38m between 1983 and 1986 for the creation of an additional 5,000 places in electronic engineering and computer science at higher diploma, degree and postgraduate level in polytechnics and universities. Funding has also been provided for 150 new teaching and research posts in IT in universities.

(ii) Non-advanced further education

Under the Education Support Grant scheme the Government has allocated £13m in 1985/6 and a further £9m in 1986/7 in order to help equip further education colleges to ensure that students in vocational subjects receive an education which takes account of the industrial and commercial applications of IT. Further grant is expected to be made available to support expenditure in1987-90.

(iii) Scottish Central Institutions Programme

The Government is providing £14m over three years from 1985 to create additional engineering and technology places in the Central Institutions, with the objective of increasing the Institutions' graduate output in these subjects by around one-third by 1989-90.

ANNEX 4

INDUSTRIAL ASSISTANCE

1. All universities and polytechnics included in the E&TP were asked to produce evidence of industrial assistance associated with the additional provision under the Programme. Institutions provisionally selected for inclusion in Phase 2 had to supply such evidence before Government grant under this Programme was confirmed.

2. Evidence of new industrial assistance has now been received from forty of the forty-two institutions in the Programme. Assistance associated with the Programme has been given in a variety of ways, including: donations of equipment; sponsorship of students; training (including "sandwich") placements; help with the design of courses; company-funding (in whole or part) of teaching posts; "top-ups" for academic salaries; and loan of staff for part-time teaching. Over 200 firms have contributed assistance. Some of the larger companies - e.g. GEC and Hewlett Packard - are assisting a considerable number of institutions. On the other hand, some institutions have benefitted from close links with locally-based firms.

3. The Government estimates that some £24m of additional costed assistance, associated with the Programme, has been contributed by industry. But there is a great deal more besides - as by no means all the assistance has been costed; and some donations have been made on a recurrent basis, so their eventual value may prove higher than the current estimates show.

4. In addition to assistance associated with the Programme, the university and polytechnics also reported some offers of assistance linked to the Programme, but not yet firmly committed as well as a considerable amount of industrial assistance which was not directly linked to the Programme. This is consistent with evidence from the Engineering Council which suggests that the assistance to higher education institutions in the Programme has not been at the expense of those institutions not in the Programme.

5. £15m of the additional costed assistance has been given to the universities in the Programme; £2m in respect of the undergraduate provision in IT at Cranfield; and £7m to the polytechnics.

Annex 5.

ACTION IN THE SCHOOLS

1. The usual qualifications for engineering and technology degree courses are mathematics and physics 'A' levels. It would be a waste of many more undergraduate places if the supply of school-leavers with these qualifications does not increase in line with this provision. Hence the importance of the Government's policies on schools.

2. As well as the formal qualifications, positive attitudes to engineering and technology need to be developed in school. The Government's policies are intended to widen the base of mathematics and science in schools. The introduction of AS levels (first courses in 1987) will encourage those taking Arts 'A' levels to continue the study of mathematics or science. The policies for the curriculum set out recently in Better Schools and in Science 5-16: A Statement of Policy are designed to ensure that all pupils continue the study of a broad and balanced science course to age 16. This is at present true of too few pupils, especially girls, and options post-16 are correspondingly foreclosed.

3. Science 5-16 has attracted wide support from science teachers. And the Government has followed it up by supporting the development of primary school science through education support grants totalling over £6m a year, and by providing some £2m annually towards in-service training for science teachers. The Secondary Science Curriculum Review, funded by the School Curriculum Development Committee, is another important instrument for bringing science teaching practice into line with Government policy. Lasting change in the curriculum requires the support of all the partners in the education service and is inevitably slower than we would wish, but valuable progress is being made by means of these and other steps.

4. More widely, it is Government policy that subjects should be taught so as to bring out their relevance for adult life. For all pupils, the practical dimension to learning should be reflected in the content and teaching of subjects as well as in the balance between subjects. Thus more pupils of all abilities should study craft, design and technology to age 16. The Cockcroft Report on Mathematics, which emphasised the practical approach, has been followed up by the appointment of some 350 advisory staff funded through education support grants (£6m per annum) who are helping teachers make mathematics more relevant and enjoyable for all pupils; and the interest of mathematics teachers in new approaches is also being stimulated by courses funded under the in-service training grant scheme (£2m per annum).

5. The national criteria for the new GCSE examinations (first courses in 1986) stress practical skills, reasoning and the application of knowledge in all subjects. It is an important part of Government policy that these principles should equally inform the curriculum in primary schools, where the foundations for later attitudes and enthusiams are laid. At 'A' level there are some interesting developments - in particular, the well respected Cambridge 'A' level in Technology and the London Board's Design and Technology 'A' level which contains a module on computer-aided engineering and encourages projects with industry.

6. Under the Technical and Vocational Education Initiative pilot projects are running in most local education authorities. These projects are designed to test ways of organising and managing a variety of new approaches to the provision of full-time general, technical, vocational and pre-vocational courses for young people 14 - 18. The Initiative is being administered by the MSC and will contribute to the Government's aims as set out in Better Schools.

ANNEX 6

GOVERNMENT SCHEMES FOR IN-CAREER EDUCATION AND TRAINING

(i) PICKUP (Professional Industrial and Commercial Updating Programme)

This Programme was launched by DES in 1982 and is designed to encourage universities, polytechnics and further education colleges to offer more post-experience (in-career) vocational provision to meet the needs of adults in employment. The Programme has a budget of over £5m in 1985-6 and has the following components:

- 10 PICKUP Regional Development Agents have been appointed in England (and 1 in Wales) in order to promote efective and lasting collaboration at local level between training providers and employers.

- Over 50 PICKUP curriculum development projects are now underway, providing guidance on course content, presentation and industrial/commercial demand for adult training and updating provision.

- An electronic directory with over 6,000 records of adult training programmes has been developed and is now operational.

- In 1985/6,52 bids were approved under the Education Support Grants Scheme to support expenditure of over £2.2m designed to improve the responsiveness of further education to industry's need for updating and retraining courses through PICKUP. For 1986/87, 36 bids have been approved to a total of £1.6m worth of expenditure.

- the in-service teacher training scheme has allocated £1.4m for in-service teacher training in PICKUP skills and subject updating and 1985-86 the PICKUP Programme has funded the development of over 100 new in-service teacher training courses for updating in specialist subjects and PICKUP skills.

- 17 projects were approved in 1985-86 to help universities enhance their PICKUP provision.

(ii) Local collaborative projects (LCPs)

Jointly funded by DES, MSC, Scottish and Welsh Offices, LCPs bring together educational providers and firms in adult training development schemes. At present, 250 projects are underway, of which about one-third involve updating in engineering and technology. These projects require significant investment by employers in both the development and delivery of updating courses.

ANNEX 7

MARKETING OF HIGHER EDUCATION SHORT COURSES

Once higher education institutions have devised short courses for industry, they have to sell them to potential clients. Some institutions find they lack the marketing skills to do this effectively. The PICKUP programme (described in Annex 6) is helping higher education to market its short courses in engineering/technology to industry by means of an electronic directory which now contains 6,000 course offerings. Lecturing staff have also received training in marketing adult education to employers: the training has been conducted through a series of workshops and a training package (which within 9 months of its publication has been purchased by over half the higher education institutions in the UK).

10 DOWNING STREET

From the Private Secretary

20 February 1986

Thank you for your letter of 13 February. The Prime Minister, as you know, is sorry you will not be able to attend the meeting on Monday, but she will be grateful to you for writing with your views to Sir Keith Joseph in advance.

MARK ADDISON

Sir Graham Wilkins

THE ENGINEERING COUNCIL

10 Maltravers Street, London WC2R 3ER
Telephone: 01-240 7891 Telex: 297177 ENG.CNL-G

Mark Addison Esq
10 Downing Street

20/2/86

Dear Mark,

MEA

Many thanks for your letter of 14 February and the list of those going to the 24 February meeting. They were most useful.

Yours

David

D Hennessy

21. II.
1986

Door

	Sir Robin Nicholson	The Rt. Hon. Nicholas Edwards MP	The Rt. Hon. Lord Young of Graffham	The Rt. Hon. Sir Keith Joseph MP	The Prime Minister	The Rt. Hon. Paul Channon MP	The Rt. Hon. Malcolm Rifkind, QC MP	Mr. Geoffrey Pattie, MP	Mr. George Walden MP
First Row	+ four	Mr. P. Swinnerton-Dyer	Mr. Robin Duthie	Sir T. Beckett	Sir F. Tombs	Sir Robert Clayton	Sir Peter Masefield	Mr. C. Ball	+ four
Second Row	Fifteen other participants								

What MEA wants is a list of -

1. Invitees
2. Acceptances
3. Refusals
4. Not yet replied.

Give him the 4 lists before anything more is done.

done jkw
(below) 5/2

I N V I T E E S

Sir Austin Pearce
Sir William Barlow
Sir George Jefferson
Robert Thornton
J D Alun-Jones
Paul Roots
Derek Roberts (for Lord Weinstock)
Paul Girolami
D A Baldwin
A B Cleaver
Sir John Harvey-Jones
P A B Hughes
A K Gill
Lord Boardman
A Poot
Sir John Clark
Sir Ernest Harrison
H Orr-Ewing
Sir Alex Jarratt
Lord Keith of Castleacre
P Swinstead
Sir Graham Wilkins
R E Utiger
Sir Terence Beckett
Sir Robert Clayton
Sir Francis Tombs
Robert Duthie
Sir Peter Masefield
Mr J S Whyte
H Kroch
Professor Sir Peter Swinnerton-Dyer
Christopher Ball
Professor Norman Gower
Professor Peter Thompson
Dr Graham Hills
Professor John Ashworth
~~Sir Edwin Nixon~~

ACCEPTANCES

Sir Francis Tombs
J. D. Alun-Jones
Henry Kroch
Paul Roots
A B Cleaver (for Sir Edwin Nixon)
~~Robert~~ Duthie
Sir Robert Clayton
G J Lomer (For Sir Ernest Harrison)
Sir George Jefferson
Professor William Gosling (for J S Whyte) and Sir John Clark
Sir Terence Beckett
A K Gill (for Sir Godfrey Messervy)
Derek Roberts (for Lord Weinstock)
Sir Alex Jarratt
Philip Swinstead
Sir Peter Masefield
David Baldwin
~~Sir John Clark~~ ?
H Orr-Ewing
A Poot
R E Utiger
Sir Austin Pearce
Sir William Barlow
Lord Boardman
P A B Hughes
C. BALL
P. SWINNERTON-DYER
~~P. ROOTS~~
SIR JOHN HARLEY-JONES (ICI)
PROF. P. THOMPSON

ACCEPTANCES

~~Sir Francis Cooper~~

J D Alun-Jones

Henry Kroch

Paul Roots

A B Cleaver (for Sir Edwin Nixon Nixon)

Robert Duthie

Sir Robert Clayton

G J Lomer (**for Sir Ernest Harrison**)

Sir George Jefferson

Professor William Gosling (**for J S Whyte**)

Sir Terence Beckett

A K Gill (**for Sir Godfrey Messervy**)

Derek Roberts (**for Lord Weinstock**)

Sir Alex Jarratt

Philip Swinstead

Sir Peter Masefield

David Baldwin

Sir John Clark

H Orr-Ewing

A Poot

R E Utiger

Sir Austin Pearce

Sir William Barlow

Lord Boardman

P A B Hughes

~~Sir Edwin Nixon (A B Cleaver)~~

~~Mr A B Cleaver (for Sir Edwin Nixon)~~

R.M

NOT REPLIED (as at 5 Feb)

Mr Halper (Burtons) ~~transferred from Rothschild~~ NOT COMING

~~Robert Thornton (Debenhams)~~ ~~(dead)~~

BUT MR CHARLES BRACKEN MIGHT BE ABLE TO ATTEND.

Paul Girolami (Glaxo Group) NOT COMING

Sir John Harvey-Jones (ICI) WILL BE ATTENDING

Lord Keith of Castleacre (STC) WILL NOT BE COMING

Sir Graham Wilkins (Thorn EMI) WILL NOT BE COMING

~~Sir Francis Tombs (Rothschild)~~

Professor Sir Peter Swinnerton-Dyer COMING.

~~Christopher Ball~~

Professor Norman Gower

Professor Peter Thompson WILL BE COMING

Dr Graham Hills COMING

Professor John Ashworth not coming

) invitations only sent on 3 February

REFUSALS

None (as at 5.2.86)

MR GIROLAMI (GLAXO) IN THE FAR EAST.

SIR GRAHAM WILKINS (EMI)

LORD KEITH of CASTLEACRE (STC)

(DS2AVQ)

As at 14.2.86

X 1 copy

ENGINEERING AND TECHNOLOGY PROGRAMME MEETING: 24 FEBRUARY

LIST OF PARTICIPANTS

Sir Francis Tombs	Rolls Royce
Mr. J. D. Alun-Jones	Ferranti plc
Mr. Henry Kroch	A. B. Electronics
Mr. Paul Roots	Ford Motor Co. Ltd.
Mr. A. B. Cleaver	IBM Holdings (UK)
Mr. Robin Duthie	Scottish Development Agency
Sir Robert Clayton	Information Technology Skills Agency
Mr. G. J. Lomer	Racal Electronics plc
Sir George Jefferson	British Telecom plc
Professor William Gosling	Plessey Company plc (also rep. for National Electronic Council)
Sir Terence Beckett	CBI
Mr. A. K. Gill	Lucas Industries plc
Mr. Derek Roberts	General Electric Company plc
Sir Alex Jarratt	Smiths Industries plc
Mr. Philip Swinstead	Systems Designers Ltd.
Sir Peter Masefield	Chairman, Industry Year 1986
Mr. David Baldwin	Hewlett-Packard Ltd.
Mr. H. Orr-Ewing	Rank Xerox Ltd.
Mr. A. Poot	Philips Electronics and Assoc. Industries Ltd.
Mr. R. E. Utiger	TI Group plc
Sir Austin Pearce	British Aerospace plc
Sir William Barlow	BICC plc
Lord Boardman	National Westminster Bank plc
Mr. P. A. B. Hughes	Logica Holdings plc
Mr. C. Ball	Board of National Advisory Body for Public Sector Higher Educ.

Professor Sir Peter Swinnerton-Dyer	University Grants Committee
Sir John Harvey-Jones	ICI plc
Professor P. Thompson	Deputy Rector, Polytechnic of Central London
Dr. Graham Hills	Principal, Strathclyde University
Professor Norman Gowar	Deputy Vice Chancellor, Open University
The Rt. Hon. Sir Keith Joseph, M.P.	Secretary of State for Education and Science
The Rt. Hon. Nicholas Edwards, M.P.	Secretary of State for Wales
The Rt. Hon. Lord Young of Graffham	Secretary of State for Employment
The Rt. Hon. Malcolm Rifkind, Q.C., M.P.	Secretary of State for Scotland
The Rt. Hon. Paul Channon, M.P.	Secretary of State for Trade and Industry
Mr. George Walden, M.P.	PUSS, Department of Education and Science
Mr. Geoffrey Pattie, M.P.	Minister of State, Department of Trade and Industry
~~Sir Robin Nicholson~~	Cabinet Office

(MEA
Mr Wiggin CO
Mr Mudcleth TV
Mr Kelly Cab. Off.)

INVITATION LIST FOR THE PRIME MINISTER'S MEETING WITH INDUSTRIALISTS: 4 FEBRUARY 1986

Sir Austin William Pearce, CBE PhD, FInst Pet, FBIM
Chairman
British Aerospace PLC
Brooklands Road
Weybridge
SURREY KT13 OSJ

Sir William Barlow FEng, FIMechE, FIEE (unable to attend on 21 May)
Chief Executive
BICC PLC
21 Bloomsbury Street
LONDON WC1

Sir George Jefferson CBE, FEng, FIMechE, FRAeS, FRSA, FBIM, FCGI
Chairman
British Telecom PLC (represented on 21 May by Mr M Bett)
~~23 Howard Street~~ 81 Newgate St
~~LONDON W1P 6HQ~~ EC1

Robert C Thornton Esq FCCA
Chairman
Debenhams PLC
1 Welbeck Street
LONDON W1A 1DF

J D Alun-Jones Esq
Managing Director
Ferranti PLC
Mill Bank Tower
Mill Bank
LONDON SW1

~~S Toy Esq~~ Paul Roots
~~Chairman~~ Industrial Relations Director
Ford Motor Co Ltd
Eagle Way
Brentwood
ESSEX CM13 3BW

~~The Lord Weinstock~~* ~~of Bowden FSS~~ (represented on 21 May by Mr D Roberts)
~~Managing Director~~
General Electric Company PLC
1 Stanhope Gate
LONDON W1A 1EH

* Mr Derek Roberts will attend.

Paul Girolami (M) Esq+
Chairman
Glaxo Group Ltd
Clarges House
6-12 Clarges Street
LONDON W1Y 8DH

+ appointed Chairman since 21 May

D A Baldwin Esq MIEE, MIREE, MIM, FBIM, CEng
Managing Director
Hewlett-Packard Ltd
Nine Mile Ride
Easthampstead
Wokingham
BERKSHIRE RG11 3LL

~~Sir Edwin Nixon CBE~~ Mr A B Cleaver
~~Chairman~~ Chief Executive
IBM (UK) Holdings Ltd
PO Box 41
North Harbour
PORTSMOUTH PO6 3AU

Sir John (J H) Harvey-Jones ~~Esq~~ MBE
Chairman
Imperial Chemical Industries (ICI) PLC
Imperial Chemical House
Millbank
LONDON SW1 3JF

✓ P A B Hughes Esq CBE
Chairman
Logica Holdings PLC
64 Newman Street
LONDON W1H 4SE

~~Sir Godfrey (R G C) Messervy Esq~~
✓ ~~Chairman~~ mr AK Gill, Group managing Director.
Lucas Industries PLC
Great King Street
BIRMINGHAM B19 2XF

✓ Lord Boardman MC, TD, DL (represented on 21 May by Viscount Sandon)
Chairman
National Westminster Bank PLC
41 Lothbury
LONDON EC2P 2BP

✓ A Poot Esq (unable to attend on 21 May)
Chairman
Philips Electronics and Associated Industries Ltd
8 Arundel Great Court
Arundel Street
LONDON WC2 3OT

~~Sir John Clark~~ *Prof. William Gosling
~~Chairman~~ Technical Director
The Plessey Company PLC *NB Also attending in his capacity as rep. for National Electronic Council
Millbank
LONDON SW1P 4QP

✓ Sir Ernest Harrison OBE, FCA (represented on 21 May by Mr O Lomer)
Chairman → wishes Lomer to attend again)
Racal Electronics PLC
Western Road
Bracknell
BERKSHIRE RG12 1RG

TI Group plc

50 Curzon Street
London W1Y 7PN

telephone: 01-499 9131
telex: 263740

Chairman's Office

17 January 1986

CF

We should have picked this up from the earlier meeting. PL note this MSA 20/1 clear on the file & on all the lists we use.

The Private Secretary
10 Downing Street
LONDON SW1

Dear Sir

Would you please note that our address is 50 Curzon Street, London W1Y 7PN - we moved from 14 South Street in November 1984. Also Mr Utiger became Chairman and Managing Director of TI Group plc in May 1984.

Yours faithfully

Mary Christie

Mary S Christie (Miss)

H Orr-Ewing Esq
Chairman
Rank Xerox Ltd
338 Euston Road
LONDON NW1 3BH

~~Sir Roy Sisson CEng, FRAeS~~ Sir Alex Jarratt
Chairman
Smiths Industries PLC
765 Finchley Road
LONDON NW11 8DS

The Rt Hon Lord Keith of Castleacre+
Chairman
STC PLC
STC House
190 Strand
LONDON WC2R 1DU

P Swinstead Esq
Chairman
Systems Designers Ltd
105 Fleet Road
Fleet
HAMPSHIRE

Sir Graham Wilkins+
Chairman
Thorn EMI PLC
Thorn House
Upper St Martin's Lane
LONDON WC2H 9ED

R E Utiger Esq CBE
~~Chairman~~ Managing Director
~~Group~~ TI Group PLC
~~14 South Street~~ 50, Curzon Street,
LONDON W1Y 7PN.

