

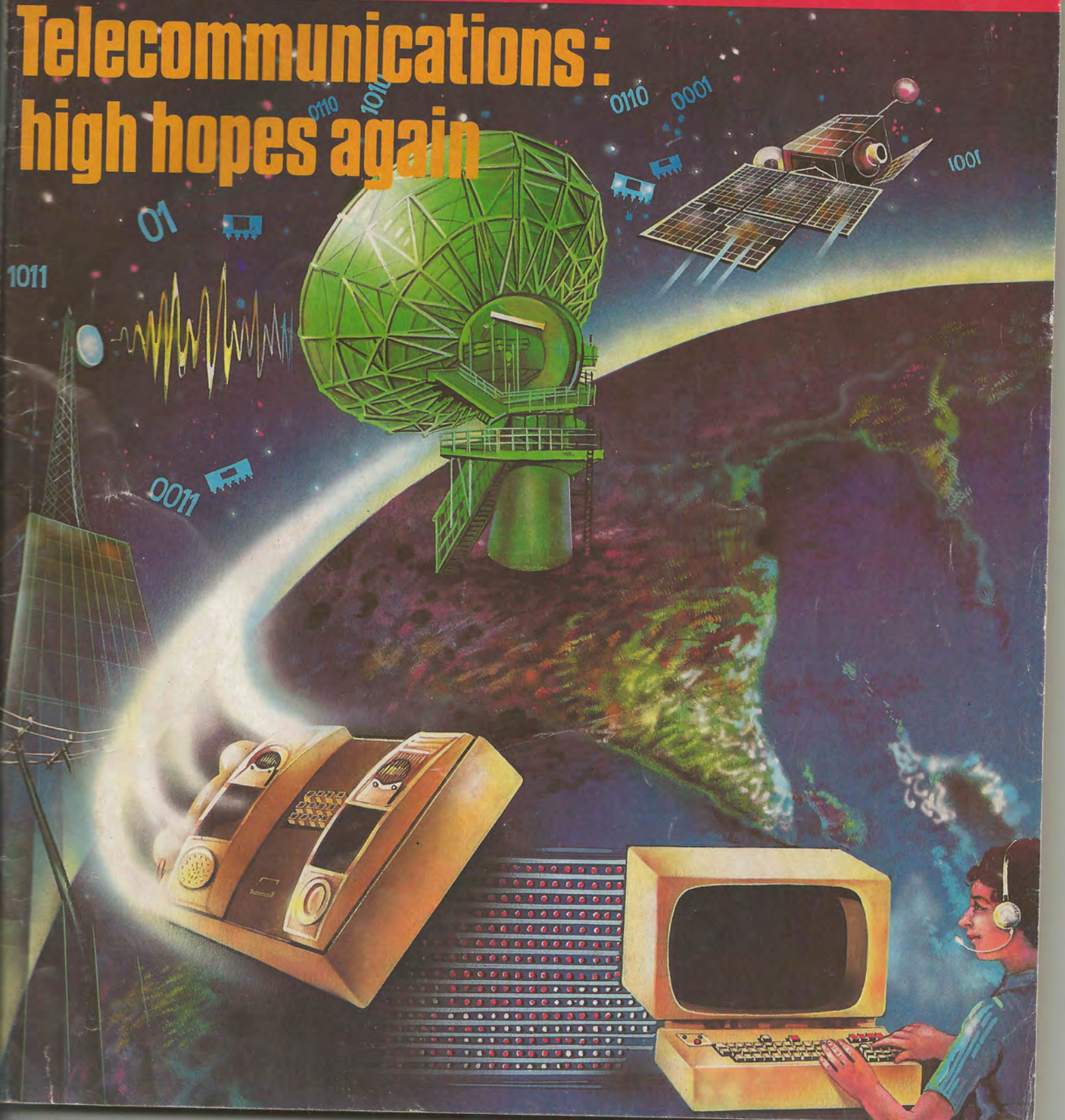
# Business India

the magazine of the corporate world

June 4 to 17, 1984

Rs. 4.00

## Telecommunications: high hopes again





# Cover to Cover

Issue No. 163 June 4-17, 1984

Cover Feature

## 60 Telecommunications: high hopes again

A new deal seems to be in the offing for the user of telecommunications services. The setting up of the National Telematics Centre and the recent change in government policy allowing the private sector to enter the telecommunications sector has sent hopes soaring. What will all this add up to in terms of improved telecom services?

*B. Lal and D.C.*



Special Report 1

## 74 Industrial revival: the case of Swastik Rubber

The recent takeover of the ailing Swastik Rubber Co., Pune, by Ashok Muthana of the TVS group has attracted a lot of attention. How did the company go sick and what is Muthana's strategy for reviving it?

*Arun Subramaniam*

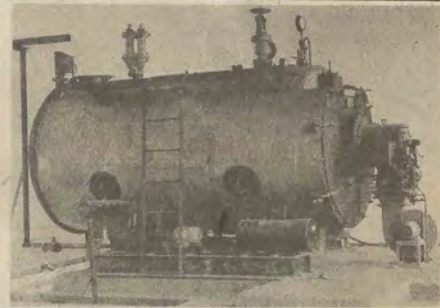


Special Report 2

## 86 Indian boilers at bursting point

The government is considering at last a revision of the much criticised Indian Boilers Act. Meanwhile a plethora of regulations and controls are stifling the growth and development of the boiler industry. A sea change in the attitude of the government to the boiler industry is urgently required.

*Deep Kapur*



Focus

## 91 Coping with the 'unseen revolution'

The growth of financial institution's equity holdings in industry has been termed by Peter Drucker as the unseen revolution. *Business India* examines the British experience and tries to draw parallels with what has been happening in India.

