

Local links to global communication



Mr. Ramanujam, CGM, Karnataka Telecom Circle

Today, Telecommunication is seen as a major component in a country's development. The percentage of people who have access to communication media in a country is a direct indicator of the social and economic progress of that country. Better communication automatically means faster information exchange which amounts to better services in all sectors. The communication sector is throwing up newer innovations and gadgets everyday. Public call networks, carriers and microwave links are now things of the past. Telecommunication is now turning out to be increasingly cordless with the advent of Cellulars and pagers.

Whatever be the development in the recent years, it is of little significance if our friendly neighbourhood local telephone network doesn't work properly. This can only happen with an efficient local telecom network. India has achieved giant strides in trying to provide a reliable and efficient telecom service to people. One of the major telecom circles which has contributed to this success is the Karnataka Telecom Circle and Bangalore Telecom District. **G.P.Vinayababu** spoke to **one of the architects of telecom success in Bangalore, Mr.J.Ramanujam, Chief General Manager, Karnataka Telecom Circle**, about various topics ranging from Indian telecom scene, Bangalore's contribution to Telecom and the steps taken by the telecom department to reach their services to a large section of the society. Excerpts of an exclusive interview with Mr.Ramanujam.

Q: Bangalore has been adjudged the best telecom district in the country this year. How was this made possible?

CGM: Best district is selected by a survey by IMRB (Indian Market Research Bureau). This survey is conducted every year and is going on for the past 10 years. 48 parameters are considered in selecting the best district, including random survey of the customers and certain development and service parameters. Groups containing two to three telecom districts are made based on the number of lines that the district is handling. Bangalore was grouped along with Hyderabad and Ahmedabad. In this group it was either Ahmedabad or Hyderabad which used to be selected as the best district. Bangalore was behind these two. In the year 1994-95 some major improvements were made and growth was large and customer service also improved. So the rating of Bangalore district reached almost on par with Hyderabad. In 1995-96 Bangalore showed substantial improvement and was a clear winner of this award.

Q: On what basis is the survey conducted?

CGM: User opinion is obtained. People at random are rung up and interrogated about the STD, ISD and repair service. This forms a major chunk. Apart from this, the performance is measured based on certain norms. The operator service is assessed in terms of percentage of call succession i.e., the operator answering within a specified time. The automatic service is measured in terms of answer to call success ratio (ASR). This shows how good the network is working without congestion. There is an evaluation of even the support services. Like, how many complaints are received? How many have been attended to? Customer response to

this are also considered.

Q: How do you compare Bangalore Telecom district with MTNL?

CGM: MTNL (Mahanagar Telecom Nigam Limited) is also assessed by IMRB. They form a separate group which includes Delhi, Calcutta, Madras and Bombay. The general observation is that the number of points obtained by the other groups is much higher than MTNL group. In Bangalore group the highest score may be 80 and lowest 60. In MTNL group maximum and minimum scores will vary between 60 and 40 points. In absolute terms it is difficult to manage large systems in comparison to smaller ones. Growth has been faster in MTNL due to one more reason. The investable funds are more there. Bangalore can also grow at the same pace, if such a thing is allowed. The point to be noted here, is that in the last 2 years, Bangalore has provided largest number of connections outside MTNL. Since Bangalore is going ahead in the same pace as Metros, it has been chosen by VSNL to have its internet server in Bangalore apart from the four Metros.

Q: What is the position of Bangalore Telecom district in India in terms of number of connections?

CGM: Just 2 years ago Bangalore was in the 6th position behind Delhi, Calcutta, Madras and Ahmedabad. In 1994-95 it moved upto 5th position beating Ahmedabad. In 1995-96 it was in joint 4th with Madras. It will certainly beat Madras soon.

Q: What is your contribution in bringing Bangalore to this position?