Sir Terence Beckett CBE, FEng FIMechE, CBIM, FIMI
Director General
CBI
Centre Point
103 New Oxford Street
LONDON WC1A 1OU

Sir Robert Clayton CBE, FEng, FIEE, FInstP, FRAeS, FIERE, FIEEL
Chairman
Information Technology Skills Agency
~~c/o CBI Education Foundation~~
~~Centre Point~~
~~103 New Oxford Street~~
~~LONDON WC1A 1OU~~
GEC Hirst Research Centre
East Lane, Wembley, Middx
HA9 7PP

+ appointed Chairman since May 21

Sir Francis Tombs BSC, LLO, FEng, FIEE, FIMechE
N M Rothschild and Sons
[illegible] Swithuns Lane
LONDON EC4

Robin Duthie Esq CBE†
Chairman
Scottish Development Agency
120 Bothwick Street
Glasgow
G2 7JP

Sir Peter Masefield
Chairman
Industry Year 1986
Royal Society of Arts
8 John Adam Street
LONDON WC2

⊛ ~~Mr. J. S. Whyte, CBE, Deputy~~ Chairman
National Electronics Council
Room 211
Savoy Hill House, Savoy Hill, London WC2R 0BU

✓ *Professor William Gosling will attend

*NB also rep. for Plessey

† appointed Chairman since May 21

⊛ Copy also sent to Mr. Whyte at his firm's address, for safety:

Chairman,
Plessey Telecom International
Taplow Court
Taplow
Berks, SL6 0ER.

✓ H. Kroch, CBE
A.B. Electronics
Aberaynon
Mid-Glamorgan

Sent on 20/1

PTO

Invitations sent 3.2.86:

Professor Sir Peter Swinnerton-Dyer
Chairman
University Grants Committee
14 Park Crescent
W1N 4PH.

Christopher Ball, Chairman
Board of the Nat Advisory Body for Public
Sector Higher Education
22 Percy Street
London SW1

Attending

Professor Norman Gower
Deputy Vice Chancellor
Open University
Walton Hall
Walton
Milton Keynes MK7 6AA

Professor Peter Thompson.
Deputy Rector
Polytechnic of Central London
35 Marylebone Road
London NW1 5LS.

Dr Graham Hills
Principal
Strathclyde University
McCance Building
16 Richmond Street
Glasgow G1 1XQ

Professor John Ashworth
Vice-Chancellor
University of Salford
Salford M5 4WT

Not coming

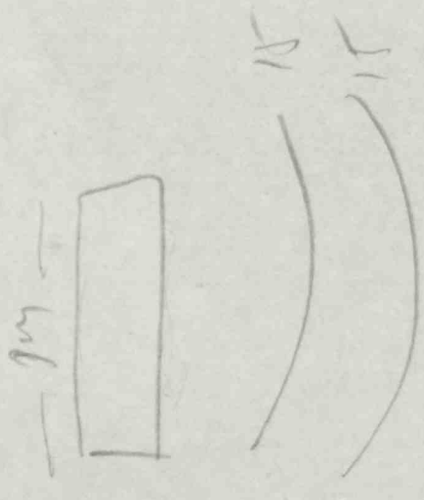
(QSAVQ)

ENGINEERING AND TECHNOLOGY PROGRAMME MEETING: 24 FEBRUARY

LIST OF PARTICIPANTS

A	Sir Francis Tombs	Rolls Royce
	Mr. J. D. Alun-Jones	Ferranti plc
	Mr. Henry Kroch	A. B. Electronics
	Mr. Paul Roots	Ford Motor Co. Ltd.
	Mr. A. B. Cleaver	IBM Holdings (UK)
	Mr. Robin Duthie	Scottish Development Agency
B	Sir Robert Clayton	Information Technology Skills Agency
	Mr. G. J. Lomer	Racal Electronics plc
	Sir George Jefferson	British Telecom plc
	Professor William Gosling	Plessey Company plc (also rep. for National Electronic Council)
	Sir Terence Beckett	CBI
	Mr. A. K. Gill	Lucas Industries plc
	Mr. Derek Roberts	General Electric Company plc
	Sir Alex Jarratt	Smiths Industries plc
	Mr. Philip Swinstead	Systems Designers Ltd.
	Sir Peter Masefield	Chairman, Industry Year 1986
	Mr. David Baldwin	Hewlett-Packard Ltd.
	Mr. H. Orr-Ewing	Rank Xerox Ltd.
	Mr. A. Poot	Philips Electronics and Assoc. Industries Ltd.
	Mr. R. E. Utiger	TI Group plc
	Sir Austin Pearce	British Aerospace plc
	Sir William Barlow	BICC plc
	Lord Boardman	National Westminster Bank plc
	Mr. P. A. B. Hughes	Logica Holdings plc
	Mr. C. Ball	Board of National Advisory Body for Public Sector Higher Educ.

Mr. P. Swinnerton-Dyer	University Grants Committee
Sir John Harvey-Jones	ICI plc
Professor P. Thompson	Deputy Rector, Polytechnic of Central London
Dr. Graham Hills	Principal, Strathclyde University
Professor Norman Gower	Deputy Vice Chancellor, Open University
The Rt. Hon. Sir Keith Joseph, M.P.	Secretary of State for Education and Science
The Rt. Hon. Nicholas Edwards, M.P.	Secretary of State for Wales
The Rt. Hon. Lord Young of Graffham	Secretary of State for Employment
The Rt. Hon. Malcolm Rifkind, Q.C., M.P.	Secretary of State for Scotland
The Rt. Hon. Paul Channon, M.P.	Secretary of State for Trade and Industry
Mr. George Walden, M.P.	PUSS, Department of Education and Science
~~Mr. John Butcher~~ Mr Geoffrey Pattie, M.P.	~~PUSS~~ MPS, Department of Trade and Industry
Sir Robin Nicholson	Cabinet Office



DTI

DEPARTMENT OF TRADE AND INDUSTRY
1-19 VICTORIA STREET
LONDON SW1H 0ET
Telephone (Direct dialling) 01-215)
GTN 215) 5422
(Switchboard) 01-215 7877

Secretary of State for Trade and Industry

PS/

20th February 1986

Mark Addison Esq
Private Secretary to the
Prime Minister
10 Downing Street
LONDON
SW1

MEA

Dear Mark,

ENGINEERING AND TECHNOLOGY PROGRAMME : MEETING WITH INDUSTRIALISTS AND EDUCATIONALISTS ON 24 FEBRUARY

File with MEA

I have shown Rob Smith's letter to you of 17 February and the enclosed draft press notice to my Secretary of State. He endorses for his part the advice in the letter and the terms of the proposed press notice.

I am sending copies of this letter to the recipients of Rob Smith's.

N. Parkins

NICOLA PARKINS
Private Secretary

1786 BOARD OF TRADE BICENTENARY

DW3AIS

999-1

Sc + TECH: Switch: Jan 1986

10 DOWNING STREET

From the Private Secretary

19 February 1986

I enclose a copy of a letter from Rank Xerox, for next Monday's meeting. I am not clear whether they have copied this material to you as well, but I thought it best to pass it on in any case.

MARK ADDISON

Mrs. Shirley Trundle,
Department of Education and Science.

10 DOWNING STREET

From the Private Secretary

19 February 1986

I enclose a copy of a letter from Rank Xerox, for next Monday's meeting. I am not clear whether they have copied this material to you as well, but I thought it best to pass it on in any case.

MARK ADDISON

Mrs. Shirley Trundle,
Department of Education and Science.

10 DOWNING STREET

From the Private Secretary

19 February 1986

Thank you for your letter of 18 February with which you enclosed material for the Prime Minister's meeting next Monday. It was good of you to write and I know the Prime Minister will be grateful to have this information.

MARK ADDISON

T. G. Nicol, Esq.

Rank Xerox Limited
338 Euston Road
London NW1 3BH
Telephone 01 380 8000
Telecopier transceiver 01 380 8001
Telex 22921

Direct Line 01 380 8146

PES

RANK XEROX

Mr. M. Addison,
Private Secretary,
10 Downing Street,
London SW1

18th February 1986

Dear Mr. Addison,

My Chairman, Hamish Orr-Ewing, has asked me to send you the enclosed in anticipation of the Prime Minister's meeting next Monday afternoon.

This information summarises Rank Xerox's initiatives in Higher Education during 1985/86 and our programme in support of Industry Year, costing in excess of £1M.

Should you have any queries please do not hesitate to contact me direct.

Yours sincerely,

T.G. Nicol
Manager Personnel and Executive Services

encls:2

Registered Office:
338 Euston Road, London NW1 3BH
Registered in England No. 575914
A subsidiary of Xerox Corporation USA

DRAFT PRESS NOTICE

PRIME MINISTER HOSTS ENGINEERING AND TECHNOLOGY MEETING

The Prime Minister today met 34 leading industrialists and academics at 10 Downing Street to review an initiative which was launched last year aimed at producing more engineers and technologists.

The meeting was also attended by (insert list of Ministers).

The Prime Minister, who held a similar meeting on 21 May last year, praised efforts made by employers, universities and polytechnics to make a success of the 1985 Engineering and Technology Programme which was announced by Sir Keith Joseph on Budget Day last year.

"I congratulate industry on the extensive help that it has already offered the universities and polytechnicss selected for this Programme", she said. "Over 200 companiess have contributed in various ways, for example, by donating equipment, lending staff for part-time teaching, helping with the design of courses, providing more training places with firms and sponsoring more students."

"The value of the assistance given has been estimated at £24 million - and not all of the help provided has been costed."

The meeting agreed that an excellent start had been made but more needed to be done if Britain's future requirements for engineers and technologists were to be fully met.

Industry Year '86 was also discussed and its contribution to the reinforcing of links between education and industry was fully supported.

DETAILED POINTS OF AGREEMENT

The meeting endorsed the following points on future policy for education and training in engineering and technology.

- First degree courses ought to instruct students in the foundations of engineering and science and their application to broad areas of engineering practice.

  There should be an increased emphasis on problem-solving. Some courses could reasonably have a specialist element, such as information technology, but, in a fast changing and highly competitive world, more broadly based courses were needed. The Engineering Council was actively purusing the reform of degree courses with these aims in view.

- More highly qualified students had to be persuaded to enroll for engineering and technology degree courses. Institutions of high education needed to sell these courses to students and also their post experience courses to industry. There was scope for a more vigorous marketing approach by many higher education institutions. Some were doing well but others could do better.

- A first degree was not a sufficient qualification for a full career in engineering or science. Employers should take responsibility for the induction of new graduates and the provision of specialised knowledge, perhaps through post-experience courses at higher education institutions.

  Employers and education institutions needed to develop updating courses and the DES's Pickup programme

was already achieving success in stimulating such developments. Employers should encourage their engineers to take them.

- One problem was how to improve the quality and quantity of careers advice to school children at all ages from 12 upwards. Employers should take the initiative in offering help to schools and should also provide secondment and training for school teachers.

  The many Industry Year initiatives now in train to tackle these problems must be developed and sustained in future years. Engineers had a professional responsibility to visit schools and to convince children that engineering and inddustry could provide a stimulating and worthwhile career.

- The sponsorship of students by industry was an important means of attracting talent into engineering. Employers also needed to make it clear to school children and to undergraduates that they offered worthwhile careers to engineers, with routes into management for those with the right qualities.

- It was recognised that competent science, technology and mathematics teachers in schools were likely to remain in short supply. The school teachers' pay system needed to be more flexible so as to attract and retain more competent teachers of these subjects and the Government's proposals for increasing the pay of teachers were designed to have this effect.

- Industry and higher education could help to ease the shortage by making staff available to help with the in-serrvice training of school teachers and to stimulate interest in school teaching as a career.

- Government policies were already designed to remove the obstacles that had in thee past prevented an adequate supply of the right quality of engineers and technologists. The £43 million allocated over a 3 year period to the engineering and technology initiative was one example.

  The new General Certificate of Secondary Education would also be of crucial importance by encouraging a more practical curriculum with greater emphasis on problem-solving. Ministers agreed to consider what more could be done.

- The Government departments concerned would now discuss with the Information Technology Skills Agency how to increase the supply of school leavers with sciencce, technology and maths qualifications and would discuss with the engineering Council whether there were branches of engineering other than IT which needed special attention.

Mark,
Sent as requested
Sue
19/2.

Thanks.
Re file: MEA 19/2

PRIME MINISTER

ENGINEERING AND TECHNOLOGY MEETING: MONDAY 24 FEBRUARY

You will be chairing the "Switch" meeting on Monday afternoon. It follows up the earlier meeting you held last May.

The DES will be providing full briefing for your Weekend Box. There is also a pre-meeting of Ministers before the meeting itself.

DES believe that the progress made under this programme represents a success story for co-operation between industry and education. Sir David Hancock suggests that we issue a press notice after the meeting which would reflect the points agreed with the indusrialists on the way forward, and which would welcome the steps which had already been taken. He proposes to clear the notice in advance with the industrialists, and it could then be circulated at the meeting and formally ratified by all concerned. Sir Francis Tombs and Mr Robert Clayton, who act as the industrialists' spokesmen, are meeting their colleagues tomorrow, and it would be helpful to know by then whether you were content with this general approach. A shot at a draft press notice is attached.

- Content that DES should try to secure an agreed press notice in advance, along the lines of the attached, and that this should be circulated at the meeting for final agreement?

You rightly said at the diary meeting on Monday that more people were coming to this meeting than the last. The total number is likely to be about 40. You thought the Pillared Room would be the most suitable; (laid out, I think, in rows

as was done for the Education Seminar). Could I confirm that you would prefer to use the Pillared Room rather than the Large Dining Room as we did for the Crime Prevention Seminar.

Yes

- Prefer the Pillared Room to the Large Dining Room?

Yes

mb

Mark Addison

MARK ADDISON

18 February 1986

SLHAJU

ES

cc MJ/EA

alan Griffiths

DEPARTMENT OF EDUCATION AND SCIENCE
ELIZABETH HOUSE YORK ROAD LONDON SE1 7PH
TELEPHONE 01-934 9000

FROM THE SECRETARY OF STATE

Mark Addison Esq
Private Secretary
10 Downing Street
London SW1

17 February 1986

Dear Mark

ENGINEERING AND TECHNOLOGY PROGRAMME: MEETING WITH INDUSTRIALISTS AND EDUCATIONALISTS ON 24 FEBRUARY

I refer to our correspondence about the Prime Minister's meeting on 24 February.

2. As David Hancock has mentioned to you on the telephone, industrial support for the engineering and technology 1985 initiative has been impressive. Furthermore my Secretary of State and Mr Walden have held separate and very constructive meetings with smaller groups of industrialists and academics to consider what could be done to increase the responsiveness of HE Institutions to the needs of employers. A number of very important points of agreement have been identified and the attitude displayed by both the employers and the representatives of academia has been very positive indeed. My Secretary of State therefore believes that the Prime Minister's meeting on 24 February could be an occasion to publicise these encouraging developments.

3. I enclose a draft of a press notice which might, if the Prime Minister agrees, be issued by No. 10 after the meeting. The text is still being negotiated with Sir Robert Clayton and Sir Francis Tombs who are leading for the industrialists' group. If the Prime Minister had any views on the draft it would be very helpful to know them before Wednesday morning when Sir Francis Tombs is holding a preparatory meeting of all the industrialists concerned.

4. The Prime Minister might also wish to give some preliminary thought now to the handling of the meeting. As the attached draft press notice shows, there are many complex and important aspects to the problem that could be discussed and everyone will have to exercise considerable self-restraint in commenting. Each of the industrialists will no doubt wish to say something but Sir Robert Clayton will do his best to encourage them to be brief and to leave the opening statements to himself and Sir Francis Tombs.

5. We suggest therefore that the Prime Minister begins the meeting by congratulating all concerned on the spirit of co-operation that has been demonstrated in the period since her last meeting on 21 May 1985. She might then call on Sir Robert Clayton to report on behalf of ITSA and then Sir Francis Tombs on behalf of the Engineering Council. Thirdly Sir Terence Beckett would like to say a few words on behalf of the CBI, mainly, we believe, to discourage Ministers from expecting industry to bear too much of the cost of the increased effort still needed.

6. The Prime Minister could then throw the discussion open and call on the academics present to respond to points made by the industrialists when it seemed best to do so.

7. Towards the end of the meeting copies of the draft press notice could be put round. Sir Robert Clayton and Sir Francis Tombs would then say that they endorsed the text on behalf of ITSA and the Engineering Council and the Prime Minister could hope to get agreement to its being issued without any need to allow detailed comments.

8. I am sending copies of this letter and the enclosure to the Private Secretaries to the Secretaries of State for Employment, Trade and Industry, Scotland and Wales and Mr Butcher at the DTI. Copies also go to John Wiggins (Cabinet Office) and Sir Robin Nicholson.

Yours sincerely

Alison Kennedy

pp R L SMITH
Private Secretary

ES

DRAFT NO. 10 PRESS NOTICE

HIGHER EDUCATION AND INDUSTRY

The Prime Minister today met [28] leading industrialists and [6] leading academics at No. 10 Downing Street to discuss the Engineering and Technology 1985 Initiative and co-operation between employers, universities and polytechnics.

2. With the Prime Minister at the meeting were [insert list of Ministers attending].

3. The Prime Minister congratulated all concerned on the efforts that had been made by employers, universities and polytechnics to make a success of the Engineering and Technology Programme launched by Sir Keith Joseph on Budget Day 1985. "There is a new spirit of co-operation abroad" she said.

4. The meeting welcomed the extensive help that industry had already offered the universities and polytechnics selected for the Engineering and Technology Programme. Over 200 companies had contributed in various ways, eg. by donating equipment, lending staff for part-time teaching, helping with the design of courses, providing more training places with firms and sponsoring more students. Not all the assistance had been costed - the amount costed totalled £24 million, but there was a good deal more besides. The meeting agreed that this was a very good start but that more needed to be done if the economy's future needs for engineers and technologists were to be fully met.

DETAILED POINTS OF AGREEMENT

5. The meeting endorsed the following summary statement of the main points of agreement on future policy for education and training in engineering and technology. These had been identified in detailed discussions following the Prime Minister's last meeting with industrialists on this subject on 21 May 1985:-

(1.) First degree courses ought to instruct students in the foundations of engineering and science and their application to broad areas of engineering practice. There should be an increased emphasis on problem solving. Some courses could reasonably have a specialist element, such as information technology, but, in a fast changing and highly competitive world, relatively more broadly based courses were needed. The Engineering Council were actively pursuing the reform of degree courses with these aims in view.

(2.) More highly qualified students had to be persuaded to enroll for engineering and technology degree courses. Institutions of higher education needed to sell these courses to students and also their post experience courses to industry. There was scope for a more vigorous marketing approach by many higher education institutions. Some were doing well but others could do better.

(3.) A first degree was not a sufficient qualification for a full career in engineering or science. Employers should take

responsibility for the induction of new graduates and the provision of specialised knowledge, perhaps through post-experience courses at higher education institutions. Employers and education institutions needed to develop updating courses and the DES's Pickup programme was already achieving success in stimulating such developments. Employers should encourage their engineers to take them.

(4.) One big problem was to improve the quality and quantity of careers advice to school children at all ages from 12 upwards. Employers should take the initiative in offering help to schools and should also provide secondment and training for school teachers. The many Industry Year initiatives now in train to tackle these problems must be developed and sustained in future years. Engineers had a professional responsibility to visit schools and to convince children that engineering and industry could provide a stimulating and worthwhile career.

(5.) The sponsorship of students by industry was an important means of attracting talent into engineering. Employers also needed to make it clear to school children and to undergraduates that they offered worthwhile careers to engineers, with routes into management for those with the right qualities.

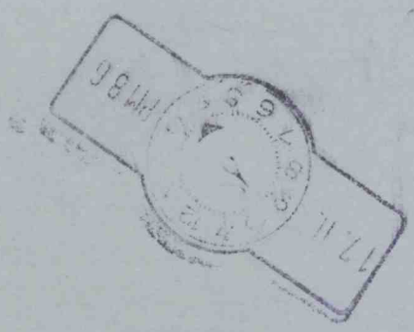
(6.) It was recognised that competent science, technology and mathematics teachers in schools were likely to remain in short supply. The school teachers' pay system needed to be more flexible so as to attract and retain more competent teachers of these subjects and the Government's proposals for increasing the pay of teachers were designed to have this effect. Industry

and higher education could help to ease the shortage by making staff available to help with the in-service training of school teachers and to stimulate interest in school teaching as a career.

(7.) Government policies were already designed to remove the obstacles that had in the past prevented an adequate supply of the right quality of engineers and technologists. The £43 million allocated over a 3 year period to the engineering and technology initiative was one example. The new General Certificate of Secondary Education would also be of crucial importance by encouraging a more practical curriculum with greater emphasis on problem-solving. Ministers agreed to consider what more could be done. The Government departments concerned would now discuss with the Information Technology Skills Agency how to increase the supply of school leavers with science, technology and maths qualifications and would discuss with the Engineering Council whether there were branches of engineering other than IT which needed special attention.