*Javed Gaya*

95 **Enterprise:** Charting an upward course  
— *S. N. Vasuki*

103 **Environment:** The Dal Lake is dying  
— *D. K. Dixit*

140 **Interview:** Gurpreet Singh, president, Association of Indian Engineering Industry  
— *M. Vinayak*

100 **Technology:** Another inappropriate import?  
— *Bharat Bhushan*

3 Letter from the Publisher  
24 Reader Service  
29 Letters to the Editor  
32 News Review/Diary  
35 Economic Indices  
37 Economic Outlook  
41 Listening Post  
42 For Your Information

45 Business Notes  
56 Businessmen in the News  
57 Visiting  
105 Public Sector  
109 In Executive Land  
111 Professional Profiles  
117 Market Watch

119 Corporate Affairs International  
123 Corporate Affairs India  
129 Companies  
133 Commodities  
134 Stockmarkets  
136 Personal Business  
139 Executive Ladder



## Telecommunications: high hopes again

If all goes well, Indians may finally have the chance to communicate better with each other. The cause for hope is the avid interest that the powers-that-be are showing — at long last — in the business of telecommunications.

In one sweeping move that is intended to prefigure a revolution in telecommunications, the government has set up a National Telematics Centre, brushing aside objections from those traditional stumbling blocks to telecom development — the P&T department in the ministry of communications and the department of electronics (DoE). The creation of the National Telematics Centre, charged with putting together the components of a new telecommunications system, is a momentous step: it combines, within the purview of a single high-powered body, the infusion of foreign technology and indigenous research to meet the deep and long-frustrated desires of the end-users of telecom services.

### A NEW DEAL

If ever hopes deserved to be so high, it is now. This new development holds out the promise — in the very near future — of a brand new deal for the Indian telephone user. If anyone can make their long-cherished dream a reality and actually deliver the goods, it is the trinity of Satyen ("Sam") Pitroda, G. B. Meemamsi of the Telecommunication Research Centre and Madhukar Pitke of the Tata Institute of

Fundamental Research (TIFR). What they promise to deliver is a new digital system, including the production technology for it that has so far remained elusive, at an investment of Rs. 35 crores. They have asked for 36 months and are confident that 24 will do.

From anyone but this team, these promises would be laughed away as wild dreams. Pitroda, who will be adviser to the Centre, is a Gujarati engineer brought up in Orissa who has during the last few years created a sensation in digital designs in the lion's den of high technology — the US. With over a dozen patents under his belt, a \$150,000 a year job at Rockwell behind him, and support from very-near-the-top, Pitroda has a superb team to work with: Meemamsi's work is widely regarded as the best of inhouse P&T research, and Pitke's expertise at the TIFR is recognised internationally.

Besides Meemamsi and Pitke who are to be directors of the centre along with M. N. Mathur, there will be at least 250 scientists and engineers, including highly qualified expatriate Indians from abroad, who will work on developing an indigenous digital switching technology within a period of 3 years. The government has stated that the centre will be vested with "total authority and flexibility outside government norms."

Close on the heels of the announcement setting up the National Telematics Centre came the news that the telecom budget in the 7th Plan would be of the order of Rs. 12,500 crores. And, in a further relaxation of government's policy towards this sector, there came the announcement on 23 March that the private sector was to be allowed to enter the field of telecommunication production in specified areas. Things were beginning to look rosy indeed.

### DEJA VU?

Once before, less than four years ago, telecommunications in India had seemed to be on the verge of a revolution. At least that is what the P&T said, with a great deal of confidence. After years of being thought of by the government and the public alike as just one of those departments where nothing ever happened except telephone mix-ups, the Sixth Five Year Plan held out the hope that things would be changing at the P&T after all.

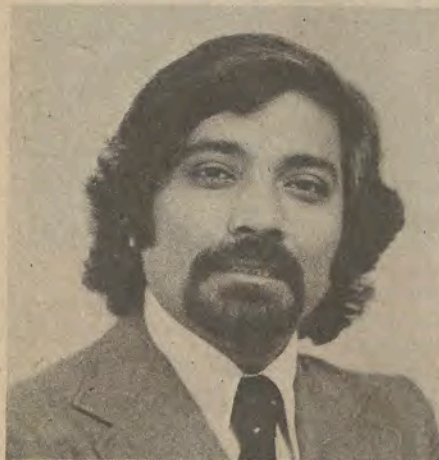


*Leapfrogging into the 20th century*

The focus of attention was the ten-year perspective plan. For the first time in nearly three decades of economic planning, a formal, well conceived master plan for the development of India's telecommunication network was put before the people with the slogan: "Telephones for all, practically on demand, by 1990." Hopes were held out that a telephone connection would be provided within three months of an application — the time gap being a mere administrative necessity.

P&T engineers were enthusiastic, for they had fought for years to have the government recognise the need for a long term plan. Several earlier drafts had been rejected at various levels, even at times, within the communications ministry. All this was part of a long history of short sighted decisions, bureaucratic ego problems, a large dose of political inertia and plain and simple indifference on the part of the economic planners — defended with that term which economists use to cover up any shortcomings: low priority. It was a different matter — which no one bothered to explain — that this "low priority" sector was importing hundreds of crores of rupees worth of equipment every year, much of it already obsolete in the countries of their origin.

But the traditional atmosphere of lethargy did appear to be changing, ever so slowly, with the turn of the decade. Part of the cause was the department of electronics (DoE) which had come into existence in the mid-seventies, charged with the responsibility of vetting any proposal which even smelt of electronics. The fledgling unit, operating out of a fully air conditioned office far away from



*Pitroda: architect of the new order*



the central secretariat complex of New Delhi, fired the first salvo — in the form of a media leak — in what was to become its long standing rivalry with the P&T department of the ministry of communications. A note circulated among members of its parliamentary consultative committee charged the communications ministry with having done little to build up productive capacity in telecommunication equipment. The blame for the projected Rs. 383 crore import of telecommunication equipment during the Sixth Plan period was squarely laid on the communications ministry.

#### BUREAUCRATIC RIVALRIES

Within days the note appeared as a news item in a leading daily of the capital. The P&T department reacted sharply: Who is to blame if we were not heard? And how many qualified experts did DoE have? said a memorandum submitted to the prime minister's secretariat. This assertion was a reminder of the fact that the P&T could boast of an engineering cadre of several thousand, selected through a tough all-India examination, while the DoE had less than a dozen persons with proven track records in electronics.

Like with so many bureaucratic rivalries, the differences between the two departments persist into the present. A major preoccupation of the communications ministry today is to ward off attempts by the DoE to set up parallel organisational structures, or to use any other method with the aim of eroding P&T's supremacy.

The DoE's points of attack, however, derive their legitimacy from the fact that in over three decades of control over the telecommunications sector, the ministry has hardly been able to present any significant breakthroughs. The longer and longer waiting lists for telephone and telex connections is only a part of the story. The other part is that every expert committee which has studied the functioning of the P&T system has come up with hundreds of recommenda-



*Obsolete, sub-standard and the cause of wrong connections*

tions, major and minor, on how its services could be improved. Few have been implemented; and no one has ever given the P&T a pat on the back.

This has not entirely been due to the shortage of resources, important though this issue might be. There is no answer to the fact, for example, that even today the country has to import technology to manufacture the right kind of telephone instrument. The Indian Telephone Industries Ltd. (ITI), among India's oldest public sector enterprises, has been trying to develop a suitable telephone instrument for ages. But as yet — as any telephone user would willingly confirm — the original clumsy subscriber sets with which the ITI began operations way back in the early 1950s still remain the best bet among the various models being produced in the country today.

Designs have been modified several times in between, but quietly withdrawn from commercial use after a few years. What is more, even the ITI's latest prize exhibit, the type 677, is not considered a good enough instrument for long term production.

Only a few months ago, a collaboration agreement was approved with FACE Standard of Italy, an IT&T subsidiary, to look after future needs. There is nothing novel about the FACE design. In this age of fast changing technology using the micro chip, the FACE instrument is of a plain and simple electro-mechanical variety with a rotary dial. But, one presumes, its trump card lies in the fact that it works. And this is more important than a telephone user would probably guess — for it is one of the P&T's own surveys which brought out the fact that 40 per cent of the wrong numbers that subscribers get today are due to faulty telephone instruments.

#### P&T: DISMAL STORY

The overall performance figures of the P&T reveal a pathetic story. Since independence, telephone services in the country have expanded at an annual average rate of 10 per cent per annum, but the rate of growth in demand has been substantially higher. Backlogs of unsatisfied demand have therefore been piling up, so that in spite of the considerable expansion effort during the Sixth Plan period, the waiting list for local telephone connections will be a massive 12.75 lakhs by the time the Seventh Plan begins next April. The Sixth Plan performance is actually a story of missed targets, for only 9

#### Funding for telecommunications

Plan	(Rs. crores)					
	I	II	III	IV	V	VI
A) P&T outlays	47	66	164	415	1,189	2,508.00
B) From internal resources	10	21	65	298	870	1,521.85
B as a percentage of A	20	32	39	72	73	60.68

Source: Telecommunication Plan 1980-85, P&T Department



lakh lines are expected to be added during this five-year period in place of the 13.48 lakhs originally envisaged. The picture is broadly the same for the other services that the P&T caters to, like telex and STD.

On the production front, the situation is even worse. The first large telephone exchange factory was the Indian Telephone Industries (ITI), a public sector undertaking at Bangalore, set up way back in 1948. Even today, its production lines are of the obsolete electromechanical variety and it will be some more time before even the Strowger exchanges of the early 1950s vintage, are phased out.

Against the background of this general picture of obsolescence came the decision in 1981 to set up a completely new factory at Rae Bareilly to manufacture cross bar exchanges modified to suit Indian conditions, known as the ICP — the Indian Cross Bar Project. This project, considered by some experts as a technological disaster, is yet to begin production even as more advanced concepts have flooded the world.

The ICP had its origin in the brave effort by P&T engineers to amend what was essentially a foolish decision taken in the early 1960s. This was the step to import the Pentaconta cross bar exchanges produced by IT&T, Belgium, which was totally unsuited to Indian conditions. Development of the ICP has no doubt been a brilliant achievement on the part of the research engineers involved, given the sad story of R&D in this country. But this effort has come too late, because technology, like time and tide, waits for no country. And even this effort at producing obsolete exchanges has not been without a substantial foreign exchange cost. IT&T, Belgium, has been awarded the contract for "productionising" the design at a cost of more than Rs. 40 crores.

#### NOT THE BEST

The P&T's latest technological acquisition, the E-10 B electronic exchanges to be manufactured in collaboration with CIT Alcatel of France, are more than a decade old. They were first commercialised by Alcatel in 1972. It might be worthwhile to recall at this stage that, in keeping with the inexplicable decision-making methods of the government, the choice of E-10 B was made outside the process of tender bids, even as ten telecommunication giants of the world waited to have their offers evaluated.

The decision was sought to be justified on the ground that the process of tendering did not have any sanctity in this field of cut-throat competition, and that the country deserved the best offer possible. There were reports too in the press of how the proposed telecommunications agreement with Alcatel was

part of a comprehensive package deal with France involving the purchase of Mirage fighter aircraft on easy terms.