SCIGNCG + TECH

SWITCH Meeting 1/86



chairman & managing director

PHILIPS

arundel great court
8 arundel street
london wc2r 3dt

14 February 1986

The Rt. Hon Sir Keith Joseph Bt MP
Secretary of State for Education and Science
Elizabeth House
York Road
LONDON SE1 7PH

MGA

Dear Secretary of State,

ENGINEERING AND TECHNOLOGY

FILE WITH MGA

I refer to our meeting on this subject on 15th January, and the request from Mr. Mark Addison in his letter of 14th January to write with our further thoughts in advance of our meeting with the Prime Minister on 24th February.

We have consistently agreed with the priority of this subject across a wide range of skill levels. It is clear that we will need increasing numbers of good applicants with good honours degrees, with pass degrees and with other technical qualifications.

Within the broad ranges of these problems, we see a clear responsibility of Government to maximise the supply side and we recognise a clear responsibility of industry both in the areas of training and re-training of our own personnel and in maintaining links with Universities and Schools.

During the last nine months we have seen a number of developments in the different Business Groupings within Philips Electronics (which includes Mullard, Pye, MEL, TMC) for example:-

(a) increased sponsorship of undergraduates in Electronic Engineering and other specially relevant disciplines.

(b) improved liaison with Universities including the appointment of a Senior Scientist in our Research Laboratories with a direct responsibility for this.

(c) continuing attention to all levels of technical skills - we are as concerned with skilled technicians as much as those with different graduate and post graduate qualifications.

continued .....

(d) initiatives, often linked to Industry year, to stimulate interest and understanding of our industry within the different but related groups of school children, teachers and parents - perhaps most importantly with careers teachers.

Within the electronics industry, we in Philips are certainly committed to our share of training and re-training costs but we must also point out that companies in other sectors are increasingly using people with electronics skills and it would be unfair on companies such as ours to pay for all that training.

Our separate businesses are investing very heavily in training and re-training to the extent of a total of over £10 million per annum, or about 5% of our total personnel costs. We do not regret that investment but would also like it to be seen against an even greater supply of Engineers and Technologists and a climate more conducive to such people entering industry.

We support the Government initiatives in putting greater emphasis within Higher Education on technical subjects. We think that this is important in itself and in establishing a national backcloth which encourages people to appreciate the importance of industry and particularly technological industry. Perhaps the Government will have to be seen more openly, and more often, cutting subjects such as social sciences or classics at the same time as increasing money for technical subjects.

We have noted that the Prime Minister has associated Industry Year with the meeting on 24th February. It is most important that the standing of British Industry and Technology is seen to be of paramount importance, and the best young people, at all levels, aspire to enter industry, as they do in many of our competitors' countries. There are surely real benefits from some further Government initiatives in these areas.

Some of these initiatives may have to be discriminatory (perhaps even more pay for Science and Maths teachers, perhaps higher grants for technical undergraduates) some of them may be long term (perhaps encouraging 11 - 13 year olds, particularly girls, of the advantages of a technical career in industry) but they must all include a greater emphasis in public thinking towards industry.

continued .....

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Some of these initiatives may have to be discriminatory (perhaps even more pay for Science and Maths teachers, perhaps higher grants for technical undergraduates) some of them may be long term (perhaps encouraging 11 - 13 year olds, particularly girls, of the advantages of a technical career in industry) but they must all include a greater emphasis in public thinking towards industry.

continued .....

Finally, I would add that while we support Industry Year, the need even to consider having such an initiative is significant. We should perhaps be looking beyond that to ensuring that we have "Total Quality" in all that we do.

A. POOT

cc : Mark Addison Esq

SCIENCE + TECH

SWITCH

1/86

File

DSG

10 DOWNING STREET

From the Private Secretary

14 February 1986

I thought you would wish to have to hand a copy of the - final so far as I know - list of those coming to the meeting on 24 February.

Mark Addison

David Harrison, Esq.
The Engineering Council,
10 Maltravers St,
WC2R 3ER.

DSG

File

10 DOWNING STREET

From the Private Secretary

14 February 1986

Dear Sir Robert

I enclose for your information a copy of the final guest list for the Prime Minister's meeting on 24 February.

Yours sincerely

Mark Addison

Mark Addison

Sir Robert Clayton, C.B.E.
Information Technology Skills Agency

File

3GPAVO

cc: Honours

10 DOWNING STREET

From the Private Secretary

14 February 1986

Thank you for your letter of 10 February. I now enclose a copy of - I hope - a final list of those who will be coming to the meeting on 24 February.

The meeting will offer industrialists and representatives from the education world the opportunity to discuss the progress which has been made under the Engineering and Technology Programme, the part they have played in it, and how to go forward from here. I am sure Industry Year will be touched on in that discussion, though I know the Prime Minister will also wish to ask you, at an appropriate moment, for your views on the Programme , and for your assessment of the way Industry Year is shaping up. She would also, I know, be grateful if your remarks could cover how the firms represented at the meeting might develop their contribution to Industry Year, and on the part that education can play, too. The discussion might then turn to Industry Year more generally. Your own contribution need, as you suggest, be no more than five minutes or so.

On your letter about Mr. Kenneth Adams and Mr. Demetri Comino, we shall see that your support for the suggestion of recognition for Mr. Adams and Mr. Comino is taken fully into account.

Mark Addison

Sir Peter Masefield

DSG

File DG2AVN

bc: Ms Sue Cook
FE Division,
Welsh Office
Cathays Park, Cardiff.

10 DOWNING STREET

From the Private Secretary

14 February 1986

ENGINEERING AND TECHNOLOGY PROGRAMME

I enclose a copy of the final list of those attending the meeting on 24 February, for information.

I should be grateful if the briefing for this meeting could be with us by Wednesday 19 February.

I am copying this letter and enclosure to John Lambert (Department of Employment), John Mogg (Department of Trade and Industry), Robert Gordon (Scottish Office), Colin Williams (Welsh Office), John Wiggins (Cabinet Office) and Sir Robin Nicholson.

Mark Addison

Rob Smith, Esq.,
Department of Education and Science.

MEA

THORN EMI

THORN EMI House
Upper Saint Martin's Lane
London WC2H 9ED
telephone 01-836 2444
telex Thorn London 24184/5

FROM Sir GRAHAM WILKINS
CHAIRMAN & CHIEF EXECUTIVE

GJW/JMM

13th February 1986

1. GR
Have we ever already aware?

Mark Addison Esq.,
10 Downing Street,
LONDON W.1.

2. MEA Faxed.

Dear Mr. Addison,

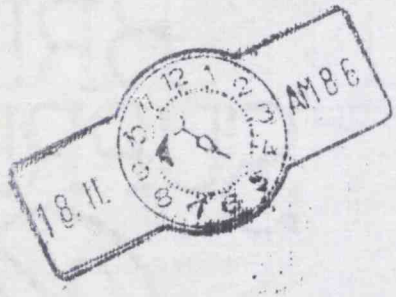
Thank you for your letter of 14th January informing me of the meeting to be held on February 24th to discuss the Engineering and Technology programme. Unfortunately I am unable to attend. However as requested I have sent a letter to Sir Keith Joseph setting out the position with regard to THORN EMI.

Yours sincerely,

J M Murdoch

pp Graham J. Wilkins

THORN EMI plc
Registered Office THORN EMI House Upper Saint Martin's Lane London WC2H 9ED
Registered in England No. 229231


18. II.
AM 8 6

Principal and
Vice-Chancellor: Graham Hills, PhD, DSc, CChem, FRSC, FRSE

University
of Strathclyde

McCance Building, 16 Richmond Street,
Glasgow G1 1XQ Tel: 041-552 4400

Our Ref: GJH/GRW

GF/GR

13 February 1986

File pl. Met Foster
details does he want?!
NEA

Mr Mark Addison
Private Secretary
10 Downing Street

Dear Mr Addison

Thank you for your letter of February 3 1986. I shall be pleased to attend the meeting at No 10 on February 24 1986 and look forward to further details.

Yours sincerely

I have discussed this
of this way in person
MA 20/2

Graham Hills

Graham Hills

SCIENCE + TECH

SWITCH

1/86

QD

Imperial Chemical Industries PLC

From
Sir John Harvey-Jones, M B E
Chairman

Imperial Chemical House
Millbank London SW1P 3JF

Telephone 01-834 4444

Mr M Addison
Private Secretary
10 Downing Street
LONDON SW1

12 February 1986

NOTED

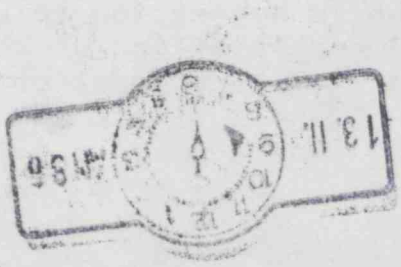
Dear Mr. Addison

I am so sorry for the delay in replying to your letter of 14 January, although my secretary has already advised you that I am looking forward to attending the Prime Minister's meeting on 24 February.

I have noted the points you wish me to be in a position to cover, and I am sending my brief to Sir Keith Joseph's office as you have requested. I will also be in a position to comment on what we are doing for Industry Year.

Yours sincerely

John Harvey-Jones



MJ2BNX

10 DOWNING STREET

From the Private Secretary

12 February 1986

Thank you for your letter of 11 February. I know the Prime Minister will be disappointed that neither Mr Halpern nor Mr Bracken are able to come to the meeting on 24 February but she will be pleased to note your continuing interest in the programme.

Their

Mark Addison

Mrs Mary Lally

A 1

HENRY J. KROCH C.B.E.

AB ELECTRONIC PRODUCTS GROUP PLC
ABERCYNON MID-GLAMORGAN
CF45 4SF

TELEPHONE ABERCYNON (0443) 740331
TELEX 498606 ABEC G

cc MR A SHAW

The Rt Hon.Sir Keith Joseph MP
Secretary of State for Education and Science
Elizabeth House
York Road
London SE1 7PH

11 February 1986

MKA

Dear Secretary of State,

Engineering and Technology Programme
Meeting at No. 10 Downing Street, Monday 24 February 1986

In a letter from 10 Downing Street dated 20 January 1986 the Prime Minister's Private Secretary, Mark Addison, asks for a submission to be sent to you in advance of the abovementioned meeting, and I have pleasure in attaching this.

I would like to apologise for the delay in responding, due to my absence from my office for the past ten days.

Looking forward with interest to the meeting on the 24th, -

Yours sincerely,

Henry Kroch

Chairman

Engineering and Technology Programme

Meeting at 10 Downing Street
24 February 1986

Submission by Henry J. Kroch, Chairman
AB Electronic Products Group PLC

1 General observations

My Company welcomes the Engineering and Technology Programme and sees it as very much a step in the right direction. As my detailed comments below will indicate, we co-operate fully with the initiative and plan to extend our efforts further in this direction.

My rapidly expanding Group (total sales £130m - £140m p.a., 3,500 employees) has twelve manufacturing locations of which seven are in South Wales, three in the South of England and two abroad (EEC). I note with much disappointment that none of the institutions in the area of our seven important Welsh factories employing 2,500 people are benefiting from either Phase 1 or Phase 2 of the Programme.

No doubt, the University Grants Committee has based its assessment carefully on conditions prevailing at present, but if companies like mine (thirty-six years in South Wales) are to grow further in South Wales and the Secretary of State for Wales's high-tech, inward investment policies are to continue to succeed, increased and better technical and higher education in this region are a basic requirement.

2 Relative attractions of University and Public Sector institutions

Both are required. We differentiate between the old, traditional universities such as Cardiff and Birmingham and the newer institutions which have achieved university status after graduating through the ranks of colleges of advanced technology (CATS) and polytechnics. The traditional universities prefer science to technology and do not always readily relate to industry. (There are exceptions, e.g. Cambridge.) Students from traditional institutions are noted for their fundamental research capability, and have an assured place in the larger technology firms.

Newer institutions have a closer affinity to industry, often because they have, as CATs and polytechnics, recruited their teaching staff from industry, e.g. University of Wales Institute of Science and Technology (UWIST). Their students adapt easily to industry. Students from polytechnics are generally of lower academic ability, as otherwise they would have chosen university in most cases. They are however very good and have a practical leaning.

continued

3 Company's plans to recruit and develop graduates

We visit about fifteen U.K. universities every year, to publicise the opportunities in our Company and shortlist up to sixty graduates who visit our factories. All first appointment graduates come under a training programme to meet the requirements of Engineering Council to become Chartered Engineers. For those without an honours degree the aim is registration as Technician Engineers.

With the rapid growth of the Company we plan to appoint a graduate training officer for the Group. Training is our most cost effective way of recruitment.

We currently have twelve students under sponsorship in Wales, and generally sponsor about six per annum. We provide about thirty vacation posts during an average year, including two places for foreign students.

The Company needs to raise these figures to cater for increased recruitment, as it moves into higher technology.

4 Implications for future links between Industry and Higher Education

Closest links are essential for industry. If academics are to take the liaison seriously industry must be seen to back it and be represented at high level, and that is the policy we pursue.

We help to formulate the structure of curricula and have assisted university course management and syllabus committees. We sit on high level appointments boards at UWIST. We provide visiting lecturers at universities, notably Loughborough. We send our first appointment graduates on intensive courses to institutions like City University and Cranfield, and also to equipment manufacturers' support courses e.g. CAD training at Computervision.

We encourage participation in evening courses at local colleges of further education and higher education by paying the fees, and also hold short in-house courses.

We do provide lecture support to university colleges and are involved in lay bodies at main board level (Council of UWIST, Court of Cardiff University College).

continued

5 Level of investment in training

Training in all its aspects at our UK establishments is running at approximately 0.07% of turnover.

6 Company's involvement in Industry Year

Our main Group board decided at a meeting in 1985 that the Group would support Industry Year, and I have issued an instruction accordingly to the managing directors of all our UK subsidiaries.

We have a senior representative on the South Wales East Committee for Industry Year.

We are participating in the "Careers in Industry" exhibitions in Swansea and Cardiff, to interest Lower Sixth pupils in a career with our Group and to strength links between secondary education and industry.

We are giving financial support to UBI (Understanding British Industry), have a senior representative on the local UBI committee and regularly have local teaching staffs at our Welsh factories.

We plan to have open days this year, where practical.

7 Teachers from Industry

Only our most able and mature technologists could contribute. Younger persons could not readily be spared.

Two questions arise:-

1 Teaching qualifications. One could previously qualify as a technician teacher on a part time basis. These courses do not now seem to exist. They ought to be re-introduced.

2 Union qualification. The problem of non acceptance by teaching unions of part time, "non qualified" teachers will have to be faced.

The above comments are kept brief and are intended merely to convey a general indication of the Company's general thoughts and policies on the subject matter.

12 February 1986

Henry J. Kroch

SCIENCE + TECH

SWITCH

1/86

BY APPOINTMENT TO HER MAJESTY QUEEN ELIZABETH II TAILORS, THE BURTON GROUP PLC, LEEDS.

BY APPOINTMENT TO HER MAJESTY QUEEN ELIZABETH THE QUEEN MOTHER TAILORS, THE BURTON GROUP PLC, LEEDS.

The Burton Group plc

8-11 GREAT CASTLE STREET · LONDON W1N 7AD · TELEPHONE 01-927 0002 · TELEX 21484

CHAIRMAN'S OFFICE

MEA

11 February 1986

Mr M Addison
Private Secretary
10 Downing Street
London SW1

Dear Mr Addison

Thank you for your letter of 14 January 1986, addressed to Mr R C Thornton at Debenhams Plc.

Mr Thornton has passed your letter and the attached information to this office, for the attention of Mr Ralph Halpern, Chairman of the Burton Group, and although we would very much like to send a representative to the meeting on 24 February, regret that neither Mr Halpern nor Mr Charles Bracken, our Personnel Director, are available on that date. Perhaps I could ask you to keep us informed of progress on this matter and confirm our interest in being invited to the next meeting.

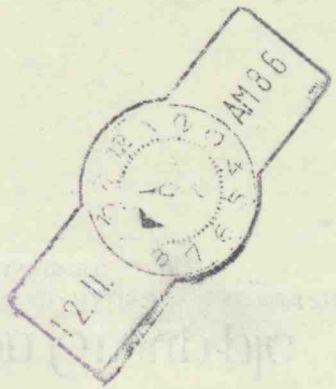
Kind regards.

Yours sincerely

Mary E Lally
PA to R M Halpern

The Burton Group plc. Registered in England, Company No. 237511. Registered Office: Hudson Road Mills, Leeds LS9 7DN.

BURTON DOROTHY PERKINS TOP SHOP TOP MAN evans collection PETER ROBINSON PETER ROBINSON PETER ROBINSON High Street Transport JACKSON Property And Shop Development PRINCIPLES Manufacturing FENTON Studio


AM 36

pcl

The Polytechnic of Central London
115 New Cavendish Street London W1M 8JS Tel: 01-486 5811
Telex 25964 Telegrams Polytechnic London W1

date 11 February, 1986.

reference PJT/MJL

addressee

Mark Addison Esq.,
Private Secretary to the Prime Minister,
10 Downing Street,
London S.W.1.

MGA

telephone ext 6238

Deputy Rector: Professor Peter J Thompson BSc MSc
DTech CEng FIMechE FIProdE FIPlantE

Dear Mr. Addison,

Thank you for your letter dated 3 February in which you invite me to a meeting at No. 10 on Monday, 24 February.

I am happy to accept this invitation and have noted the item on the agenda.

Yours sincerely,

Thompson.

Professor Peter J. Thompson
Deputy Rector

13.11.

GUO

THE OPEN UNIVERSITY

Walton Hall, Walton,
Milton Keynes,
MK7 6AA.
Tel: Milton Keynes (0908) 653214
Telex: 825061

Vice-Chancellor
J H Horlock ScD FEng FRS

10 February 1986

Our Ref. ALB/LJR

Your Ref.

Mr. Mark Addison,
Private Secretary,
10 Downing Street,
LONDON

Dear Mr. Addison,

Thank you for your invitation to Professor Gowar to attend a meeting at 10 Downing Street on Monday, 24 February at 3.30 p.m. Professor Gowar will be pleased to attend.

Yours sincerely,

Anne Barrington

Anne Barrington
Private Secretary to
the Vice-Chancellor

MGA

13. III.
AM 8-6

THE ROYAL SOCIETY *for the encouragement*
OF ARTS *Manufactures and Commerce*

JOHN ADAM STREET · ADELPHI · LONDON WC2N 6EZ · *TEL: 01-930 5115 TELEX: 892351*

PGM/MB - 88/86

From: Sir Peter Masefield,
"Rosehill",
Doods Way,
Reigate,
Surrey, RH2 OJT.

10th February, 1986.

Mark Addison Esq.,
Private Secretary to the Prime Minister,
No. 10 Downing Street,
London, S.W.1.

Dear Mr. Addison,

Thank you so much for your letter of 5th February about the Seminar for industrialists to be held at No. 10 on 24th February.

I am most grateful to you for sending me the list of those who have so far responded and accepted the invitation with - I understand - five more still to come in, plus representatives from the educational world.

I am glad to see that a number of old friends are among those who have accepted.

I gather that the Prime Minister wants me to say a few words about Industry Year. I shall be most grateful if you can give me just a little more guidance on the order of events and whether about five minutes is what is required?

I enclose another letter to back up Lord Vinson's suggestion about Kenneth Adams and Demetri Comino, not for the Seminar but in the hope that their major contributions to Industry Year might be considered favourably in due course.

With the best of good wishes,

Yours sincerely,

1986 is
INDUSTRY
YEAR

13. II. AM86

6 February 1986

Many thanks for your letter of 5 February. I know the Prime Minister will be very sorry that you are unable to come to the meeting on 24 February and will quite understand the reasons.

(MARK ADDISON)

Professor J M Ashworth

10 DOWNING STREET

From the Private Secretary

6 February 1986

Thank you for your letter of 5 February. I know the Prime Minister will fully understand the pressures on your diary, and will be quite content for Professor Gosling to represent Plessey at the meeting on 24 February.

MARK ADDISON

Sir John Clark

UNIVERSITY OF SALFORD

Salford M5 4WT/Telephone: 061 736 5843/Telex: 668680 (Sulib)

Professor J M Ashworth, DSc, FIBiol: Vice-Chancellor

JMA/HP.

5th February, 1986.

Mark Addison, Esq.,
Private Secretary to the Prime Minister,
10 Downing Street,
London.