But all this is now forgotten. What is relevant is the fact that even the high power technical committee appointed to give a verdict on E-10 B exchanges ventured no further than to say that the system was "adequate" for India's needs. But as critics point out, so, probably, is the bullock cart.

Research efforts in this field have been equally dismal. The prestigious Telecommunications Research Centre (TRC) in New Delhi, has never had a leadership role in producing any kind of equipment. The major constraint, as with all R&D efforts, has been

lineman. It is a reflection of the *ad hoc* approach that has always characterised this service that, till recently, practically no one among the line staff had any formal training, nor were any specific qualifications laid down for recruitment at this level. It was the casual labourer, employed to help out with the unskilled work, who on eventual absorption as a regular employee, worked his way up to the job of looking after the external plant and the extensive cable network linking the subscriber to the telephone exchange.

This system has over time become an important source of patronage in the context of acute urban unemployment. Any adult could



*Electronic exchange assembly: will indigenous technology catch up?*

funds. Even the greatly enhanced Sixth-Plan allocation for the TRC is Rs. 50 crores, less than two per cent of the total investment in this field in the five year period. As a result, research efforts are forever trying to catch up with what is the latest abroad, always holding out the promise of a quantum jump in technological capability through lateral injections of knowhow from abroad, but never quite achieving it.

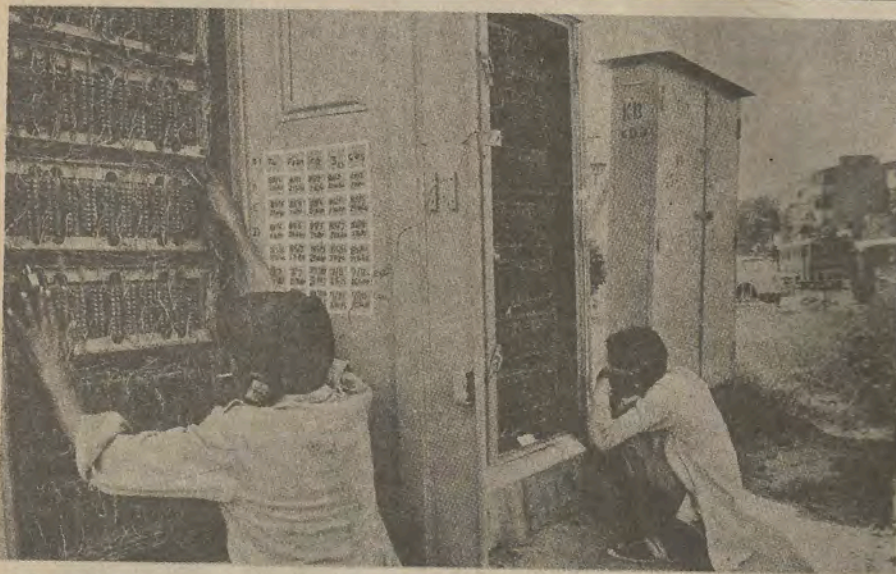
#### ORGANISATIONAL INERTIA

As exercises for the Seventh Plan enter their final stages, the question that does not appear to have been answered adequately is how important is telecommunication in economic growth. The system that the country has got today is bogged down in a general atmosphere of inertia which begins with the lowest rung of the P&T staff — the

qualify for employment as a casual worker. Once on the rolls, which was usually with the help of local political pull, promotions were merely a matter of time. Having succumbed to political pressure at the base, the P&T has not been able to create the necessary compartmentalisation between the skilled and the unskilled, between the efficient and the deadwood.

As the inevitable transition to high technology services is made in the coming years, the weight of this moribund organisational structure is bound to prove a major obstacle to change. This fact has been recognised all round: The Indian Telecommunication Service Association, the organisation of P&T engineers, has publicly raised this issue at a seminar in December last year. The background paper pointed out that Indian professionals in this field have received interna-





P&T: no formal training, no prescribed qualifications, for the line staff

tional recognition, have often served on expert bodies and have been asked to work out designs for new telephone systems or to upgrade old ones in many countries of the third world. How is it, the paper asked, that the same body of engineers is finding it difficult to provide a satisfactory telephone service within the country?

"We believe, the paper went on to say, that this is due to system inadequacy and organisational constraints" These must be changed first for any improvement to take place. These engineers have demanded that the present structure consisting of a single board controlling both the postal system and the telecommunication services, cannot continue, for the operational norms are not the same.

The question that is being asked today is whether the P&T with its present structure can measure up to the demand for change. It should be a matter for serious concern that the Sixth Plan performance on the telecommunication front will fall short of several major targets.

#### SLIPPAGES IN TARGETS

Delayed decisions have all but destroyed the dreams of planned additions to production capacity. The production of strowger exchanges at the Rae Bareilly factory of ITI was expected to reach the level of one lakh lines per year by the end of the Fifth Plan i.e. by March 1980. As of today, more than four years after the target date, this unit has not reached full capacity production. The time over-run in the modified cross-bar project (ICP) is more than one year. Of the two electronic exchange factories, the first was scheduled to go into production mid-way in the Sixth Plan, and the other by the beginning of the Seventh Plan. The construction of the

first factory, at Mankapur in Gonda district of Uttar Pradesh, has just about got going with the civil works.

Slippages in project targets are, of course, a common phenomenon in the country, but the development of telecommunications assumes a staggering dimension in view of the colossal effort that will be necessary in the coming years to establish even a semblance of a modern countrywide communications network. The mobilisation effort involved may be easily visualised from the fact that the proposed investment of Rs. 12,500 crores in this sector during the Seventh Plan will be more than five times the Sixth Plan investment.