Dear Mark

Thank you very much for your letter of 3rd February inviting me to take part in the meeting that the Prime Minister intends to hold on 24th February at Downing Street on the Engineering and Technology Programme. I very much regret that, due to a number of prior commitments on that day which I have not been able to re-arrange, I will be unable to attend. I am particularly sorry not to be able to attend as Salford University has been able, through this programme, to establish our IT Institute. The latest brochure sent out by the Institute describing our new BSc degree is attached and on the last page you see we list all our current partners. Although the Institute is not as large as we would have wished we are still pleased to be able to contribute in this way to meeting that very real shortage of IT skills.

Yours sincerely

John Ashworth

06. 11.

BSc Information Technology

UNIVERSITY OF SALFORD

Dear Student,

You may have read in the press about Salford's brand new BSc degree in Information Technology. We plan to take our first 55 students in October 1986 and *you* could be one of them.

Through the medium of the IT Institute the University, with strong Government backing, is launching a novel collaborative venture with industry & commerce to equip students with the IT skills needed in our technology-based society. The new Institute will be housed in a custom-designed building in the centre of Salford's parkland campus.

But just what is IT? Put simply, it is the science of information handling, particularly by computers. It enables all the information media – numbers, text, voice, graphics and image to be communicated and processed using the same technique and therefore the same processing and transmission equipment. Word processors, computer graphics, Prestel, bank and cash terminals are all examples of IT applications. There is now a widely recognised national shortage of qualified people with skills in IT and the new Information Technology Institute at Salford aims to help solve this shortage.

The new degree is different in many ways, and this leaflet gives you a brief outline of just some of the topics you can expect to cover during your 3 years at Salford and how the learning experience will differ from conventional courses.

You can apply for admission in October '86 even if you have already applied through UCCA for other courses and you will find details in this leaflet. Good luck with your exams whether you are taking arts or science or both – we are accepting good qualifications in *any subjects* for this programme.

John Richmond.

Vice Chancellor

Admission Requirements

At the University of Salford, we guarantee to find accommodation for you. These self-catering flats in Horlock Court are on the campus.

The BSc (Honours) degree programme in Information Technology will consist of co-ordinated academic study combined with industrial and commercial training.

To qualify for entry to the degree programme you should have:

GCE 'O' Level Mathematics & English

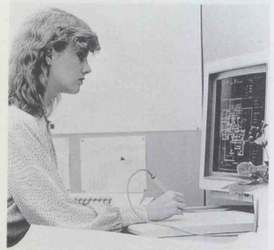
GCE 'A' Levels (or equivalent) in ***any subjects***

We would normally expect you to have at least three subjects at 'A' Level, but we will consider candidates with only 2 'A' levels – provided the grades are high.

We expect to make conditional offers within the GCE 'A' level grade range BBB to BCC. Typical offers to candidates offering Scottish Highers would be in the range AAABB to ABBB. Candidates offering a BTEC National Certificate or Diploma would need an overall distinction or else a combination of distinctions and good merit passes in the individual subjects.

You should also have an aptitude for logical analysis; we can arrange for you to take an aptitude test.

You can apply for the October 1986 intake ***whether or not*** you have already sent in an UCCA form – see 'How to Apply' for details.



Using a graphics system.

What You Will Study

Because this programme aims to attract men and women with 'A' levels in ***any subjects***, we expect that some of you will have had little or no experience of computers, whilst others will be quite skilled. Thus, the first thing you will need to learn is what IT is all about, and how to use your personal computer efficiently. We are planning the course so that as early on as possible everyone will reach a similar level of computing experience.

The first two weeks of the programme will take the form of an intensive short course, – ***The Keynote Course,*** in which you will be given a broad overview of the techniques and computer facilities available for collecting, storing, transferring, analysing and presenting information of all types. This will introduce you, with demonstrations and practical work, to most aspects of IT.

During this period you will also undertake a course designed to provide you with keyboard skills. If you have never used any sort of computer or typewriter before, it will take about twenty hours of your time to become competent at touch-keying.

The rest of the first year covers the underlying principles of IT and the development of skills needed by both the users of IT facilities in business, and those concerned with providing them. An important part of the first year course (and subsequent courses) will be Business Studies. You will find out about the way in which business operates and about the structures and the information flows occurring within a business. This is necessary background information for you to appreciate and use the technology available to support and enhance those information flows.

At the end of your first year you will be asked to choose whether you want to specialise in ***Business Systems*** – concerned with the application of IT facilities in industry and commerce, or in ***Software Technology*** – the way in which IT facilities are provided.

In either case, year two will involve both core and specialist modules designed to give you an in-depth understanding of the range of IT facilities (databases, fourth-generation languages, expert systems, computer communications, business packages) and their use in business.

Year three will provide you with evaluation skills for assessing competing products, client requirements, and the advantages and problems associated with the use of IT in business.

Throughout the three years you will be in close contact with industry and commerce through an industrial seminar programme, project work, and long vacation placements and sponsorships. (See 'How you Study' for details).

You should end up as a highly skilled (and very employable) graduate, with considerable expertise in the provision and application of computer technology for business practices and needs.

Undergraduates in one of the University's computing rooms.

How to Apply for October 1986 Entry

(Applicants for October 1987 entry should apply through UCCA in Autumn 1986)

1. If you HAVE NOT already applied through UCCA for admission to any University in October 1986, then complete an UCCA application form (get it with the free Handbook from your School/College or UCCA) and send it without delay, but before 31 March 1986, to: UCCA, P O Box 28, Cheltenham, Glos. GL50 1HY

⋆ Course code: GN51 Inform Tech ⋆ University of Salford Code: 83

You must NOT use a second UCCA form if you have sent one in already for 1986 entry. UCCA will reject it. Instead, see below.

2. If you HAVE already applied through UCCA for 1986 admission to *any* University for *any* course, arrangements can still be made for you to be considered for this new course. Please fill in the details below.

Personal Information for existing UCCA candidates interested in BSc(Hons) Information Technology at Salford.

First name(s)..... Surname.....

UCCA Serial No ..... Date of Birth.....

Address.....

.....

..... Tel. No.....

'O' Level (or other exams) taken already
Results Obtained (Subject/Grade)

'A' Levels (or other exams) to be taken

Please give details of your existing UCCA choices:

	Present UCCA Choices		Present Status – see key	
	University	Course	University Decision	Your Reply
1.				
2.				
3.				
4.				
5.				

Univ. Decision
U = Unconditional Offer
C = Conditional Offer
R = Reject

Your Reply
P = Provisional Acceptance
F = Firm Acceptance
D = Decline

You may not be able to supply information in every case

Please cut out this page and ask your school or college to send it, together with a reference (a copy of your UCCA form confidential statement if possible) to: Mr D M Lomax, Admissions Office, University of Salford, Salford M5 4WT

You will receive an acknowledgement. There is no need for you to contact UCCA at this stage. The University will be making all the necessary arrangements directly with UCCA.

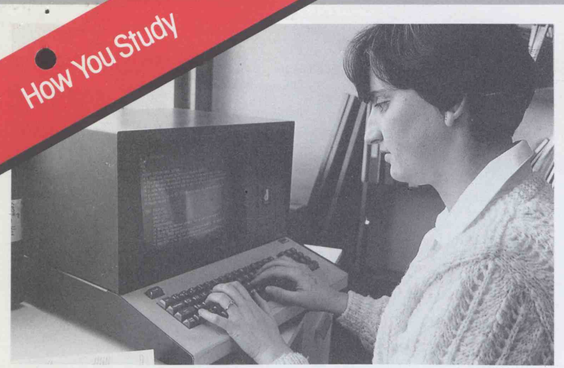
Industrial & Commercial Partnership

It is fundamental to the philosophy of the Institute that industry and commerce should play a strong role in planning, resourcing and running its academic programmes. The following organisations are already committed to partnership in the work of the Institute and more are expected to be involved by October 1986.

The Associated Octel Co
Bearing Services
British Aerospace
British Gas Corporation
British Nuclear Fuels
CAP Group
Digital Equipment Corporation
Equal Opportunities Commission
Ferranti
Flamefast Technology
GEC
IBM
ICI (Mond/Organics/Corporate Divisions)
Information Technology & Marketing
Information Builders
Littlewoods Organisation
National Computing Centre
Norfolk County Council
North West Water Authority
NORWEB Electricity
Prime Computer
Rank Xerox
Sperry
United Kingdom Atomic Energy Authority
Unipart
United Leasing
Wang

A number of these organisations are providing student sponsorships, details of which will be supplied to applicants for the degree programme.

How You Study



Project work will be an important part of the programme.

The Information Technology Institute is the result of collaboration between the University, Industry and the National Computing Centre. It is receiving an initial £1.4 million in Government support and at least that amount again in support from industry and commerce.

The degree programme is planned with the help of IT companies and will combine academic study, team projects and professional training with company sponsorship and paid vacation work.

The Institute is providing a series of 'team rooms', designed to house fifteen students each (five first year, five second, and five third year). Each student will have a desk in the team room equipped with a personal business computer. The personal computers will be linked by a local area network in the Institute, and have cross-campus and wide-area network links for access to main-frame computing facilities.

The project team is a natural unit for many parts of the programme. In particular, you will spend a considerable part of your time working as a member of a team on projects proposed and partly supervised by industrial collaborators. The team project work will not only involve software programming but will also include training in a wide range of areas such as technical writing, project management, user interface design, client interviewing, and communication skills.

One particular feature of the course is a programme of intensive short courses using industrial training techniques, to cover specialised areas and give detailed programming instruction for computer languages and packages.

Another feature of the programme will be a series of seminars helping you to relate what you are doing to standard industrial and commercial practice. This will involve both case study presentations and 'consultancy work', in which your team will discuss and attempt to solve IT problems in a particular organisation.

Whilst there will be a core of traditional University lectures, a strong emphasis is being placed on industrial training techniques, on team-work, and on management and interpersonal skills – all in relation to Information Technology.

Throughout the course, there will be close tutorial support to ensure that those without previous computer experience, or who find some of the approaches unfamiliar, can obtain the personal attention they may need.

Finally, we will be encouraging those of you with an 'A' level in a foreign language to develop your skills in technical language work, possibly through placements with computer firms on the Continent.

Who's Who at the Institute

For the last four years John Turnbull has been the Co-ordinating Manager of the UK Federation of Microsystems Centres based at the National Computing Centre. He is now on full-time secondment from NCC to the Institute.

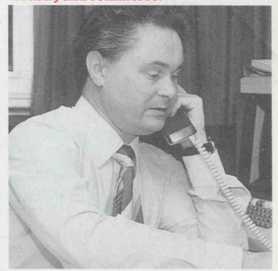
Assessment and Career Prospects

Assessment during and at the end of each year will be by written examinations, tests, course work and practical work.

Career prospects for graduates in IT are excellent. There is a known shortage of qualified people in this area and we would expect Salford graduates to have no difficulty in finding rewarding careers in this fast-growing sector of industry and commerce.

As it is the University's intention that all students studying for the BSc in Information Technology should be sponsored by one of the collaborating organisations, or at least spend two long vacations in a structured work placement, this will give students the opportunity to form a relationship with one or more potential employers.

The IT Institute is taking its first students in October '86 and a core team of staff has been established by secondment from both the University and from industry and commerce.



The Director of the Institute is Dr John Larmouth. He spent the early part of his academic career at Cambridge University and until he took up his present post was Director of Computing Systems Research & Development at Salford. He has wide contacts with industry and commerce and is a well known national and international expert on computer communication.

Gren Dix started his career as a physicist but moved into computing sixteen years ago. Before joining the Institute on full-time secondment he was a Development Manager in the Information Services Department with the North West Water Authority.

NEW FOR OCTOBER 86

BSc Information Technology

INFORMATION TECHNOLOGY INSTITUTE
UNIVERSITY OF SALFORD

CHAIRMAN AND CHIEF EXECUTIVE
SIR JOHN CLARK

The Plessey Company plc
Millbank Tower · London SW1P 4QP
Telephone: 01-834 3855 Telex: 897971

5th February 1986

Mr Mark Addison
Private Secretary to the
Prime Minister
10 Downing Street
LONDON
SW1

Dear Mr Addison.

Further to my letter of 20th January 1986 concerning the Prime Minister's meeting on Monday, 24th February I have now learnt that Professor William Gosling, Technical Director of the Plessey Company plc, will also be attending this meeting in his capacity as a member of the National Electronic Council.

Owing to our current situation my diary is heavily committed at the moment, and whilst I realise the importance of this meeting might I suggest that Professor Gosling, who is a member of our Main Board, represents the Plessey Company.

With the Prime Minister's permission may I be excused from this meeting?

Yours sincerely,

John Clark

Registered in England and Wales Number 203848 at Vicarage Lane, Ilford, Essex.

UNIVERSITY GRANTS COMMITTEE
14 Park Crescent, London W1N 4DH
Telephone 01-636 7799

From the Chairman
Sir Peter Swinnerton-Dyer FRS

M E A Addison Esq
Private Secretary
Prime Minister's Office
10 Downing Street
LONDON SW1

MEA

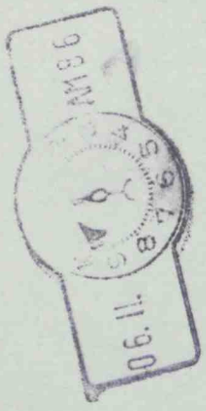
5 February 1986

Dear Addison

Thank you for your letter of 3 February, inviting me to the meeting on Monday 24 February at 1530 which is to be chaired by the Prime Minister. I shall of course be delighted to attend.

Yours sincerely

Peter Swinnerton-Dyer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NATIONAL ADVISORY BODY FOR PUBLIC SECTOR HIGHER EDUCATION

METROPOLIS HOUSE, 22 PERCY STREET, LONDON W1P 9FF 01-637 1132
SECRETARY: John S. Bevan MA MSc FInstP

NAB

Our ref: CB/PA
Your ref:

Mr Mark Addison
Private Secretary
10 Downing Street
London SW1

5 February 1986

MEA

Dear Mr Addison

Christopher Ball has asked me to reply to your letter of 3 February inviting him to attend a meeting in connection with the Engineering and Technology Programme, to be chaired by the Prime Minister at 3.30 pm on Monday 24 February. Mr Ball is delighted to accept this invitation and looks forward to attending the meeting.

Yours sincerely

Louise Slater

Louise Slater (Miss)
PA to the Chairman of the Board

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10 DOWNING STREET

From the Private Secretary

5 February 1986

When we spoke on the telephone a short while ago, you explained that you would be interested in knowing which industrialists were down to come to the Seminar on 24 February.

A list of those who have so far responded, and accepted the invitation, is attached. We have yet to hear from Burtons, Glaxo, ICI, STC and Thorn EMI. As I eplained on the telephone, a number of representatives from the educational world will, the Prime Minister hopes, also be at the meeting.

MARK ADDISON

Sir Peter G. Masefield.

10 DOWNING STREET

From the Private Secretary

5 February 1986

You asked me for a list of those industrialists who have so far accepted the invitation to the meeting of 24 February.

A list of those who have so far responded, and accepted the invitation, is attached. We have yet to hear from Burtons, Glaxo, ICI, STC and Thorn EMI. As I eplained on the telephone, a number of representatives from the educational world will, the Prime Minister hopes, also be at the meeting.

MARK ADDISON

David Harrison, Esq.

Ford Motor Company Limited

Sam Toy
Chairman and Managing Director

Brentwood Essex CM13 3BW
England

February 4th, 1986

Mr Mark Addison
Private Secretary to
the Prime Minister
10 Downing Street
London W1

Dear Mr Addison:

Thank you for your letter of January 29th advising Mr Toy that it would be in order for Mr Roots to attend the Prime Minister's meeting on February 24th, 1986.

Mr Toy asked me to let you know that, in his absence in Helsinki on Company business, Mr Roots would be writing to Sir Keith Joseph as requested in the third paragraph of your letter of January 14th.

Yours sincerely,

B. M. Stock

Secretary to
Sam Toy

BMS

Professor John Ashworth
Vice-Chancellor
University of Salford
Salford M5 4WT.

10 DOWNING STREET

3 February 1986

From the Private Secretary

Dear Professor Ashworth

As you may know, the Prime Minister held a meeting with industrialists last May to discuss the extra support which the companies then represented might make available to the institutions included in the Engineering and Technology Programme. She is to chair a second such meeting on Monday 24 February at 1530 hours here at No.10.

The principal item on the agenda will be the progress achieved in the generation of additional industrial support for institutions included in the Programme. The Prime Minister believes it would be very helpful if there were present some senior academic figures who could provide an evaluation of this exercise from the perspective of institutions included in the Programme and she would therefore like to invite you to be among those attending the meeting.

Other issues which will probably be discussed at the meeting include: the relative attraction to companies of university and public sector institutions as the source of relevant graduates; companies' plans to recruit and develop graduates from the area covered by the Engineering and Technology Programme - including pre-existing courses as well as those directly benefiting from additional resources; the implications of this exercise for future links between industry and higher education in the new technologies; and the future level of company investment in training. On all these topics it will be useful to bring to bear the viewpoint of those actually involved in higher education.

The Prime Minister also hopes the meeting can discuss relevant aspects of Industry Year. Sir Peter Masefield, Chairman of Industry Year 1986 will be among those at the meeting.

The Prime Minister hopes you will be able to attend, and I look forward to hearing from you.

Yours sincerely
Mark Addison

Mark Addison

Professor John Ashworth

Dr Graham Hills
Principal
Strathclyde University
McCance Building
16 Richmond Street
Glasgow G1 1XQ

10 DOWNING STREET

3 February 1986

From the Private Secretary

Dear Dr Hills

As you may know, the Prime Minister held a meeting with industrialists last May to discuss the extra support which the companies then represented might make available to the institutions included in the Engineering and Technology Programme. She is to chair a second such meeting on Monday 24 February at 1530 hours here at No.10.

The principal item on the agenda will be the progress achieved in the generation of additional industrial support for institutions included in the Programme. The Prime Minister believes it would be very helpful if there were present some senior academic figures who could provide an evaluation of this exercise from the perspective of institutions included in the Programme and she would therefore like to invite you to be among those attending the meeting.

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The Prime Minister also hopes the meeting can discuss relevant aspects of Industry Year. Sir Peter Masefield, Chairman of Industry Year 1986 will be among those at the meeting.

The Prime Minister hopes you will be able to attend, and I look forward to hearing from you.

Yours sincerely
Mark Addison

Mark Addison

Dr Graham Hills.

Professor Peter Thompson
Deputy Rector
Polytechnic of central
London
35 Marylebone Road
London NW1 5LS.

10 DOWNING STREET

3 February 1986

From the Private Secretary

Dear Professor Thompson

As you may know, the Prime Minister held a meeting with industrialists last May to discuss the extra support which the companies then represented might make available to the institutions included in the Engineering and Technology Programme. She is to chair a second such meeting on Monday 24 February at 1530 hours here at No.10.

The principal item on the agenda will be the progress achieved in the generation of additional industrial support for institutions included in the Programme. The Prime Minister believes it would be very helpful if there were present some senior academic figures who could provide an evaluation of this exercise from the perspective of institutions included in the Programme and she would therefore like to invite you to be among those attending the meeting.

Other issues which will probably be discussed at the meeting include: the relative attraction to companies of university and public sector institutions as the source of relevant graduates; companies' plans to recruit and develop graduates from the area covered by the Engineering and Technology Programme - including pre-existing courses as well as those directly benefiting from additional resources; the implications of this exercise for future links between industry and higher education in the new technologies; and the future level of company investment in training. On all these topics it will be useful to bring to bear the viewpoint of those actually involved in higher education.

The Prime Minister also hopes the meeting can discuss relevant aspects of Industry Year. Sir Peter Masefield, Chairman of Industry Year 1986 will be among those at the meeting.

The Prime Minister hopes you will be able to attend, and I look forward to hearing from you.

Yours sincerely
Mark Addison

Mark Addison

Professor Peter Thompson

MK2BHO

Professor Norman Gower
Deputy Vice Chancellor
Open University
Walton Hall
Walton
Miton Keynes
MK7 6AA.

10 DOWNING STREET

3 February 1986

From the Private Secretary

Dear Professor Gower

As you may know, the Prime Minister held a meeting with industrialists last May to discuss the extra support which the companies then represented might make available to the institutions included in the Engineering and Technology Programme. She is to chair a second such meeting on Monday 24 February at 1530 hours here at No.10.

The principal item on the agenda will be the progress achieved in the generation of additional industrial support for institutions included in the Programme. The Prime Minister believes it would be very helpful if there were present some senior academic figures who could provide an evaluation of this exercise from the perspective of institutions included in the Programme and she would therefore like to invite you to be among those attending the meeting.

Other issues which will probably be discussed at the meeting include: the relative attraction to companies of university and public sector institutions as the source of relevant graduates; companies' plans to recruit and develop graduates from the area covered by the Engineering and Technology Programme - including pre-existing courses as well as those directly benefiting from additional resources; the implications of this exercise for future links between industry and higher education in the new technologies; and the future level of company investment in training. On all these topics it will be useful to bring to bear the viewpoint of those actually involved in higher education.

The Prime Minister also hopes the meeting can discuss relevant aspects of Industry Year. Sir Peter Masefield, Chairman of Industry Year 1986 will be among those at the meeting.

The Prime Minister hopes you will be able to attend, and I look forward to hearing from you.

Yours sincerely

Mark Addison

Mark Addison

Professor Norman Gower

Christopher Ball
Chairman
Board of the Nat Advisory
Body for Public Sector
Higher Education
22 Percy Street
London SW1

10 DOWNING STREET

3 February 1986

From the Private Secretary

Dear Mr Ball

As you may know, the Prime Minister held a meeting with industrialists last May to discuss the extra support which the companies then representing might make available to the institutions included in the Engineering and Technology Programme. She is to chair a second such meeting on Monday 24 February at 1530 hours here at No.10.

The principal item on the agenda will be the progress achieved in the generation of additional industrial support for institutions included in the Programme. The Prime Minister believes it would clearly be very helpful if there were present some senior academic figures who could provide an evaluation of this exercise from the perspective of institutions included in the Programme. We are accordingly inviting a few senior academic figures from institutions involved. Since the meeting will cover more general issues involving links between industry and higher education, the Prime Minister believes it would also be helpful if higher educational bodies were represented at the meeting and she hopes you will be able to attend.

Other issues which will probably be discussed at the meeting include: the relative attraction to companies of university and public sector institutions as the source of relevant graduates; companies' plans to recruit and develop graduates from the area covered by the Engineering and Technology programme - including pre-existing courses as well as those directly benefiting from additional resources; the implications of this exercise for future links between industry and higher education in the new technologies; and the future level of company investment in training. On all these topics it will be useful to bring to bear the viewpoint of those actually involved in higher education.

The Prime Minister also hopes the meeting can discuss relevant aspects of Industry Year. Sir Peter Masefield, Chairman of Industry Year 1986 will be among those at the meeting.

The Prime Minister hopes you will be able to attend, and I look forward to hearing from you.

Yours sincerely
Mark Addison

Mark Addison

Christopher Ball, Esq.

MJ2BMW

Prof Sir Peter Swinnerton-Dyer
Chairman
University Grants Cmtte
14 Park Crescent, W1N 4PH.

10 DOWNING STREET

From the Private Secretary

3 February 1986

Dear Professor

As you may know, the Prime Minister held a meeting with industrialists last May to discuss the extra support which the companies then representing might make available to the institutions included in the Engineering and Technology Programme. She is to chair a second such meeting on Monday 24 February at 1530 hours here at No.10.

The principal item on the agenda will be the progress achieved in the generation of additional industrial support for institutions included in the Programme. The Prime Minister believes it would clearly be very helpful if there were present some senior academic figures who could provide an evaluation of this exercise from the perspective of institutions included in the Programme. We are accordingly inviting a few senior academic figures from institutions involved. Since the meeting will cover more general issues involving links between industry and higher education, the Prime Minister believes it would also be helpful if higher educational bodies were represented at the meeting and she hopes you will be able to attend.

Other issues which will probably be discussed at the meeting include: the relative attraction to companies of university and public sector institutions as the source of relevant graduates; companies' plans to recruit and develop graduates from the area covered by the Engineering and Technology programme - including pre-existing courses as well as those directly benefiting from additional resources; the implications of this exercise for future links between industry and higher education in the new technologies; and the future level of company investment in training. On all these topics it will be useful to bring to bear the viewpoint of those actually involved in higher education.

The Prime Minister also hopes the meeting can discuss relevant aspects of Industry Year. Sir Peter Masefield, Chairman of Industry Year 1986 will be among those at the meeting.

The Prime Minister hopes you will be able to attend, and I look forward to hearing from you.

Yours sincerely
Mark Addison

Mark Addison

Professor Sir Peter Swinnerton-Dyer.

6

PRIME MINISTER

THE SWITCH

You are meeting industrialists on 24 February to discuss the progress that is being made with the engineering and technology programme. We have had a good response from the 30 or so industrialists invited.

Now that the programme is being implemented, and educational institutions are actively involved in setting up courses and so on, there is a good case for expanding invitations to educational representatives as well. DES advise that the umbrella bodies would need to be invited as well as a number of selected representatives from universities/polytechnics. They propose:

- The Chairman of the University Grants Committee
- The Board of the National Advisory Body for Public Sector Higher Education
- The Board of the Wales Advisory Body for Local Authority Higher Education
- The Scottish Tertiary Education Advisory Council
- Professor John Ashworth, Vice-Chancellor, University of Salford,
- ~~Professor~~ Graham Hills, Principal, Strathclyde University,
- Professor Peter Thompson, Deputy Rector, Polytechnic of Central London,
- Professor Norman Gower, Deputy Vice-Chancellor, Open University,

The argument against including educational representatives is that they will take the numbers at the meeting up to a maximum of a little over 40. This means that we would need to use the large Dining Room, possibly in the

/Seminar

Seminar format. Alternatively, we could put people round the table in a horse-shoe shape.

Would you like education representatives to come to the meeting too? If so, content with the list above?

I think just those I have listed.
We should have to go to the Pillared Room

MEA

MARK ADDISON

31 January 1986

RC

DEPARTMENT OF EDUCATION AND SCIENCE
ELIZABETH HOUSE YORK ROAD LONDON SE1 7PH
TELEPHONE 01-934 9000

FROM THE SECRETARY OF STATE

Mark Addison Esq
Private Secretary
10 Downing Street
LONDON SW1

31 January 1986

Dear Mark,

Thank you for your letter of January 28th. Educationists who we believe might suitably be invited to the No. 10 meeting to describe their institutions' involvement in the Engineering and Technology Programme are:

Professor John Ashworth, Vice-Chancellor,
University of Salford

Professor Graham Hills, Principal,
Strathclyde University

Professor Peter Thompson, Deputy Rector,
Polytechnic of Central London

Professor Norman Gower, Deputy Vice-Chancellor,
Open University

We do not, however, see these people as substituting for any of the educational representatives proposed in my letter of January 24th. In view of the wider agenda of the meeting, we think it is important that the educational participation in the meeting should include those who can speak from a wider perspective and can take back to their organisations the appropriate messages.

I attach draft letters for the two types of invitee to the meeting.

Copies of this letter go to John Lambert (DE), John Mogg (DTI), Robert Gordon (Scottish Office), Colin Williams (Welsh Office), John Wiggins (Cabinet Office) and to Sir Robin Nicholson.

Yours sincerely

Rob Smith

R L SMITH
Private Secretary

RC

MJ2 BMN

DRAFT LETTER TO CHAIRMEN OF UGC, NAB BOARD, ~~WAB BOARD, STEAC~~

As you may know, the Prime Minister held a meeting with industrialists last May to discuss the extra support which the companies then represented might make available to the institutions included in the Engineering and Technology Programme. She is to chair a second such meeting on Monday February 24th at 15.30 hours here at No. 10.

The principal item on the agenda will be the progress achieved in the generation of additional industrial support for institutions included in the Programme. The PM believes it would clearly be very helpful if there were present some senior academic figures who could provide an evaluation of this exercise from the perspective of institutions included in the Programme. We are accordingly inviting a few senior academic figures from institutions involved ~~in the Programme~~. ~~In addition,~~ Since the meeting will cover more general issues involving links between industry and higher education, it ~~would clearly~~ be helpful if ~~the relevant~~ higher educational bodies were represented at the meeting, the PM has believes it would also ~~I would~~ and she hopes ~~therefore like to invite you to be among those attending on February 24th at 15.30 hours. The meeting~~ you will be able to attend.

Other issues which will probably be discussed at the meeting include: the relative attraction to companies of university and public sector institutions as the source of relevant graduates; companies' plans to recruit and develop graduates from the area covered by the Engineering and Technology Programme - including pre-existing courses as well as those directly benefiting from additional resources; the implications of this exercise for future links between industry and higher education in the new technologies; and the future level of company investment in training. On all these topics it will be useful to bring to bear the viewpoint of those actually involved in higher education.

The Prime Minister also hopes the meeting can discuss relevant aspects of Industry Year. Sir Peter Masefield, Chairman of Industry Year 1986 will be among those at the meeting.

The Prime Minister hopes you will be able to attend, and I look forward to hearing from you.

RC

DRAFT LETTER FOR NO. 10 TO SEND TO ACADEMICS IN PROGRAMME INSTITUTIONS

As you may know, the Prime Minister held a meeting with industrialists last May to discuss the extra support which the companies then represented might make available to the institutions included in the Engineering and Technology Programme. She is to chair a second such meeting on Monday February 24th at 15.30 hours here at No. 10.

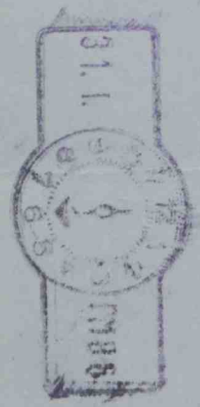
The principal item on the agenda will be the progress achieved in the generation of additional industrial support for institutions included in the Programme. It would ~~clearly~~ be very helpful if there were present some senior academic figures who could provide an evaluation of this exercise from the perspective of institutions included in the Programme, and the physics ~~I~~ would therefore like to invite you to be among those attending the meeting, ~~on February 24th. (We shall also be inviting people from other institutions in the Programme and the Chairmen of relevant higher education bodies).~~

Other issues which will probably be discussed at the meeting include: the relative attraction to companies of university and public sector institutions as the source of relevant graduates; companies' plans to recruit and develop graduates from the area covered by the Engineering and Technology Programme - including pre-existing courses as well as those directly benefiting from additional resources; the implications of this exercise for future links between industry and higher education in the new technologies; and the future level of company investment in training. On all these topics it will be useful to bring to bear the viewpoint of those actually involved in higher education.

The Prime Minister also hopes the meeting can discuss relevant aspects of Industry Year. Sir Peter Masefield, Chairman of Industry Year 1986 will be among those at the meeting.

The Prime Minister hopes you will be able to attend, and I look forward to hearing from you.

SCIENCE + TECHNOLOGY: SWITCH.
JAN 86.



FERRANTI

30th January 1986

Mark Addison Esq
The Private Secretary
10 Downing Street
LONDON
S W 1

Dear Private Secretary

Thank you for your letter of 14th January, advising me of the second meeting the Prime Minister is holding with industrialists on the Engineering and Technology Programme.

I confirm I shall be present on 24th February and that we will be providing the information you require to Sir Keith Joseph's Office before the meeting.

Yours sincerely

J D Alun-Jones
Managing Director

Ferranti plc
Millbank Tower, Millbank, London SW1P 4QS.
Telephone 01-834 6611 Telex 264055 Telegrams Ferranti London SW1P 4QS
Registered Office Bridge House, Park Road, Gatley, Cheadle, Cheshire, SK8 4HZ. Regd. in England 83718

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HENRY J. KROCH C.B.E.

AB ELECTRONIC PRODUCTS GROUP PLC
ABERCYNON MID-GLAMORGAN
CF45 4SF

TELEPHONE ABERCYNON (0443) 740331
TELEX 498606 ABEC G

Mark Addison Esq
Private Secretary to the Prime Minister
10 Downing Street
London

29 January 1986

Dear Mr. Addison,

MLA

Engineering and Technology Programme

Thank you for your letter of 20 January 1986, asking me to attend a meeting with the Prime Minister at No. 10 on Monday, 24 February at 15.30 hours.

This is to confirm that I shall do so, and will also comply with the request to forward a submission to Sir Keith Joseph's office beforehand.

Yours sincerely,

Henry Kroch

Chairman

29 January 1986

Thank you for your letter of 28 January. The Prime Minister will be sorry that you are unable to attend the meeting on 24 February. She will of course fully understand the reason, and hopes that the operation will be a most successful one.

She would be delighted if Mr. Paul Roots were to attend the meeting in your place.

(MARK ADDISON)

Sam Toy, Esq.

BY APPOINTMENT TO
HER MAJESTY THE QUEEN
MOTOR VEHICLE MANUFACTURERS
FORD MOTOR COMPANY LIMITED
BRENTWOOD ESSEX

BY APPOINTMENT TO
H.M. QUEEN ELIZABETH THE QUEEN MOTHER
MOTOR VEHICLE MANUFACTURERS
FORD MOTOR COMPANY LIMITED
BRENTWOOD ESSEX

BY APPOINTMENT TO
H.R.H. THE PRINCE OF WALES
MOTOR VEHICLE MANUFACTURERS
FORD MOTOR COMPANY LIMITED
BRENTWOOD ESSEX

Ford Motor Company Limited

Sam Toy
Chairman and Managing Director

Brentwood Essex CM13 3BW
England

January 28th, 1986

Mr Mark Addison
Private Secretary to
the Prime Minister
10 Downing Street
London W1

Dear Mr Addison:

Thank you for your letter of January 14th inviting me to attend the meeting at 10 Downing Street on February 24th concerning the Engineering and Technology Programme.

Unfortunately I will be going into hospital on February 20th for an eye operation and have therefore had to cancel all engagements for the following fortnight and so cannot accept the Prime Minister's invitation.

Paul Roots, our Industrial Relations Director, who also has responsibility for education, training and recruitment, would be happy to attend should you consider this to be appropriate.

Yours sincerely,

Sam Toy

ST/BMS

Ford Motor Company Limited
Sam Toy
Chairman and Managing Director

Brentwood Essex CM13 3BW
England

Registered in England No. 338419 Registered Office: Eagle Way BRENTWOOD Essex CM13 3BW

V6

10 DOWNING STREET

From the Private Secretary

28 January 1986

Thank you for your letter of 23 January. I know the Prime Minister will be delighted if Mr Cleaver attends the meeting on 24 February in your place.

Mark Addison

Sir Edwin Nixon, CBE.

File

392AUA

10 DOWNING STREET

From the Private Secretary

28 January 1986

ENGINEERING AND TECHNOLOGY PROGRAMME

Thank you for your letter of 24 January. I am grateful for the suggestions in your letter as to those from the education world who might be invited to join the meeting on 24 February.

You say in your letter that inviting representatives from the educational institutions themselves would mean that invidious distinctions had to be drawn. But I wonder whether a choice of this kind would in practice be more difficult than the decisions we are already taking in relation to the industrialists. I should have thought that, if there are to be educational representatives some at least should come from the institutions who are directly concerned, like the industrialists, with the practical question of running the Programme.

If you agree, I should be grateful for the names of, say, three or four people from educational institutions (both universities and polytechnics) involved in the Programme, and your advice as to whether these could in some cases substitute for the educational representatives proposed in your letter. We should need to choose those in the institutions concerned who are closely familiar with the Programme and who would also be appropriate in view of the fact that the industrial representation is on the whole to be at Chairman or Managing Director level.

BF

I should be grateful for an early reply, as we shall need to get any further invitations out as soon as possible.

I am copying this letter to John Lambert (Department of Employment), John Mogg (Department of Trade and Industry), Robert Gordon (Scottish Office), Colin Williams (Welsh Office), John Wiggins (Cabinet Office) and to Sir Robin Nicholson.

Mark Addison

R. L. Smith, Esq.,
Department of Education and Science.

CJ

910

cc PPS

R30/1

SCOTTISH
DEVELOPMENT
AGENCY

Chairman Robin Duthie CBE

The Private Secretary
10 Downing Street
LONDON SW1

27 January 1986

Dear Private Secretary,

Robin Duthie, Chairman of the Scottish Development Agency was grateful for your letter of 14 January inviting him to attend the meeting at 10 Downing Street on Monday 24 February. He is pleased to be able to accept.

Yours Sincerely
Jeff Thornton

JEFF THORNTON
Personal Assistant

120 Bothwell Street Glasgow G2 7JP Telephone 041-248 2700 Telex 777600

ITSA

Information Technology Skills Agency

Chairman: Sir Robert Clayton
Director: J W Nisbet

Please reply to:

GEC Hirst Research Centre
East Lane
Wembley
Middx HA9 7PP

Mr Mark Addison
10 Downing Street
LONDON SW1

27 January 1986

Dear Mr Addison

I am writing on behalf of Sir Robert Clayton to thank you for your letter of 14 January and to confirm that Sir Robert would like to accept the invitation to attend the meeting being held at No.10 on Monday 24 February at 1530 hours.

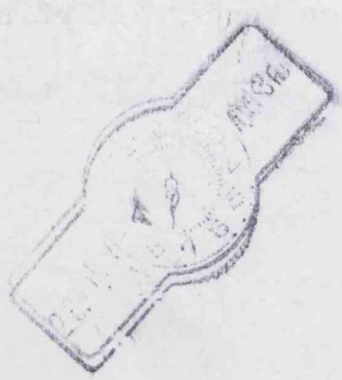
Yours sincerely

Marian Creasey

Marian Creasey
Secretary to Sir Robert Clayton

Centre Point
103 New Oxford Street
London WC1A 1DU
Telephone 01-379 7400

CBI Education Foundation.
A Company limited by guarantee.
Registered in England No 1261991.



P

DEPARTMENT OF EDUCATION AND SCIENCE
ELIZABETH HOUSE YORK ROAD LONDON SE1 7PH
TELEPHONE 01-934 9000

FROM THE SECRETARY OF STATE

Mark Addison Esq
Private Secretary
10 Downing Street
LONDON
SW1

24 January 1986

Dear Mark,

ENGINEERING AND TECHNOLOGY PROGRAMME

In your letter of 17th January, you suggested that one or two representatives from the education world might be invited to the Prime Minister's forthcoming meeting.

Last year's meeting was very much directed towards industrialists. My Secretary of State believes that this meeting might best be organised in the same way. Two meetings are being held here with industrialists and educationists in preparation for the Prime Minister's meeting.

If, however, it is felt that the somewhat wider agenda would merit a modest representation of figures of standing in the education world, he would suggest that invitations be extended to the Chairmen (or a representative) of the University Grants Committee; the Board of the National Advisory Body for Public Sector Higher Education; the Board of the Wales Advisory Body for Local Authority Higher Education; and the Scottish Tertiary Education Advisory Council. To go wider than this would require invidious distinctions between the 42 institutions currently included in the Programme and might tend to blur the focus of discussion.

Copies of this letter go to those receiving yours of 17th January.

Yours sincerely,

Rob Smith

R L SMITH
Private Secretary

Sci & TECH: 'Switch' seminar : Jan 1986

10 DOWNING STREET

From the Private Secretary

24 January 1986

Thank you for your letter of 22 January.

I know that the Prime Minister will be delighted if you were to attend the meeting on 24 February as Racal's representative.

MARK ADDISON

G. J. Lomer, Esq.

British TELECOM

from the Chairman's Office

British Telecom

81 Newgate Street
LONDON
EC1A 7AJ

Telephone number
National

International

Telex 883051

Facsimile 356 6640

Mark Addison Esq
Private Secretary
Prime Minister's Office
10 Downing Street
LONDON
SW1

24 January 1986

Dear Mr. Addison,

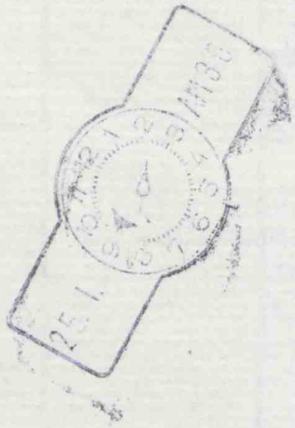
Thank you for your letter of 14 January to Sir George Jefferson.

To confirm my earlier telephone call to you, Sir George will attend the meeting on 24 February and we will send a brief note in advance of the meeting to Sir Keith Joseph's office.

Yours sincerely

T A EDWARDS
Director, Chairman's Office

British Telecommunications plc
Registered Office 81 Newgate Street LONDON EC1A 7AJ
Registered in England No. 1800000



BMB

By Appointment to HRH The Prince of Wales Suppliers of Typewriters and Word Processing Equipment IBM United Kingdom Limited Portsmouth

IBM

Sir Edwin Nixon CBE
Chairman

IBM United Kingdom Limited
IBM Southbank
76 Upper Ground
LONDON SE1 9PZ
Telephone: London (01) 928177
Telex: 919039 (IBMSBK G)

Mr M Addison
Private Secretary to the Prime Minister
10 Downing Street
London SW1

23 January 1986

Dear Mr Addison,

Thank you for your letter of 14 January inviting me to the follow up meeting which the Prime Minister intends to hold with Industrialists to discuss the Engineering and Technology Programme.