And yet, if all targets are fulfilled — and that is a big if — the projected telephones density of 4.62 per 100 of population would still be way behind the present densities in some of the advanced countries like Japan which has 49.4 telephones per 100 of population and the United Kingdom with a density of 49.7. The present projections put the total number of connections at 27 million by the end of the century compared to the 2.5 million as of March 1982.

Against this background of prolonged inaction, it has not been explained as to why the telecommunications sector — long considered a low priority area — has been allowed to import larger and larger quantities of equipment over successive Plan periods. Starting with imports of Rs. 20 crores during the Third Plan (the direct foreign exchange cost), the Sixth Plan originally envisaged imports of over Rs. 387 crores, although this target envisaged for the Sixth Plan was not met because of delays and agonisingly slow decision making.

What is especially significant in his context is that the proportionate import content

has been quite steady, averaging round 12 per cent over all the Plan periods. Telecommunications, therefore, appears to be the only sector where imports have risen in proportion to the total outlay. This lends credence to the view, expressed indirectly in the DoE's charge, that imports have been unduly high and that an import lobby has been at work, shielded from public attention by the secretive working of the communications ministry.

For the time being, however, the die is cast. The collaboration agreements with CIT Alcatel envisage a long term period of technology transfer during which an advanced design digital exchange would be developed. As yet, the P&T has been non-committal on the perspective beyond the Seventh Plan, though the need for much larger production facilities has been recognised. It is on this uncertain horizon that one must therefore concentrate, so that at least the choices for the next decade may be viewed in a clearer perspective.

#### DEBATE ON PRIORITY

Of prime concern in this debate, to which there seems to be no end, is the absence of a clear perspective on the role that telecommunications, and high technology electronics in general, can play in the development process. While no one denies any more that telecommunications is an important input, there is still an inadequate understanding of its growth inducing potential, and consequently

#### How we compare

(telephones per 100 of population in 1981)

Country	Density
India	0.4
Pakistan	0.4
Iran	3.2
Thailand	1.1
Japan	49.4
South Korea	9.0
Brazil	2.6
Argentina	10.3
Australia	52.6
Egypt	1.2
Algeria	2.5
United States	83.7
UK	49.7
France	45.9
USSR	8.9



its importance in the overall order of investment priorities has never been clearly specified.

Underlying the logic which has traditionally accorded a low priority to investments in telecommunications is the assumption that this sector satisfied elite needs only. On this question, official policy appears to have been caught up in its own reasoning, for what might have been true 25 years ago need not hold good today, given the progress that has been made in all sectors of the economy.

The problem is reflected in the fact that a policy framework formulated in the first decade of planned development, is still sought to be continued unchanged. Accordingly, in the prevailing frame of reference, the concentration has been on inter-urban links, bypassing the large number of smaller towns and rural habitations in between. Only between eight to nine per cent of the total telephone connections are in the rural areas, while 29 cities and towns account for 55 per cent of the total connections.

The projections for this decade will not alter the picture substantially. By the year 1990, the urban areas of the country, with 25 per cent of the population, are expected to have a telephone density of 4.62 per hundred of population. The rural areas, with the remaining three-quarters of the country's population, will have a density of 0.10 phones per hundred.

To a certain extent, this policy tilt has escaped critical attention because of the present end-use pattern of telephones and related services. A P&T study has shown that 53 per cent of the service is utilised by private business and the corporate sector, the government uses 12 per cent. From this, the conclusion has been drawn that it is the "non-productive" tertiary sector which uses telecommunication services most intensively and therefore its overall investment priority need not be high.

#### UNJUSTIFIED INFERENCE

Whether such an inference can in fact be drawn from the sparse statistics available is a question that does not appear to have bothered policy makers. It is relevant to ponder on the possibility that this pattern of end-use could have emerged over the years purely because of the fact that telephones services in India are among the most expensive in the world. Like the classic developmental example of the T-model Ford car in the United States — or the bicycle, the domestic pressure cooker and the transistor radio in India — the existence of a mass market can become apparent only after a product is freely and cheaply available.

The telecommunications situation in India is caught up in a vicious circle of inap-

propriate technology and archaic management methods that have led to a high cost situation in which we are forever trying to catch up with an expanding demand-supply gap. Whereas the international experience has been an intensification of networks with an increasing variety of services and progressively lower costs made possible by advancing technology, India has seen several increases in P&T service charges over the last few years. And, as people are well aware, the subscriber has been paying higher and higher amounts for steadily deteriorating network quality.

Significantly, while the increased charges have helped the P&T to record substantial profits, the projections are that by the end of the Seventh Plan period, the costs would mount, so that the surplus from the telecommunications sector would decline from an estimated Rs. 363 crores for the current fiscal year to Rs. 313 crores four years hence in 1988-89 — this after the substantial increase in services being envisaged for the Seventh Plan.

A more worthwhile approach would therefore begin with a re-examination of the role of the service sector as a whole, of which telecommunication is an important part. The service sector has already become the leading employment segment in the advanced economies. With its increasing dominance, it has been realised that the service sector is not 'non-productive' as text book economics had once described it. It is now recognised that in the next phase of economic develop-

ment — after the socially traumatic industrialisation process — the services, and especially information technology, will be in the lead role.

The implications of this new feature of the growth process may prove to be much more far reaching than most Third World governments have been able to visualise. For one, the focus henceforth will be on technological change at a speed not thought of as being possible even a decade ago. The life span of a particular generation of technology in electronics, for example, is considered to be between three to five years, compared to 25 years in steel. What is more, a whole branch of technology is opening up in the application of electronics in the traditional industries, speeding up production processes with outputs of more uniform quality.

#### TELECOM: PRIORITY SECTOR

The fundamental change presaged by this revolution in the not too distant future is the receding role of capital. For the first time in the history of economic development, there is the distinct possibility that it is the scientific and managerial manpower of a country, and not so much its investible surplus, which will determine its place in the world economic order.