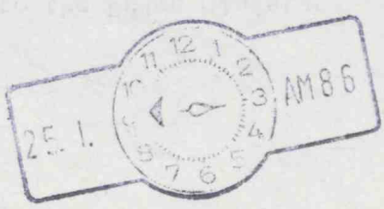
As I believe you know, I have retired as Chief Executive of IBM UK although I remain non-executive Chairman. In the circumstances I believe it would be more appropriate for my successor, Mr A B Cleaver, to attend in my place. I assume that this will be quite acceptable to the Prime Minister.

Yours sincerely,

Jenny Carson

for Sir Edwin Nixon

Registered in England: No. 741598
Registered Office: PO Box 41, North Harbour,
Portsmouth, Hampshire, PO6 3AU


25. I.
AM 86

A Company Limited by Guarantee

Registered in England No. 813236

NATIONAL ELECTRONICS COUNCIL

Registered Office: 99 Gower Street, London WC1E 6AZ

Telephone: 01-388 3074

Please note new address
Room 211, Savoy Hill House,
Savoy Hill, London WC2R 0BU.
Tel: (01) 836 4264

Chairman: H.R.H. The Duke of Kent, G.C.M.G., G.C.V.O., A.D.C.

Deputy Chairman: J. S. Whyte, C.B.E.

Secretary: F. B. Berrisford

Please reply to:
Plessey Telecoms & Office
Systems Ltd
Taplow Court, Taplow
Maidenhead, SL6 OER

Mark Addison Esq
Prime Minister's Office
10 Downing Street
London, SW1

23rd January 1986

MAA

Dear Mr Addison,

Thank you for your letter of 14th January inviting me to attend the Prime Minister's meeting on 24th February.

Unfortunately it will not be possible for me to attend this meeting but I am glad to be able to tell you that I have arranged for Professor William Gosling to attend to represent me. Professor Gosling is very familiar with the work of the National Electronics Council and I am sure will make a valuable contribution to the meeting.

As you requested in your letter I will be writing to Sir Keith Joseph's office putting some relevant background material.

Yours sincerely

J. S. WHYTE

JSW/mjf

27. I.
AM 96

Confederation of British Industry
Centre Point
103 New Oxford Street
London WC1A 1DU
Telephone 01-379 7400
Telex 21332

From
Sir Terence Beckett CBE
Director-General

CBI

MBA

23 January 1986

Dear Mr. Addison,

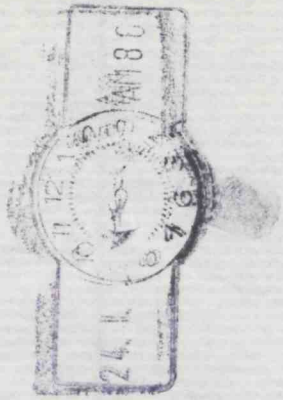
Thank you for your letter of 14th January inviting me to attend the meeting to discuss the Engineering and Technology Programme on Monday, 24th February, at 1530 hours.

I should be very happy to attend this meeting and will make sure that Sir Keith Joseph's office receives a copy of the note in advance.

Yours sincerely,

Terry Beckett

Mark Addison Esq.,
Private Secretary,
10 Downing Street,
London, SW1A 2AA.



10 DOWNING STREET

From the Private Secretary

23 January 1986

I am writing to acknowledge your letter of 20 January and I can confirm that the Prime Minister will be delighted if Mr. Gill can attend the meeting with Industrialists on 24 February in your place.

(Mark Addison)

Sir Godfrey Messervy

Western Road,
Bracknell,
Berkshire RG12 1RG,
England.
Tel. Bracknell (0344) 481222
Telex 848497
Answer Back: RACLHQ
Fax (0344) 54119

Mr. Mark Addison,
Private Secretary,
10 Downing Street,
London, S.W.1.

Racal Electronics Plc

Your ref Our ref Date 22nd January, 1986

GR

Know the PM will be delighted if you were to attend the meeting on 24 on Racal's representation

Dear Mr. Addison,

Sir Ernest Harrison has asked me to reply to your letter of 14th January concerning the Engineering and Technology Programme.

I attended the first meeting the Prime Minister held on 21st May 1985 at 10 Downing Street as Racal's representative, and I am also attending Sir Keith Joseph's meeting at the DES on 27th January.

Accordingly we feel it would be best if I again represented Racal at the proposed meeting on 24th February. I would be glad to forward a brief note in advance of this but feel it would be best to do this after the DES meeting on 27th January.

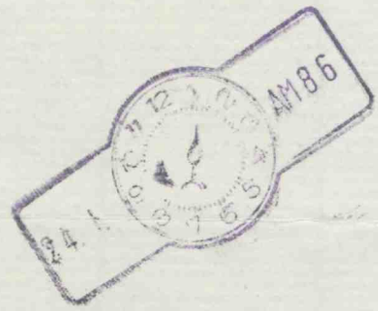
I hope this is acceptable to you.

Yours sincerely,

G.J. Lomer
Technical Director - Racal Group

RACAL
The Electronics Group

Directors: Sir Ernest Harrison O.B.E. (Chairman & Chief Executive), D. C. Elsbury O.B.E. (Deputy Chief Executive), Sir Edward Ashmore G.C.B., D.S.C., B. J. Clarke, J. E. Coates, J. D. Cronin, J. E. Diggins M.B.E., G. J. Lomer C.B.E., D. J. Peacock, M. R. Richardson, D. A. Webb, G. A. Whent.
Registered Office: Western Road, Bracknell, Berkshire, England. Registered in England No. 497098


AM86

FILE
CJ

10 DOWNING STREET

From the Private Secretary

22 January 1986

Thank you for your letter of 17 January. We have noted that Derek Roberts will be attending the meeting on 24 February.

MARK ADDISON

The Lord Weinstock

SMITHS INDUSTRIES
PUBLIC LIMITED COMPANY

SIR ALEX JARRATT, CHAIRMAN
765 Finchley Road, Childs Hill, London NW11 8DS Telephone 01-458 3232 Telex 928761

Mr. Mark Addison,
Private Secretary,
10 Downing Street,
LONDON.

22 January, 1986.

Dear Mr Addison,

Thank you for your letter of the 14th January, addressed to Sir Roy Sisson about the meeting which the Prime Minister proposes to hold on Monday, 24th February at 15.30 hours concerning the Engineering and Technology Programme.

I succeeded Sir Roy as Chairman of Smiths Industries on the 5th August, 1985, and will be happy to attend the meeting and will prepare a brief in advance of the meeting and forward it to Sir Keith Joseph's office.

Yours sincerely,

Alex Jarratt

23. I.
AM86

010

Cf PPS

SYSTEMS DESIGNERS PLC

Systems House, 105 Fleet Road, Fleet, Hampshire GU13 8NZ, England
Telephone: 02514 22161. Telex: 858280 Telecopier: 02514 6480.

MCM

M. Addison Esq.,
Private Secretary to the Prime Minister,
10 Downing Street,
London.

21st January 1986.

R23/1

PPS

Dear Mr. Addison,

Thank you for your letter of 14th January. I will, of course, be delighted to attend the meeting on Monday, 24th February and will let you have a note in advance, as requested.

Yours sincerely,

Philip Swinstead,
Chairman.

Directors: P E Swinstead (Chairman), G W Holmes, C A Lennard, J L Platt, I M Scoggins, Dr W G Scott, E L Warrington.
Registered in England 1642767 Registered Office: Systems House, 105 Fleet Road, Fleet, Hampshire GU13 8NZ (incorporating Systems Programming)

010

FROM:

SIR PETER G. MASEFIELD

M.A., C.ENG., HON.D.SC., HON.D.TECH.,
HON.F.R.AE.S., F.C.I.T., HON.F.A.I.A.A.,
HON.F.C.A.S.I., HON.F.I.R.T.E.

"ROSEHILL,"
DOODS WAY,
REIGATE,
SURREY, RH2 0JT

TEL: REIGATE 42396
(STD CODE 07372)
(LONDON CODE 74)

PGM/MB - 35/86

21st January, 1986.

Mark Addison Esq.,
Private Secretary to The Prime Minister,
No. 10, Downing Street,
London, S.W.1.

MEA

Dear Mr. Addison,

Thank you so much for your letter of 14th January about the meeting which the Prime Minister is holding on 24th February to discuss the Engineering and Technology Programme linked to Industry Year.

I am most grateful to you for the copy of the letter of invitation which you have sent me and I shall look forward very much to being present at No. 10 at 15.30 hours on 24th February.

With good wishes,

Yours sincerely,

P. G. Masefield

HEWLETT-PACKARD LIMITED
NINE MILE RIDE, WOKINGHAM, BERKSHIRE, RG11 3LL
Tel: (0344) 773100 Telex: 848805

David A. Baldwin
Managing Director

20th January, 1986

Mark Addison Esq.,
Private Secretary to the Prime Minister,
10 Downing Street,
LONDON.

MGS

Dear Mr. Addison,

Further to your letter of 14th January in which you outline the proposed meeting with Mrs Thatcher on Monday, 24th February, at 3.30 p.m., I am pleased to confirm Mr. Baldwin's attendance.

As requested, we will be forwarding our comment direct to Sir Keith Joseph's office.

Yours sincerely,

Pauline Dibb

PAULINE DIBB (Mrs)
Secretary to the Managing Director
==========

HEWLETT-PACKARD LTD
25
YEARS OF COMMITMENT

Lucas

Lucas Industries plc
Great King Street
Birmingham B19 2XF

Telephone: 021-554 5252
Telex: 338681

Chairman

Mr M Addison
Private Secretary to the Prime Minister
10 Downing Street
London SW1

20 January 1986
GM / DT

GR.

PM will be delighted if Mr Gill attends in your place.

Dear Mr. Addison,

Thank you for your letter of 14 January regarding the second meeting which the Prime Minister is holding with Industrialists on Monday 24 February to discuss the Engineering and Technology Programme.

In my absence in the States my secretary phoned to explain that on that day I would be in Detroit attending the annual meeting of the Society of Automotive Engineers, in which Lucas plays an important role. I understand that under the circumstances the Prime Minister would agree to Mr A K Gill, our Group Managing Director, representing Lucas.

Yours sincerely

Godfrey Messervy

SIR GODFREY MESSERVY

Registered office as address Registered no. 54802 London

23. I.
1886

O/O

CHAIRMAN AND CHIEF EXECUTIVE
SIR JOHN CLARK

The Plessey Company plc
Millbank Tower · London SW1P 4QP
Telephone: 01-834 3855 Telex: 897971

20th January 1986

Mr Mark Addison
Private Secretary to the
Prime Minister
10 Downing Street
London S.W.1.

Mark

Dear Mr Addison

Thank you for your letter of 14th January and I confirm that I will be happy to attend the meeting on 24th February.

As requested I will forward a brief note to Sir Keith Joseph's office before the meeting.

Sincerely

John Clark.

Registered in England and Wales Number 203848 at Vicarage Lane, Ilford, Essex.

21 JAN 86

010

Office of the Chairman

Rank Xerox Limited
338 Euston Road
London NW1 3BH
Telephone 01 380 8000

RANK XEROX

Mr. Mark Addison
Private Secretary
10 Downing Street
London SW1

MA

20th January, 1986.

Dear Mr. Addison,

Mr. Orr-Ewing has asked me to reply to your letter of 14th January inviting him to attend a meeting with the Prime Minister on Monday, 24th February at 1530 hours at 10 Downing Street.

He has asked me to say that he will gladly accept the invitation.

Yours sincerely,

Barbara Hull.

Barbara Hull
secretary to Mr. H. Orr-Ewing.

Registered Office:
338 Euston Road London NW1 3BH
Registered in England No. 575914
A subsidiary of Xerox Corporation USA

File ELBAVA

cc [illegible] Griffiths
20/2/86.

10 DOWNING STREET

From the Private Secretary

20 January 1986

At a meeting which the Prime Minister held with industrialists last May to discuss the Engineering and Technology Programme, she said she would be convening another meeting early in 1986. I am therefore writing to invite you to attend the meeting which has been arranged for Monday 24 February at 1530 hours here at No. 10. The principal item on the agenda will be the progress achieved in the generation of additional industrial support for institutions included in the Programme, and I attach copies of the Press Notices which announced the two phases of the Programme.

The Secretary of State for Education and Science will report briefly on the position reached and the issues arising from this very successful exercise. Final decisions have not been reached in every case, but the Prime Minister is pleased that the contributions of industry have been impressive and we are likely to confirm the allocation in all or almost all cases in the very near future.

The Prime Minister would be grateful if you would be ready to comment from the perspective of your organisation. It would be helpful to have a brief note from you in advance of the meeting, and I should be grateful if you would forward this direct to Sir Keith Joseph's office. Issues that might usefully be considered would include the relative attraction of university and public sector institutions as the source of relevant graduates; the plans of your organisation to recruit and develop graduates from the area covered by the Engineering and Technology Programme - including pre-existing courses as well as those directly benefiting from additional resources; the implications of this exercise for future links between industry and higher education in the new technologies; and your future level of investment in training.

The Prime Minister believes the meeting will also provide an excellent opportunity for a discussion of aspects of Industry Year. It is hoped that Sir Peter Masefield, Chairman of Industry Year 1986, will be present. Topics that might be covered would include the contribution of your organisation to Industry Year and links between industry and

secondary school education, with particular reference to such activities as "mini-enterprises" and any scope that might exist for employers to help with the teaching of mathematics and physics in the light of the shortage of teachers in these crucial subjects. (One of the reasons that we have said we would be prepared to allocate £1 1/4 billion more to teachers' pay is so that we can develop a new structure for promotion which would explicitly recognise the school's need to attract and retain teachers with scarce skills and qualifications).

The Prime Minister hopes you will be able to attend the meeting, and I look forward to hearing from you.

Mark Addison

H. Kroch, Esq. CBE

10 DOWNING STREET

CF

Switch meeting:

Rank Xerox rep. Mr. Orr-Ewing will attend.

MEPA 20/1

810

chairman & managing director

PHILIPS

arundel great court
8 arundel street
london wc2r 3dt

20 January 1986

MGA

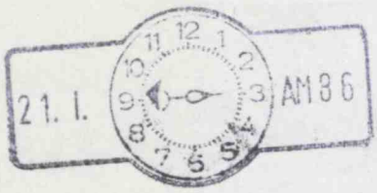
Mark Addison Esq
Private Secretary to:
The Rt. Hon. Margaret Thatcher PC MP
10 Downing Street
LONDON SW1

Dear Mr. Addison,

With reference to your letter dated 14th January 1986 I have pleasure in accepting the Prime Minister's invitation to the meeting at 10 Downing Street on Monday, 24th February 1986, at 15.30 hours.

Prior to this meeting, I shall send a brief note directly to Sir Keith Joseph's office and will send a copy to your goodselves.

Yours,


21. I.
AM 8 6

010

THE GENERAL ELECTRIC COMPANY, p.l.c.
1 STANHOPE GATE · LONDON W1A 1EH
01-493 8484

17th January, 1986

Dear Mr. Addison,

Thank you for your letter of 14th January, 1986 about the Engineering and Technology Programme.

As I was not available to come to the previous meeting last year, the Prime Minister kindly agreed to my colleague Derek Roberts attending in my place, and, to maintain continuity, perhaps it would be best for him to attend the meeting on 24th February.

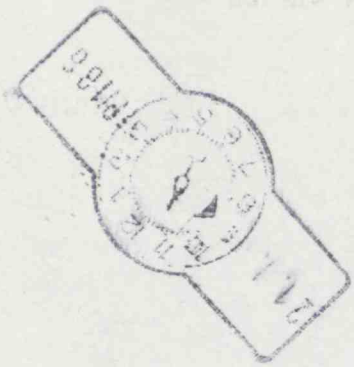
We will, as requested, send a paper to Sir Keith Joseph's office on the lines set out in your letter.

Yours sincerely,

Weinstock

Lord Weinstock

Mark Addison Esq.,
10, Downing Street,
LONDON, S.W.1.



TI Group plc

50 Curzon Street
London W1Y 7PN

telephone: 01-499 9131
telex: 263740

Chairman's Office

17 January 1986

M Addison Esq
Private Secretary
10 Downing Street
LONDON SW1

MCA

Dear Mr. Addison,

I am writing to confirm that I shall be able to attend the meeting with the Prime Minister on Monday, 24 February at 1530 hours. I note that the Prime Minister would like a brief note in advance of the meeting, and I shall see that this is received in good time by Sir Keith Joseph's office.

Yours sincerely

R. E. Utiger

R E Utiger

Reg no 156641 England. Reg Office TI House, Five Ways, Birmingham B16 8SQ.

British Aerospace
PUBLIC LIMITED COMPANY

100 Pall Mall
London SW1Y 5HR

Telephone: 01-930 1020
Telegrams: Britair London
Telex: 24353

From the Chairman,
SIR AUSTIN PEARCE, CBE

Mr. Mark Addison,
Private Secretary to the Prime Minister,
10 Downing Street,
London, S.W.1.

17th January, 1986.

MSA

Dear Mr Addison

Thank you for your letter of the 14th January concerning the meeting on Monday, 24th February.

I would confirm that I will be present and will have the appropriate information prepared.

Yours sincerely,

Austin

21. I.

MS/JA

File

10 DOWNING STREET

From the Private Secretary

17 January 1986

Dear Rob

THE ENGINEERING AND TECHNOLOGY PROGRAMME

As you know from my letter of 14 January, we have now sent out the letters of invitation to this meeting.

At the time of the last meeting, the suggestion was made that one or two representatives from the education world who are involved in the programme, might be invited to the meeting. I think it might well be helpful, now that many of the firms represented at the meeting will have had discussions with universities and polytechnics to take the programme forward, if representatives from those institutions were to contribute to the meeting.

I should be grateful to know if you believe there are convincing reasons why we should not identify a small number of education representatives to be invited to the meeting.

I am copying this letter to John Lambert (Department of Employment), John Mogg (Department of Trade and Industry), Robert Gordon (Scottish Office), Colin Williams (Welsh Office), John Wiggins (Cabinet Office) and to Sir Robin Nicholson.

Yours ever

Mark Addison

(MARK ADDISON)

R. L. Smith, Esq.,
Department of Education and Science.

DEBENHAMS PLC

Telegrams: "DEBENHAM, LONDON, W.1"
Telephone: 01-408 4444
Telex: 261128

ONE WELBECK STREET,
LONDON, W1A 1DF

CHAIRMAN'S OFFICE
R.C. THORNTON

17th January, 1986.

for SWITCH Ltd

MRA

M. Addison, Esq.,
Private Secretary,
10 Downing Street,
London.

Dear Mr. Addington,

As Debenhams is now part of the Burton Group I have passed your letter of 14th January to the Chairman of Burtons - Mr. R.M. Halpern.

Yours sincerely,

R C Thornton

R.C. Thornton

NW86
16 JUL 1986

CR.
PL type the amended letter for my sig. We need F change in Iweek! Mon 17/1

Mr. Letwin

John Wiggins has reminded me that at the time of the last meeting there was some discussion whether education representatives should come to the meeting.

Unless you have any objections, I propose to send the attached letter to DES, to try the idea out on them.

J.a.

pp Mark Addison
16 January 1986

MEA
No objection.

JZ
17.1.86.

AJA

10 DOWNING STREET

17 January 1986

From the Private Secretary

THE ENGINEERING AND TECHNOLOGY PROGRAMME

As you know from my letter of 14 January, we have now sent out the letters of invitation to this meeting.

At the time of the last meeting, the suggestion was made that one or two representatives from the education world, who are involved in the programme, might be invited to the meeting. I think it might well be helpful, now that many of the firms represented at the meeting will have had discussions with universities and polytechnics to take the programme forward, if they were to contribute to the meeting.

I should be grateful for your advice on this point, and to know if you believe there are convincing reasons why we should not identify a small number of education representatives to be invited to the meeting.

I am copying this letter to Leigh Lewis (Department of Employment), John Mogg (Department of Trade and Industry), Robert Gordon (Scottish Office), Colin Williams (Welsh Office), John Wiggins (Cabinet Office) and to Sir Robin Nicholson.