Viewed from this angle, telecommunication as the medium of information technology assumes far more importance than conventional wisdom would allow. The question is particularly relevant in the Indian context with development programmes caught up in



"New models were introduced in the past, but quietly withdrawn"



## Rate of return from telecom services

Year	%
1971-72	19.5
1972-73	21.2
1973-74	18.5
1974-75	19.0
1975-76	16.3
1976-77	29.0
1977-78	29.4
1978-79	26.3
1979-80	26.06*

Source: Telecommunication Plan 1980-85, P&T Department

\* Provisional

the low productivity trap in an all round high cost situation from which there appears to be no escape.

### ENTER PRIVATE SECTOR

In the otherwise bleak telecommunications landscape of India, one very encouraging feature is the high rate of return in this sector. Communications development is a paying proposition. Based on an internal rate of return peaking at round 26 per cent, a progressively larger proportion of the Plan financing in this sector has been from internal resources. This fact strengthens the case for allowing telecommunications a larger degree of financial autonomy than has been allowed so far. It is in this context that the recent decision opening up a segment of this sector to private entrepreneurs assumes importance.

The policy announcement outlining areas in the telecom sector in which the private industry may henceforth participate constitutes a major departure in industrial policy under which the production of telecommunication equipment was hitherto reserved exclusively for the public sector. Besides providing for upto 49 per cent equity participation in joint ventures to manufacture telephone exchanges, the revised policy opens up a whole new field for investment in the production of equipment used at the subscribers' end, like telephone instruments, their various attachments and private exchanges (PBX and PABX).

However, what the new policy will eventu-

ally mean in terms of improved telecom services is not yet quite clear. To begin with, what is being opened up to the private sector is the production of certain kinds of telecommunication equipment: there is no talk yet of the private sector entering telecommunication services. Thus, to the extent that the present inadequacies of the telephone system are due to network problems, the solution still lies with the P&T — the proposed entry of the private sector in manufacturing will not help in this regard.

An air of expectancy has nevertheless been generated. Much of it stems from the hope that apart from providing the private sector with a new area for profitable investment, the introduction of more productive management methods and technology through new enterprises in tandem with the existing public sector units will help to shake telecommunications production out of its present moribund state. It might be worthwhile therefore to try and project just what the private sector might be able to do.

Soon after taking over as the president of the Federation of Indian Chambers of Commerce and Industry (FICCI), Ramakrishna Bajaj was asked to comment on the new telecommunication policy. Welcoming the change, he said that the private sector would be happy to enter telecommunications production "provided the finances are made available." He was referring, presumably, to the manufacture of transmission and exchange equipments which are high technology items requiring investments of the order of more than Rs. 100 crores. Joint sector participation will be allowed in this area, where the finances required will be huge, even with the help of a liberal amount of institutional financing.

Successful production of this kind of equipment will depend to a very large extent on establishing a broad based industry for the

manufacture of components and sub-assemblies. For example, the production of just one kind of microchip (lisis or vlisis) would require a very high degree of technological sophistication and a domestic market big enough to absorb tens of millions of pieces. The production of such items would therefore be economical in this country only if they are standardised to a degree that has not been tried out anywhere else in the world. Such an achievement is indeed possible — in fact there is no other way, if India is to enter seriously into professional electronics.

### COMPREHENSIVE POLICY NEEDED

Viewed from this angle, what is required is a comprehensive policy on high technology electronics, both in the area of production and of R&D. So far, such an attempt had been made only with regard to a few specific areas like defence production, space research and nuclear energy, but in which the private sector has not been allowed more than a marginal vendor role. But professional electronics will necessarily be a different

	(Million)
Population of India	700.00
Urban population	140.00
Rural population	560.00
Percentage population — urban	20%
No. of telephones required (urban)	16.80
(rural)	11.20
total	28.00
No. of telephones today	3.20
Present rate of growth per year	0.30
Desired rate of growth per year	4.00

## What it will cost to install 4 million lines a year

(Rs. crores)

Constituent	Public Sector	Private Sector	Total
Switching	2525.0 (25.0%)	1090.8 (10.8%)	3615.8 (35.8%)
Trunks and junctions	1494.8 (14.8%)	929.2 (9.2%)	2424.0 (24.0%)
Terminals	10.1 (0.1%)	141.4 (1.4%)	151.5 (1.5%)
Local leads	1191.8 (11.8%)	1737.2 (17.2%)	2929.0 (29.0%)
Building, air-conditioning, electrical installations	50.5 (0.5%)	454.5 (4.5%)	505.0 (5.0%)
	5676.2 (56.2%)	4423.8 (43.8%)	10100.0 (100.0%)



proposition, for the equipment produced will need to face the acid test of market acceptability, both in terms of suitability and cost.

The announcement in April of the formation of the National Telematics Centre is an indication of the government's willingness to act on these issues. More than the development of an indigenous digital switching system, which is the Centre's immediate task, the major role of this body of experts will be to devise the policy formulations necessary to promote the required components base.

But clearly, these are issues which will not be decided in the immediate future. For the Seventh Plan period, therefore, the role of the private sector in transmission and exchange equipment production will be purely to supplement the capacities that have already been set up by the ITI, in effect a limbering up exercise for a hopefully more challenging future.

The picture is however vastly different in the area of terminal equipment, i.e. that which is installed at the subscribers' premises. For a start, the range here is very wide — from telephone sets to attachments like repertoire diallers, telephone answering devices and a host of small equipment — many of which are already available in the country in markets where smuggled goods are sold (and are installed illegally).