(MARK ADDISON)

R. L. Smith, Esq.,
Department of Education and Science.

010

BY APPOINTMENT TO
HER MAJESTY THE QUEEN
MOTOR VEHICLE MANUFACTURERS
FORD MOTOR COMPANY LIMITED
BRENTWOOD ESSEX

BY APPOINTMENT TO
H.M. QUEEN ELIZABETH THE QUEEN MOTHER
MOTOR VEHICLE MANUFACTURERS
FORD MOTOR COMPANY LIMITED
BRENTWOOD ESSEX

BY APPOINTMENT TO
H.R.H. THE PRINCE OF WALES
MOTOR VEHICLE MANUFACTURERS
FORD MOTOR COMPANY LIMITED
BRENTWOOD ESSEX

Ford Motor Company Limited

Sam Toy
Chairman and Managing Director

Brentwood Essex CM13 3BW
England

January 16, 1986

Mr M Addison
The Private Secretary
10 Downing Street
London SW1

Dear Sir:

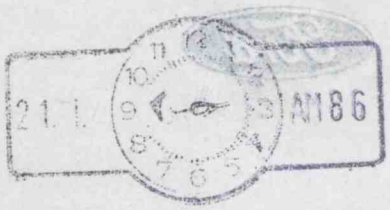
In Mr Toy's absence from the office at present, I wish to acknowledge and thank you for your letter of January 14, 1986, which will, of course, be shown to him on his return.

Yours faithfully

B. M. Stock

Secretary to
Sam Toy

bms


AN186

BICC plc

P.O. Box 5 . 21 Bloomsbury Street . London WC1B 3QN . England

Telephone: 01-637 1300 - Telex: 628811 BICC G-Station Code BIGHO

Your Ref:

Our Ref: SWB/KM

Sir William Barlow
Chairman

Mr M. Addison
Private Secretary
10 Downing Street
LONDON SW1

16 January 1986

Dear Mr Addison,

Thank you for your letter of 14 January telling me about the Prime Minister's meeting at No.10 on 24 February to discuss the Engineering and Technology Programme.

Although I was unable to attend the last meeting, I am pleased to say that I can make this one and look forward to seeing you on 24 February.

Yours sincerely,

William Barlow

File

Mr. Letwin

John Wiggins has reminded me that at the time of the last meeting there was some discussion whether education representatives should come to the meeting.

Unless you have any objections, I propose to send the attached letter to DES, to try the idea out on them.

Mark Addison
16 January 1986

10 DOWNING STREET

17 January 1986

From the Private Secretary

THE ENGINEERING AND TECHNOLOGY PROGRAMME

As you know from my letter of 14 January, we have now sent out the letters of invitation to this meeting.

At the time of the last meeting, the suggestion was made that one or two representatives from the education world who are involved in the programme, might be invited to the meeting. I think it might well be helpful, now that many of the firms represented at the meeting will have had discussions with universities and polytechnics to take the programme forward, if they were to contribute to the meeting.

I should be grateful for your advice on this point, and to know if you believe there are convincing reasons why we should not identify a small number of education representatives to be invited to the meeting.

I am copying this letter to Leigh Lewis (Department of Employment), John Mogg (Department of Trade and Industry), Robert Gordon (Scottish Office), Colin Williams (Welsh Office), John Wiggins (Cabinet Office) and to Sir Robin Nicholson.

(MARK ADDISON)

R. L. Smith, Esq.,
Department of Education and Science.

Chairman

National Westminster Bank PLC
41 Lothbury, London
EC2P 2BP

16th January, 1986

MCA

Dear Li Addison

Thank you for your letter of the 14th January inviting me to a Meeting on the 24th February at 15.30 hours to discuss the Engineering and Technology Programme. I shall be very happy to attend this.

I will send to Sir Keith Joseph's office in advance our brief comments from the perspective of this bank.

Yours sincerely

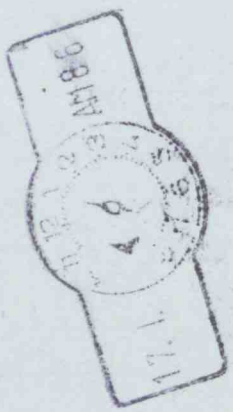
Ian Boardman

Lord Boardman

M. E. Addison, Esq.,
Private Secretary to the Prime Minister,
10 Downing Street,
London, S.W.1.

SCIENCE + TECH 1/86

SWITCH MEETING



Logica plc

64 Newman Street
London W1A 4SE
UK

telephone 01-637 9111
telex 27200

PABH/sch/H200.1

16 January 1986

Mr Mark Addison
Private Secretary
10 Downing Street
London SW1

MGA

Dear Mr. Addison,

WITH AGA

Thank you for your letter of 14 January concerning the meeting which the Prime Minister has convened for Monday 24 February. I am pleased to accept your invitation to attend. As requested, we will let Sir Keith Joseph's office have a brief note in advance of the meeting addressing some of the points raised.

Yours sincerely

Philip Hughes

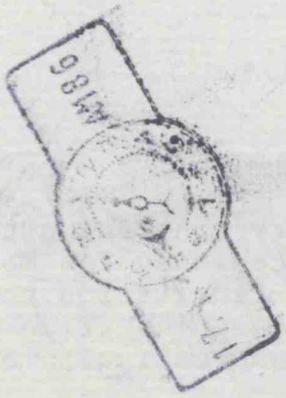
Philip Hughes

registered office
64 Newman Street
London W1A 4SE
England

place of registration
England
registered no
1631639
VAT no
371166558

SCIENCE + TECH 11/86

SWITCH MEETING



SCIENCE Budget
with MEN 14/1

CF

Mark has asked for this to be BU'd on 3 Feb. so he can write to Sir Peter Maxfield with guest list. (also Sir Percy Cradock)

DSG 7K/1 27/1

10 DOWNING STREET

CR

PL typing letter to
redistricting, as amended.

Please return to
file. I must write to Sir
Peter Mansfield.

MTA 13/.

File
CJ

10 DOWNING STREET

From the Private Secretary

14 January 1986

We spoke on the telephone the other day about the meeting the Prime Minister is holding on 24 February with industrialists to discuss the Engineering and Technology Programme.

The Prime Minister was delighted that you will be able to join the meeting, and she looks forward to seeing you there.

I enclose for your information a copy of the letter of invitation which I have sent to some thirty industrialists. I will let you have a list of those attending the meeting when the responses to the letter of invitation have come in.

MARK ADDISON

Sir Peter Masefield

886

FILE
CJ

DAIAJA

10 DOWNING STREET

From the Private Secretary

14 January 1986

THE ENGINEERING AND TECHNOLOGY PROGRAMME

I have now sent letters of invitation (text attached) to the industrialists included in the list you provided. As you know, Mr J S Whyte, who attended the last meeting, was also added to the list.

I have spoken to Sir Peter Masefield and he has confirmed that he will be able to attend the meeting. We have, however, had to alter the timing a little, and the pre-meeting with Ministers will now begin at 1500, and the meeting with industrialists at 1530.

I am copying this letter to Leigh Lewis (Department of Employment), John Mogg (Department of Trade and Industry), Robert Gordon (Scottish Office), Colin Williams (Welsh Office), Michael Stark (Sir Robert Armstrong's office), and Sir Robin Nicholson.

MARK ADDISON

R.L. Smith Esq.,
Department of Education and Science

085

File DG2ATA

Identical letters sent to all on attached list.

10 DOWNING STREET

From the Private Secretary

14 January 1986

At the meeting which the Prime Minister held with industrialists last May to discuss the Engineering and Technology Programme, she said she would be convening another meeting early in 1986. I am therefore writing to invite you to attend the meeting which has been arranged for Monday 24 February at 1530 hours here at No. 10. The principal item on the agenda will be the progress achieved in the generation of additional industrial support for institutions included in the Programme, and I attach copies of the Press Notices which announced the two phases of the Programme.

The Secretary of State for Education and Science will report briefly on the position reached and the issues arising from this very successful exercise. Final decisions have not been reached in every case, but the Prime Minister is pleased that the contributions of industry have been impressive and we are likely to confirm the allocation in all or almost all cases in the very near future.

The Prime Minister would be grateful if you would be ready to comment from the perspective of your organisation. It would be helpful to have a brief note from you in advance of the meeting, and I should be grateful if you would forward this direct to Sir Keith Joseph's office. Issues that might usefully be considered would include the relative attraction of university and public sector institutions as the source of relevant graduates; the plans of your organisation to recruit and develop graduates from the area covered by the Engineering and Technology Programme - including pre-existing courses as well as those directly benefiting from additional resources; the implications of this exercise for future links between industry and higher education in the new technologies; and your future level of investment in training.

The Prime Minister believes the meeting will also provide an excellent opportunity for a discussion of aspects of Industry Year. It is hoped that Sir Peter Masefield, Chairman of Industry Year 1986, will be present. Topics that might be covered would include the contribution of your organisation to Industry Year and links between industry and

DSG

secondary school education, with particular reference to such activities as "mini-enterprises" and any scope that might exist for employers to help with the teaching of mathematics and physics in the light of the shortage of teachers in these crucial subjects. (One of the reasons that we have said we would be prepared to allocate £1 1/4 billion more to teachers' pay is so that we can develop a new structure for promotion which would explicitly recognise the school's need to attract and retain teachers with scarce skills and qualifications).

The Prime Minister hopes you will be able to attend the meeting, and I look forward to hearing from you.

Mark Addison

PRIME MINISTER

ENGINEERING AND TECHNOLOGY ("SWITCH") PROGRAMME

At the conclusion of the meeting with industrialists in May last year, you said you would like to hold a follow up meeting early in 1986 to take stock of progress.

We have earmarked a time in the diary on 24 February for the meeting, and need now to send the invitations out to the industrialists concerned.

I attach for your approval a draft letter at Flag A which would go out under my signature. The list of those to be invited is at Flag B.

As amended at M

At the earlier meeting you said that the follow up discussion should also cover Industry Year. It would therefore be sensible to invite Sir Peter Masefield, the Chairman of Industry Year, as well, even though he did not of course attend the last meeting. (I have checked with him, and he is available).

Mark Addison

Mark Addison
9 January 1986

BM2ABF

DEPARTMENT OF EDUCATION AND SCIENCE

ELIZABETH HOUSE YORK ROAD LONDON SE1 7PH
TELEPHONE 01-934 9000

FROM THE SECRETARY OF STATE

Mark Addison
Private Secretary
10 Downing Street
London SW1

7 January 1986

Dear Mark,

ENGINEERING AND TECHNOLOGY PROGRAMME

You told me that you thought it would be appropriate to send industrialists invited to the 24 February meeting a rather fuller draft than the one attached to Alison Kennedy's letter of 23 December.

2. I attach a revised draft which incorporates DTI's suggestions on Industry Year.

3. I am sorry that we overlooked Mr Whyte who was a late addition to the earlier meeting. His invitation might be addressed to the NEC, but with a copy to his company address for safety (both attached).

4. I am sending copies of this letter to John Mogg (DTI), Leigh Lewis (Department of Employment), Robert Gordon (Scottish Office), Colin Williams (Welsh Office), Sir Robin Nicholson and John Wiggins (Cabinet Office).

Yours ever,

I M HUGHES
Private Secretary

DG2ATA

DRAFT LETTER FOR NO 10 TO SEND TO INDUSTRIALISTS

ENGINEERING AND TECHNOLOGY PROGRAMME

At the meeting which [the Prime Minister] held with industrialists last May to discuss the Engineering and Technology Programme, [she] said [she] would be convening another such meeting early in 1986. I am therefore writing to invite you to attend the meeting which has been arranged for Monday, February 24th, at 3.00 pm, here at No 10. The principal item on the agenda will be the progress achieved in the generation of additional industrial support for institutions included in the Programme, ~~For convenience,~~ and I attach copies of the Press Notices which announced the two phases of the Programme.

The Secretary of State for Education and Science will report briefly on the position reached and the issues arising from this very successful exercise. Final decisions have not been reached in ~~all cases~~ the proposals any case, but I am ~~pleased to say~~ the PM is pleased that the contributions of industry have been impressive and we are likely to confirm the allocation in all or almost all cases in the very near future.

[The Prime Minister] would be grateful if you would be ready to comment from the perspective of your organisation. ~~In view of the pressure on time at the meeting, a brief note in advance would be very helpful.~~ It would be helpful to have your views in advance of the meeting, and I should be grateful if you would forward them to Sir Keith Joseph's office. Issues that might usefully be considered would include the relative attraction of university and public sector institutions as the source of relevant graduates; the plans of your organisation to recruit and develop graduates from the area covered by the Engineering and Technology Programme - including pre-existing courses as well as those directly benefitting from additional resources; [redacted] the implications of this exercise for future links between industry and higher education in the new technologies; and your future level of investment in training.

[The Prime Minister] ~~considers that~~ believes the ~~this~~ meeting will also provides an excellent opportunity for a discussion of aspects of Industry Year. It is hoped that Sir Peter Masefield, Chairman of Industry

Year 1986, will be present. Topics that might be covered would include the contribution of your organisation to Industry Year and links between industry and secondary school education, with particular reference to such activities as "mini-enterprises" and any scope that might exist for employers to help with the teaching of mathematics and physics in the light of the shortage of teachers in these crucial subjects. (One of the reasons that we are willing to see a massive extra investment in teachers' pay is so that we can develop a new structure for promotion ~~in which explicit regard could be had to~~ which would explicitly recognise the school's need to attract and retain teachers with scarce skills and qualifications ~~which are in heavy demand throughout the economy).~~

[The Prime Minister hopes] you will be able to ~~participate in this~~ attend the meeting ~~on these important matters.~~, and I look forward to hearing from you.

DEPARTMENT OF EDUCATION and SCIENCE

Elizabeth House York Road London SE1 7PH

PRESS NOTICE

TELEPHONE: 01-934-9880/9

83/85

3 APRIL 1985

FIRST PHASE OF £43m PROGRAMME WILL HELP PROVIDE PLACES FOR AN EXTRA 500 STUDENTS

Sir Keith Joseph announces engineering and technology plans

Twenty universities are to receive about £3.2 million to pay for 579 extra engineering and technology students from next October. This is the first phase of the Government's new three-year Engineering and Technology Programme announced today by Education Secretary Sir Keith Joseph.

Following advice from the University Grants Committee, the first phase money will provide places for 475 undergraduates and 104 postgraduates. It is expected that some 4,000 additional places will eventually be provided when the programme is fully implemented.

To make an early start to the £43m programme, these first phase places have been allocated to universities with suitable courses where new building work is not required.

A further £6.8 million will be spent during the first year of the programme, mostly on building projects at higher education institutions which will admit students in the second phase of the programme. Allocations for this second phase will be announced during the summer.

Institutions to be invited to participate in phase two, which may include some outside the UGC's responsibility, will be decided on the basis of further advice from the UGC and others, including the Information Technology Skills Agency set up recently under the aegis of the Confederation of British Industry's Education Foundation.

Pursuant to a Parliamentary Question by Michael Stern MP on 19 March (Hansard Cols 482-484), Sir Keith told the Commons in a Written Answer:

"Proposals from universities to participate in the engineering and technology programme have been considered by the University Grants Committee, which has in turn consulted members of the Information Technology Skills Agency.

"I have now received and accepted the Committee's advice about the institutions which should participate in the first phase of the programme. The participating institutions, the relevant departments and the proposed student intakes, are as follows:

UNIVERSITY	DEPARTMENT	INTAKE	
		Under-graduate	Post-graduate
Aston	Electrical and Electronic Engineering	20	-
Bangor	Electronic Engineering Science	25	-
Birmingham	Engineering Production	10	20
	Electronic and Electrical Engineering (with Computer Science)	25	-
	Mechanical Engineering	-	14
Bradford	Electrical Engineering	30	20
Cambridge	Engineering	30	-
East Anglia	Information Systems	25	-
Essex	Computer Science	12	-
	Electrical Engineering Science	-	15
Heriot-Watt	Mechanical Engineering	15	-
Hull	Electronic Engineering	24	-
Kent	Computing Laboratory	20	-
Lancaster	Engineering	12	-
Imperial	Mechanical Engineering	10	-
Nottingham	Production Engineering and Production Management	20	-
	Electrical and Electronic Engineering	12	10
Salford	Electronic and Electrical Engineering	20	-

Strathclyde	Electronic and Electrical Engineering	25	-
	Design & Manufacture/Production Management and Manufacturing Technology	10	-
Surrey	Electronic and Electrical Engineering	20	25
Sussex	Electrical, Electronic and Control Engineering & Computer Science	15	-
Swansea	Electrical and Electronic Engineering	20	-
	Metallurgy and Material Technology) Mechanical Engineering)	10	-
Warwick	Engineering	20	-
	Electrical Engineering	25	-
York	Computer Science	20	-
	Totals	475	104

"The institutions concerned will be receiving further details from the UGC. Phase 2 of the programme will be announced later in the year."

NOTES TO EDITORS

1. The new programme was announced in the Chancellor of the Exchequer's Budget Statement and elaborated in a written reply by the Education Secretary Sir Keith Joseph to a Parliamentary Question on the same day (DES Press Notice 62/85, 19 March 1985).

2. A central part of the programme is involvement by industry. Bids under the programme have been sifted on behalf of the University Grants Committee by a group of industrialists associated with the Information Technology Skills Agency, which is chaired by Sir Robert Clayton, who is also a member of the UGC. Perceived industrial worth and cost effectiveness were important criteria in determining the allocation of the programme between institutions.

3. In addition, the Prime Minister wrote on the day of the Budget Statement to about 30 leading industrialists, telling them of the announcement of the programme and urging them to offer concrete support in various ways. These could include the purchase of equipment for higher education institutions, the lending of resources including staff and the use of facilities, and student sponsorship. The Prime Minister invited the industrialists to discuss the matter further with her at a meeting to be held in May.

4. The programme comes in two phases and covers three financial years. Admissions under the programme will be in two phases (1985/86 and 1986/87). The first phase consists of courses which will admit students in 1985/86 and the second phase of courses which, requiring building work, will admit students for the first time in 1986/87. Of the £43m about £10m will be spent in 1985/86 and about £16.5m in each of the following two years.

249/85

NOT FOR USE BEFORE
00.30 HRS MONDAY
7 OCTOBER 1985

SIR KEITH ANNOUNCES SECOND BOOST FOR ENGINEERING AND TECHNOLOGY IN HIGHER EDUCATION

Education Secretary Sir Keith Joseph today announced plans for 18 universities, eight polytechnics and the Cranfield Institute of Technology to receive a total of £28.3m over the next two and a half years to increase Britain's supply of graduate engineers and technologists.

It is the second phase of the major Engineering and Technology Programme, announced this March. Overall, it will cost £43m over three years and is expected to provide about 5,000 extra places in engineering and technology subjects in higher education by the end of the decade.

Phase two will provide for additional annual intakes of 1,000 undergraduates and about 120 postgraduates, starting courses in both autumn 1986 and autumn 1987.

Phase one, which was announced six months ago, costs £14.7m and provides for additional annual intakes of 475 undergraduate and 104 postgraduate students starting courses this month and in both autumn 1986 and autumn 1987.

The industrial relevance of courses, as well as high academic quality and cost effectiveness, have been importar criteria in compiling the programme.

The Government has received advice from the Information Technology Skills Agency, recently set up under the aegis of the Confederation of British Industry's Education Foundation and chaired by Sir Robert Clayton, as well as from the Engineering Council, other representatives of industry, the University Grants Committee and the National Advisory Body for Public Sector Higher Education.

The Government now looks to industry to play its part in the programme.

In line with assurances given to the Prime Minister earlier this year, all institutions with courses approved for inclusion on the second phase are being asked to supply information on new and existing industrial support as a condition of receiving grant under the programme.

Sir Keith said: "Industry has made clear its wish to benefit from more engineering and technology graduates. The Government's response through this programme has been substantial and rapid.

"We now look to industry to demonstrate the value it attaches to the programme by offering concrete support in various ways to the institutions included in the programme and by offering potential students a thoroughly stimulating and worthwhile career."

The Government will be monitoring the effects of the programme both on the individual institutions included and on the total engineering and technology provision in higher education.

The £28.3m in the second phase will include £20.7m in total for the 17 universities which are funded through the University Grants Committee, including £1.4m towards Salford University's new Institute of Information Technology; £1.4m for the Open University; £5.7m in total for the eight polytechnics; and £0.5m for Cranfield Institute of Technology.