The point is that even within the existing level of P&T facilities, there is a large unsatisfied market for PABs and PABXs, video display units, facsimile, teletext and video text equipment, data modems, sensors and telemetry equipment for monitoring activity. The use of such equipment is virtually unknown in this country largely because it has

not been available. Till recently, the P&T did not allow the use of any such attachments which were not of its own manufacture. What is more, no one had ever questioned the P&T's right to be the sole arbiter whenever proposals were mooted to farm out the production of this type of equipment.

#### P&T'S MONOPOLY

But pressure had been building up for opening up these areas, specially to the several state electronics corporations that had come up over the last few years with the objective of taking advantage of the employment potential of the electronics assembly industry. Soon after the P&T announced in July last year that it would allow the installation of PBX and PABX equipment not of its own manufacture, a bitter controversy broke out on the competence of the state electronics corporations to produce equipment of acceptable quality — the big stick that had been used for long by the P&T to ward off attempts by other manufacturers to break up its monopoly.

Reacting to the repeated aspersions cast on the state electronics corporations, the Keltron chief, K.P.P. Nambiar, fired off an angry letter to the *Hindu* late last year. "Under pressure from the P&T department, which is the administrative ministry for ITI, and which is also the buyer, the applications for the manufacture of simple telephone instruments by state corporations were vehemently opposed by the P&T for a number of years", wrote Nambiar, who has made Keltron one of the very few successful state enterprises in the country. His long letter listed various instances of the obstructions that the P&T posed, concluding: "The re-

sponsibility for the delay on the part of the state electronics corporations in proceeding with the implementation of the letters of intent... rests squarely with the P&T and ITI and is not due to the level of technological competence of the state electronics corporations in the field of electronic equipment manufacture."

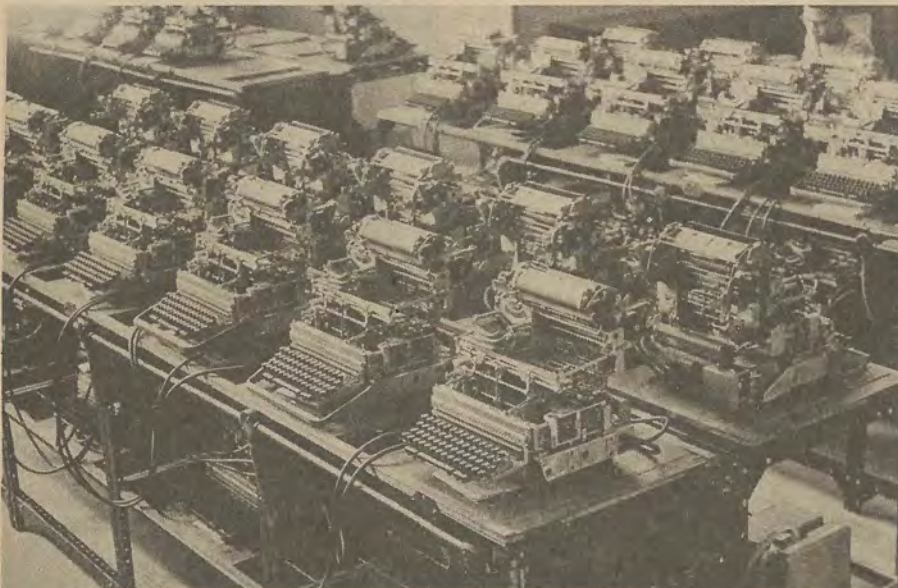
Several state corporations are already gearing up to produce equipment like PBX and PABX, telephone instruments, data modems and multiplex equipment. But even a bureaucratic methods and petty jealousies are holding up production programmes. Some private sector firms have moved in to win major contracts which ITI has been forced to pass up because of its production problems.

Recently, Power Systems and Project operated by the BPL (India) group based in Bangalore, have been awarded a Rs. 40 crore contract by the ONGC for a total communications package to link its offshore units on the mainland and to the important operating centres in the country — Bombay, Madras, Calcutta, Delhi, Dehra Dun, Baroda, Hazrat Naga (Assam) and Visakhapatnam. Many public sector giants, who have long been waiting for the P&T to do something about their communications problems, have expressed interest in similar networks. Air India has already issued tenders for a large PABX system, Coal India is negotiating for a communications link with its subsidiaries and important production centres, and the State Bank of India is reported to be working on specifications for a private nationwide telelink.

The field is clearly opening up. As the P&T acquires the capability and willingness to make available more and more communication channels for dedicated networks, the demand for end use and peripheral equipment will firm up. The projections are that the production of such equipment could be taken up by a host of medium scale units using imported components and sub-assemblies and software, some of which could even be developed within the country. For the time being, therefore, it is in this area that the private sector and state corporations could play a useful role in satisfying the huge pent up demand which, in later years, is expected to stabilise at a fairly high level. More telecommunication services are made available.

#### GUARDED OPTIMISM

However, the industry is expressing no more than guarded optimism. One industrialist who has filed an application for entering the telecommunications field says, "What is the new telecommunication policy? I wish to know, because after all, that will decide



Teleprinter assembly: large scope in user-end equipment.



whether this experiment is going to work"

Obviously, half hearted measures will not work; as has been proved ever so often in the past whenever liberalisation has been attempted in any sector. As the same industrialist remarked, "If we have to go to P&T for licensing each and every bit of equipment we manufacture, then the policy is dead before it is even announced. Our technology ought to be examined and our product line ought to be cleared. This is the way to begin".