The participating institutions, the relevant departments and the proposed student intakes, are as follows:

INSTITUTION	DEPARTMENT	INTAKE	
Universities		Undergrad.	Postgrad.
Bath	Electrical Engineering	7	-
Cambridge	Computer Laboratory	40	-
Durham	Applied Physics and Electronics	20	10
Edinburgh	Artificial Intelligence	22	-
	Computer Science	28	-
	Electrical Engineering	22	12
Glasgow	Electronics and Electrical Engineering	40	-
	Mechanical Engineering	35	-
Liverpool	Electrical Engineering and Electronics; Computer Science; Industrial Studies; Mechanical Engineering	-	12
Imperial College, London	Computing	24	-
	Electrical Engineering	20	-
University College, London	Electronic and Electrical Engineering	25	-
Manchester	Computer Science	40	-
	Electrical Engineering	25	-
University of Manchester Institute of Science and Technology	Electrical Engineering and Electronics	20	-

Newcastle	Computing Laboratory	12	-
	Computing Laboratory; Electrical and Electronic Engineering	20	-
	Electrical and Electronic Engineering	10	-
Oxford	Engineering Science; Computing Science	30	-
	Metallurgy and Science of Materials; Engineering Science	20	-
Salford	IT Institute	55	-
Sheffield	Electrical and Electronic Engineering; Control Engineering	60	-
Southampton	Electronics and Information Engineering	30	-
	Computer Studies	20	-
Strathclyde	Electronic and Electrical Engineering	25	-
Warwick	Computer Science; Engineering	30	-
	Totals	680	34

Polytechnics

Central London	Faculty of Engineering and Science	65	-
Coventry	Faculty of Engineering	-	20
Hatfield	School of Engineering	25	-

Huddersfield	Mechanical and Production Engineering; Systems	25	-
Kingston	Faculty of Engineering	46	12
Middlesex	Faculty of Engineering, Science and Mathematics	38	16
Plymouth	Communication Engineering; Electronic and Electrical Engineering; Mechanical Engineering; Computing	59	-
South Bank	Faculty of Engineering	27	35
	Totals	**285**	**83**

(Note: some polytechnic places are for part-time study. In these cases figures for full-time equivalent student places are given)

Other Institutions

1. Cranfield Institute of Technology: undergraduate intake of 50.

2 Open University: provision to increase student numbers on five existing courses relating to computing and information technology and to develop new course materials on microelectronics and digital telecommunications.

NOTES TO EDITORS

1. The Engineering and Technology Programme was announced in the Chancellor of the Exchequer's Budget Statement and elaborated in a Parliamentary Written Reply by Sir Keith Joseph on the same day (DES PN 62/85, 19 March 1985).

2. Phase One of the Programme was announced by Sir Keith on 3 April this year (DES PN 83/85). This phase was limited to university courses which were able to accommodate additional students without new building work.

3. On 21 May this year, the Prime Minister met 26 of Britain's leading industrialists to discuss their part in the national effort to increase the number of students studying engineering and technology in higher education. The industrialists welcomed and fully supported the Government's initiative and committed their firms to giving substantial and continuing practical help to the universities and polytechnics benefitting from the Government's programme. A further meeting with the industrialists is to take place at the beginning of 1986 to review progress.

4. The institutional allocation of places by department in the first phase of the programme is attached.

FIRST PHASE

UNIVERSITY	DEPARTMENT	INTAKE	
		Undergrad.	Postgrad.
Aston	Electrical and Electronic Engineering	20	-
Bangor	Electronic Engineering Science	25	-
Birmingham	Engineering Production	10	20
	Electronic and Electrical Engineering (with Computer Science)	25	-
	Mechanical Engineering	-	14
Bradford	Electrical Engineering	30	20
Cambridge	Engineering	30	-
East Anglia	Information Systems	25	-
Essex	Computer Science	12	-
	Electrical Engineering Science	-	15
Heriot-Watt	Mechanical Engineering	15	-
Hull	Electronic Engineering	24	-
Kent	Computing Laboratory	20	-
Lancaster	Engineering	12	-
Imperial	Mechanical Engineering	10	-
Nottingham	Production Engineering and Production Management	20	-
	Electrical and Electronic Engineering	12	10
Salford	Electronic and Electrical Engineering	20	-

Strathclyde	Electronic and Electrical Engineering	25	-
	Design & Manufacture/ Production Management and Manufacturing Technology	10	-
Surrey	Electronic and Electrical Engineering	20	25
Sussex	Electrical, Electronic and Control Engineering & Computer Science	15	-
Swansea	Electrical and Electronic Engineering	20	-
	Metallurgy and Material Technology) Mechanical Engineering)	10	-
Warwick	Engineering	20	-
	Electrical Engineering	25	-
York	Computer Science	20	-
	Totals	**475**	**104**

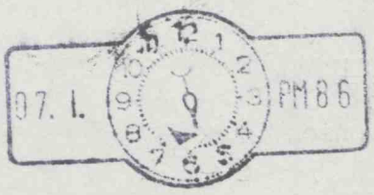
J S Whyte Esq CBE
Deputy Chairman
National Electronics Council
Room 211
Savoy Hill House
Savoy Hill
London WC2R OBU

(Tel 836-4264)

Chairman
Plessey Telecoms International
Taplow Court
Taplow
Berks SL6 OER

SCIENCE + TECH PT 4

SCIENCE BUDGET



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DEPARTMENT OF EDUCATION AND SCIENCE

ELIZABETH HOUSE YORK ROAD LONDON SE1 7PH

TELEPHONE 01-934 9000

FROM THE SECRETARY OF STATE

CR ppr please

Mark Addison
Private Secretary
10 Downing Street
London SW1

23 December 1985

JMW

Dear Mark

ENGINEERING AND TECHNOLOGY PROGRAMME: PRIME MINISTER'S MEETING WITH INDUSTRIALISTS, 24th FEBRUARY 1986

Thank you for your letter of November 6th. I regret that it has taken us some time to return to you with a list of industrialists we propose should be invited to the meeting. I attach our list. We do, however, consider that since Industry Year 1986 is also on the agenda for the meeting, it would be appropriate to invite Sir Peter Masefield, the Chairman of Industry Year.

In the event we have decided to adhere largely to the invitation list used for the May 21st meeting. In the four cases where the then Chairmen have now left office, their respective successors appear on the list.

In view of the earlier correspondence between the Electricity Council Press Officer and No. 10 we considered whether invitations should be extended to some of the nationalised industry Chairmen. Our conclusion - and that of DTI whom we consulted - is that the case for some nationalised industries to be involved in this second meeting is no more pressing than that for a number of other companies. And any significant extension of the invitation list might interfere with the principal purpose of the meeting which is to report on progress achieved since the last meeting.

In addition to our suggestions, the Welsh Office have suggested Mr. H. Kroch (A.B. Electronics, Abercynon, Mid-Glamorgan) as a suitable invitee: as there would otherwise be no Wales-based industrialist on the invitation list we would support this. The Scottish Office have suggested (Robert Gordon's letter of 16th December to you) that Mr. Donald McCallum be invited on the strength of his Chairmanship of the Scottish Tertiary Education Advisory Council (STEAC). The DES does not support this proposed invitation. The meeting is intended to be with

industrialists qua industrialists. If the Chairman of STEAC were to be invited, this Department would consider that it would be appropriate for the Chairmen of, respectively, UGC and NAB also to be invited. In any case if the Chairman of the SDA is present, he can comment on links between Scottish industry and higher education - not least in the light of the SDA's excellent work in assisting Scottish institutions included in the Programme to generate additional industrial assistance.

I attach draft letters for your signature to the industrialists and to Sir Peter Masefield.

I am copying this letter to John Mogg (DTI), Leigh Lewis (Department of Employment), Robert Gordon (Scottish Office), Colin Williams (Welsh Office), Sir Robin Nicholson and John Wiggins (Cabinet Office).

Yours sincerely

Alison Kennedy

ALISON KENNEDY
Private Office

INVITATION LIST FOR THE PRIME MINISTER'S MEETING WITH INDUSTRIALISTS:
4 FEBRUARY 1986

Sir Austin William Pearce, CBE PhD, FInst Pet, FBIM
Chairman
British Aerospace PLC
Brooklands Road
Weybridge
SURREY KT13 OSJ

No change

Sir William Barlow FEng, FIMechE, FIEE (unable to attend on 21 May)
Chief Executive
BICC PLC
21 Bloomsbury Street
LONDON WC1

Could not attend original meeting though was invited

Sir George Jefferson CBE, FEng, FIMechE, FRAeS, FRSA, FBIM, FCGI
Chairman
British Telecom PLC
23 Howard Street
LONDON W1P 6HQ

(represented on 21 May by Mr M Bett)

(Bett is director for personnel services)

Robert C Thornton Esq FCCA
Chairman
Debenhams PLC
1 Welbeck Street
LONDON W1A 1DF

No change

J D Alun-Jones Esq
Managing Director
Ferranti PLC
Mill Bank Tower
Mill Bank
LONDON SW1

No change

S Toy Esq
Chairman
Ford Motor Co Ltd
Eagle Way
Brentwood
ESSEX CM13 3BW

No change

Lord Weinstock of Bowden FSS (represented on 21 May by Mr D Roberts)
Managing Director
General Electric Company PLC
1 Stanhope Gate
LONDON W1A 1EH

Paul Girolani Esq+
Chairman
Glaxo Group Ltd
Clarges House
6-12 Clarges Street
LONDON W1Y 8DH

Glaxo represented before by Sir Austin Bide

+ appointed Chairman since 21 May

D A Baldwin Esq MIEE, MIREE, MIM, FBIM, CEng
Managing Director
Hewlett-Packard Ltd
Nine Mile Ride
Easthampstead
Wokingham
BERKSHIRE RG11 3LL

No change

Sir Edwin Nixon CBE
Chairman
IBM (UK) Holdings Ltd
PO Box 41
North Harbour
PORTSMOUTH PO6 3AU

No change

Sir J H Harvey-Jones Esq MBE
Chairman
Imperial Chemical Industries (ICI) PLC
Imperial Chemical House
Millbank
LONDON SW1 3JF

No change

P A B Hughes Esq CBE
Chairman
Logica Holdings PLC
64 Newman Street
LONDON W1H 4SE

No change

Sir R G C Messervy Esq
Chairman
Lucas Industries PLC
Great King Street
BIRMINGHAM B19 2XF

No change

Lord Boardman MC, TD, DL (represented on 21 May by Viscount Sandon)
Chairman
National Westminster Bank PLC
41 Lothbury
LONDON EC2P 2BP

A Poot Esq (unable to attend on 21 May)
Chairman
Philips Electronics and Associated Industries Ltd
8 Arundel Great Court
Arundel Street
LONDON WC2 3OT

Sir John Clark
Chairman
The Plessey Company PLC
Millbank
LONDON SW1P 4QP

No change

Sir Ernest Harrison OBE, FCA (represented on 21 May by Mr O Lomer)
Chairman
Racal Electronics PLC
Western Road
Bracknell
BERKSHIRE RG12 1RG

H Orr-Ewing Esq
Chairman
Rank Xerox Ltd — No change
338 Euston Road
LONDON NW1 3BH

Sir Roy Sisson CEng, FRAeS
Chairman
Smiths Industries PLC — No change
765 Finchley Road
LONDON NW11 8DS

The Rt Hon Lord Keith of Castleacre+
Chairman
STC PLC — STC previously represented by Sir Kenneth Corfield
STC House
190 Strand
LONDON WC2R 1DU

P Swinstead Esq
Chairman
Systems Designers Ltd — No change.
105 Fleet Road
Fleet
HAMPSHIRE

Sir Graham Wilkins+
Chairman
Thorn EMI PLC — Previously represented by Mr. P. Lawster.
Thorn House
Upper St Martin's Lane
LONDON WC2H 9ED

R E Utiger Esq CBE
Group Managing Director — No change
TI Group PLC
~~14 South Street~~
LONDON W1

Sir Terence Beckett CBE, FEng FIMechE, CBIM, FIMI
Director General
CBI — NO change
Centre Point
103 New Oxford Street
LONDON WC1A 1OU

Sir Robert Clayton CBE, FEng, FIEE, FInstP, FRAeS, FIERE, FIEEL
Chairman
Information Technology Skills Agency
c/o CBI Education Foundation — No change
Centre Point
103 New Oxford Street
LONDON WC1A 1OU

+ appointed Chairman since May 21

Sir Francis Tombs BSC, LLO, FEng, FIEE, FIMechE
N M Rothschild and Sons
[illegible] Swithuns Lane
LONDON EC4

A Hended previously as representative of Rothschild / Rolls Royce

Robin Duthie Esq CBE
Chairman
Scottish Development Agency
120 Bothwick Street
Glasgow
G2 7JP

No change.

Sir Peter Masefield
Chairman
Industry Year 1986
Royal Society of Arts
8 John Adam Street
LONDON WC2

Did not attend last meeting.

+ appointed Chairman since May 21

One person who attended the May 21st meeting is not on this list — Mr. J.S. Whyte, of the National Electronics Council. He is also chairman of Plessy Telecom Ltd. As the Plessy Group is already represented, his omission may be appropiate.

DRAFT LETTER FOR NO. 10 TO SEND TO INDUSTRIALISTS

ENGINEERING AND TECHNOLOGY PROGRAMME

At the meeting which [the Prime Minister] had with you (your representative) and colleagues from industry last May, [she] said she would be convening another such meeting early in 1986.

I am now, therefore, writing to invite you to attend the meeting which has been arranged for Monday, February 24th at 3 p.m., at No. 10. The principal item on the agenda will be the progress achieved in the generation of additional industrial support for institutions included in the Engineering and Technology Programme. Among the other items for discussion will be Industry Year 1986.

I do hope you will be able to to participate in this meeting on these important matters.

DRAFT LETTER FOR NO. 10 TO SEND TO

SIR PETER MASEFIELD

ENGINEERING AND TECHNOLOGY PROGRAMME: PRIME MINISTER'S MEETING WITH INDUSTRIALISTS

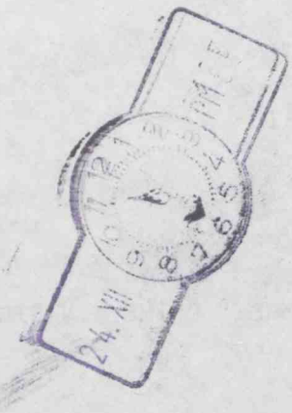
Last May, the Prime Minister held a meeting with industrialists to discuss ways in which industry might contribute to the Engineering and Technology Programme, particularly through donations (financial or in kind) to those higher education institutions included in the Programme.

The Prime Minister will be chairing a second meeting with industrialists in the New Year to review the progress that has been made in generating industrial support for the Programme: the Secretary of State for Education and Science and other members of the Government will also be present. In addition, the Prime Minister would like the meeting to spend some time discussing Industry Year 1986. She would be grateful if you could attend the meeting in order that you might give a brief account of what is being organised under the Industry Year umbrella, and comment on suggestions from the industrialists present on the practical contributions they might make to this national effort.

I would be grateful if you could let me know whether you will be able to attend the meeting, which has been arranged for Monday, February 24th at 3 p.m. at No. 10.

Science + Tech Pt 4

Budget



CC TJG

NEW ST. ANDREW'S HOUSE
ST. JAMES CENTRE
EDINBURGH EH1 3SX

DES provide response very soon BJ Fri 11/12/85

Mark Addison Esq
10 Downing Street
London

16 December 1985

Dear Mark

ENGINEERING AND TECHNOLOGY PROGRAMME:
MEETING WITH INDUSTRIALISTS

Thank you for copying to me your letter of 6 November to Rob Smith.

We should like Robin Duthie, Chairman of the Scottish Development Agency, who attended the first meeting, to be invited again. We would also like to suggest that Mr Donald McCallum of Ferranti might be invited on this occasion. Mr McCallum has considerable stature in the Scottish business community and his company has offered significant support to the Scottish universities participating in the Engineering and Technology Programme.

Ferranti is of course already represented by Mr Alun-Jones, but Mr McCallum merits inclusion on the strength of his Chairmanship of the Scottish Tertiary Education Advisory Council (STEAC) which recently completed a report on future higher education strategy in Scotland. This work has given him a particularly close understanding of the strengths and weaknesses of the Scottish higher education system and puts him in a unique position to comment on ways and means of improving mechanisms for increased interaction between industry and the higher education sector. He can be contacted at Ferranti Ltd, PO Box 206, Crewe Toll, Ferry Road, Edinburgh EH5 2XS.

I am copying this letter to John Mogg (DTI), Leigh Lewis (Department of Employment), Rob Smith (DES), Colin Williams (Welsh Office), Sir Robin Nicholson and John Wiggins (Cabinet Office).

Yours ever

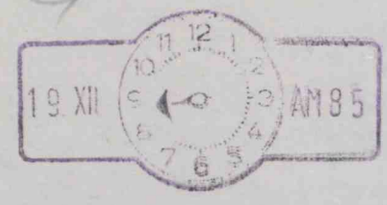
Robert Gordon

ROBERT GORDON
Private Secretary

PCC35001

SCIENCE + TECH

BUDGET PTY



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cc DTI
DIEM
SD
YO
RN
CO

10 DOWNING STREET

From the Private Secretary

6 November 1985

Dear Rob

ENGINEERING TECHNOLOGY PROGRAMME: MEETING WITH INDUSTRIALISTS

Thank you for your letter of 28 October.

We have now fixed this follow up meeting with industrialists for Monday 24 February at 1500 hours. We are allowing 1½ hours in the diary. There will also be a ½ hour pre-meeting for Ministers, beginning at 1430. I have agreed these arrangements with the Diary Secretaries in your Department and in the Departments of Trade and Industry and Employment, the Scottish and Welsh Offices, and with Sir Robin Nicholson's office.

I should be grateful if you would now let me have a list of industrialists you propose should be invited to the meeting. We agreed there might need to be one or two changes to the list used for the first meeting.

I am copying this letter to John Mogg (Department of Trade and Industry), Leigh Lewis (Department of Employment), John Graham (Scottish Office), Colin Williams (Welsh Office), Sir Robin Nicholson and John Wiggins (Cabinet Office).

Yours ever

Mark Addison

Mark Addison

Rob Smith, Esq.,
Department of Education and Science.

JA

BF 6.11.85

FOR MEA as requested

10 DOWNING STREET

CP

PL. let us have tomorrow so that I can discuss

Maintied attendance with Robb Smith (DES, DEmp, Tol, Scot, Wales, + RN).

Time 24/2 now prov. in diary for 2.30-3.00, 3.00-4.30 on Monday 17/2.

MTA 5/11

10 DOWNING STREET

Ministers attending the
earlier (May) meeting:

DES
DTI + Mr Butcher
Emp
MWP
SO
RN
JW (CO)

NRD12AM13

CCBG?
CCOL

DEPARTMENT OF EDUCATION AND SCIENCE

ELIZABETH HOUSE YORK ROAD LONDON SE1 7PH

TELEPHONE 01-934 9000

FROM THE SECRETARY OF STATE

Mark Addison
Private Secretary
10 Downing Street
LONDON SW1A 2AZ

28 October 1985

Dear Mark,

ENGINEERING AND TECHNOLOGY PROGRAMME: FOLLOW-UP TO PRIME MINISTER'S MEETING WITH INDUSTRIALISTS

1. When the Prime Minister met industrialists on May 21st to discuss industrial support for the Engineering and Technology Programme, one outcome was an agreement that Sir Keith Joseph would arrange further discussions as appropriate with industrialists and those involved in higher education, concerning industrialists' criticisms of the higher education system.

2. The Secretary of State is now about to proceed with these discussions and two meetings are to be arranged, hopefully for December. The results of these meetings will be available for the meeting which the Prime Minister indicated that she wished to hold with industrialists in the New Year to review progress. We would hope that the Prime Minister's meeting might be held some time in February - thus providing a reasonable interval between the Secretary of State's meetings and the Prime Minister's. This timing would also enable us to prepare for the Prime Minister's meeting a report on the increased industrial assistance to higher education institutions generated by the Engineering and Technology Programme - on which institutions have been requested to report before Christmas.

3. Perhaps you would let me know when you have a date for the Prime Minister's meeting; we shall also need to liaise about any variations to the invitation list used for the meeting last May. You have already agreed in response to outside representations to consider the possibility of inviting one or two industrialists from public corporations.

4. Copies of this letter go to the Private Secretaries of the Secretaries of State for Trade & Industry, and Employment. We shall be inviting these Departments to be represented at the meetings.

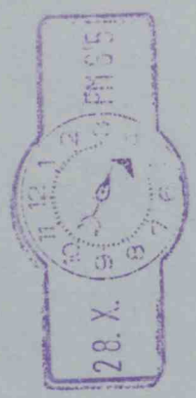
Yours sincerely
Rob Smith

R L SMITH
Private Secretary

SCIENCE + TECH

BUDGET

PT 4



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