The limited information that is available suggests that the big multinationals in the telecommunications field are already looking for partners in India. The industry grape vine has it that Northern Telecom may be tying up with the Thapar group and GTE is understood to be negotiating a collaboration with the Devi Dayal group. The Kulwant Rai group is looking to the Japanese and to certain Comecon countries for collaboration, and the Modis who have a penchant for getting prized collaborations may be making overtures to AT&T. The Lalwani group, whose success in the UK in the television industry is well known, are also in the running. It is expected that they will tie up with a large British telecommunication multinational, probably Plessey, to make an entry into this lucrative market.

Seven private sector firms have submitted applications since the announcement of new policy on 23 March. While some of them are really small outfits even by Indian corporate

standards, the big name among them so far is the Birlas. But others who are poised to enter include the Tatas, the Kotharis of Madras, and the J.K. group. Only one applicant, the Kulwant Rai group, has applied for a license to manufacture telephone exchanges under the new rule. A new company is proposed for this purpose, with the government of Karnataka as 51 per cent equity partner.

One reason why the big multinationals are anxious to get into India is that the subcontinent promises to become a huge market for their wares. Yet here too caution is the watchword. Companies like IT&T, whose West German subsidiary SEL is interested in the Indian market, are keen to avoid any controversy because of IT&T's 'Big Brother' global image. SEL is considering tie-ups with public sector units or established corporate giants to enter the virgin fibre optics market in India.

#### BENEFITS OF COMPETITION

Some big names are also eager to be in the Indian market because they want to sell obsolete dies, moulds and other capital equipment used in instrument manufacture to Indian partners. The prices they hope to get in India are good. They are threatened in their home markets by cheap Hong Kong and Korean instrument makers who are offering products at \$5 which are costing western manufacturers \$50.

Given the limited nature of private participa-

tion that is envisaged, nothing dramatic by way of services can be expected. But a cursory look at the pending private sector applications suggests that the new policy could well bring the benefits of corporate competition between multinationals into India. Consumers can expect to have telephone instruments that will be — if the policy is handled correctly — upto international standards. With instrument technology advancing at the pace it has been overseas, the day may not be far off when the home telephone will become a veritable electronic wizard that mixes and matches the characteristics of a home computer and an interactive video.

Struck with the present day antediluvian relics of post World War II vintage, such a scenario may well strike most telephone users as unabashed utopianism. But given that the National Telematics Centre will be busy revolutionising exchange designs and switching equipment, innovative instruments at the user's end may well find a suitable system to function in. To what extent this is actually allowed to happen will depend on how the new policy is handled.

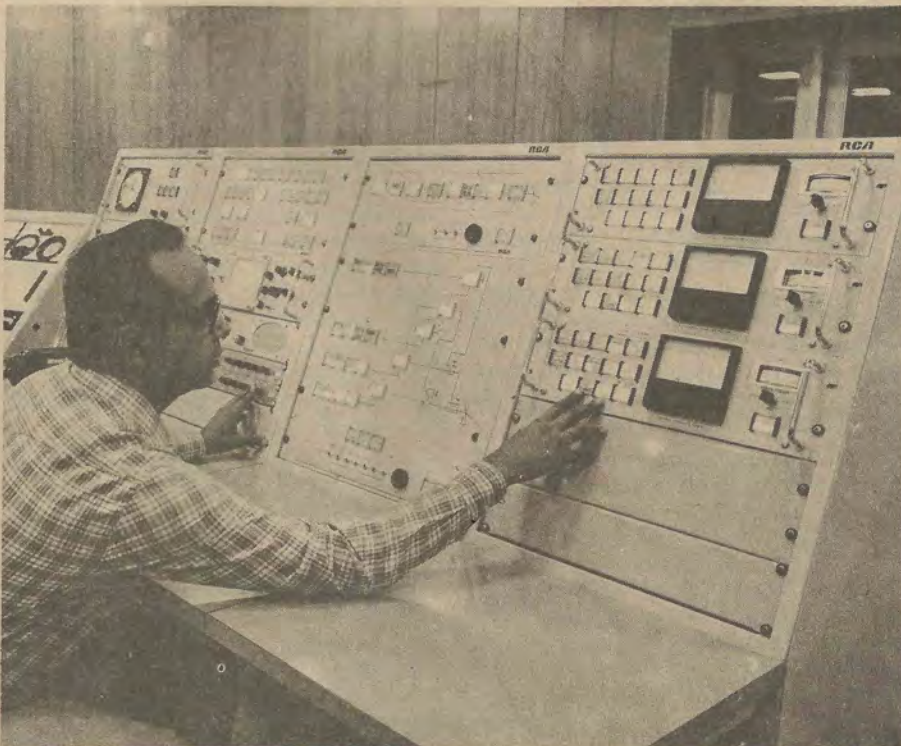
The funds for this kind of expansion are now being made available. The 7th Plan papers on this subject are understood to have sanctioned "massive inputs of digital microwave and pulse code modulation systems including fibre optically linked intercity segments". Yet there is no getting away from the fact that the new telecom liberalisation can still fall flat on its face. Everybody admits that telephone instruments and PABXs are not high technology items. If government places unrealistic restrictions on technology imports for these items, then what can be purchased at throw-away prices will be peddled at high prices by big-time brokers for the multinationals.

#### NEED FOR PRAGMATISM

As Vinay Rai, who heads Usha Microprocessors, who are contemplating an entry into this field, says, "After all, what is needed is a system that works. Circuits are unimportant. What is needed is pragmatism in the implementation of the policy. We can get telephone instruments and PABX technology virtually free, if only the government would allow us to."

Vinay Rai may have put his finger on what may yet prove to be the Achilles' heel of the highly promising new scenario. All the other conditions seem right for the long awaited breakthrough in telecommunications. Flexibility and pragmatism in policy are the keys that can make it all happen, without which the harried user will have to remain content with pipe dreams.

B. LAL and D.C.



Pragmatism and flexibility required to make it work