CGM: In 1994 February, I took over as the CGM of Karnataka Circle. Within two and a half years of my stay here, we have cleared 1.5 lakh lines. Prior to this,



Mr. Ramanujam

Bangalore had only about 2 lakh lines. Any performance/result statistics for a particular year does not depend on that year. My contribution in bringing Bangalore to one among the top 4 telecom districts in the country is definitely there. In the year 1995-96 nearly 74,000 lines were provided which is phenomenal by any standard. Nobody expected that such a figure could be reached in a year. In the year 1993-94 providing 25,000 lines itself was a huge

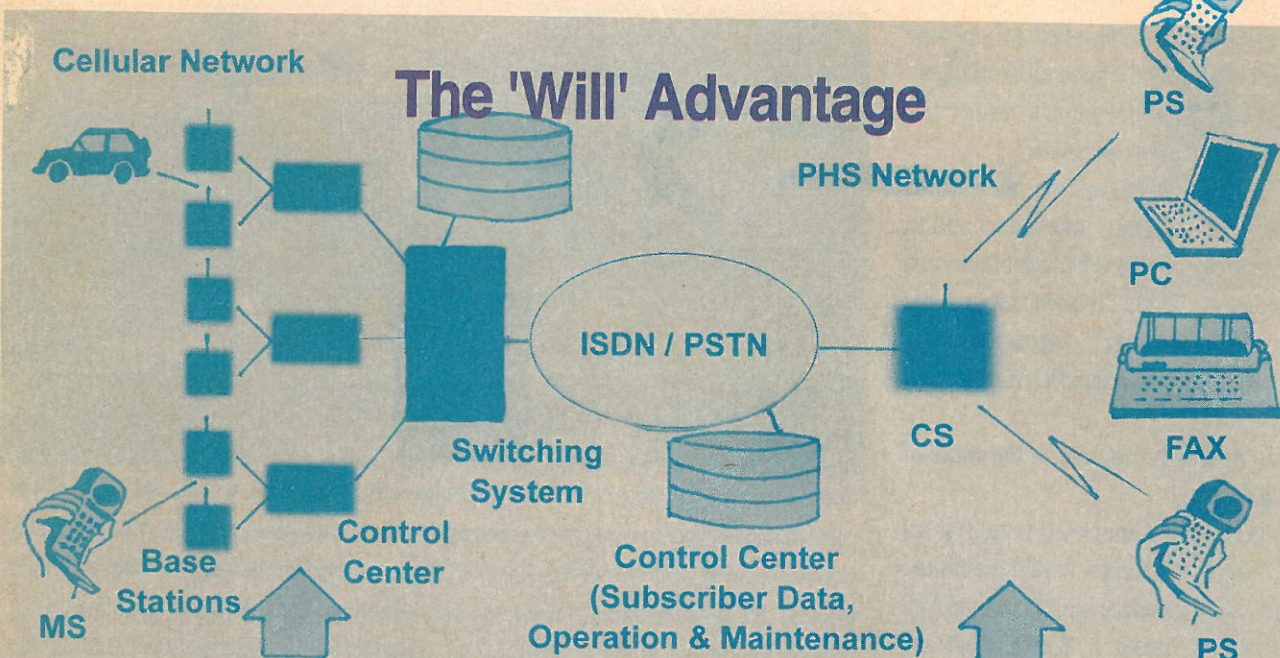
Copper links are difficult to lay and maintain. Further more, it snaps off very soon.

increase. Earlier it was only 10,000 lines per year. So, my achievement was to prove to my people that we could provide so many connections with careful planning.

Q: What do you think should be done to improve the quality of telecom services in India? Do you think Copper should be replaced by optical fibre in telecom links?

CGM: Copper to optical will be fine. If you observe Space and Telecommunications have witnessed phenomenal progress in recent years. Exchanges are now digital.

Transformation has been from copper to satellite links through carrier and microwave, connecting telephone exchanges. But the last connection between subscriber and exchange has remained the same, right from Bell's age. Even today it is copper wire in this part. No improvement has been possible in this field. Fibre optics can be the solution since it has huge band width. It has not made its presence in a big way in any part of the world. Problems with copper links are: it is difficult to lay and maintain, goes out of order at the smallest of wind variations. 99% of the problems associated with Telecom networks is between the exchange and the telephone. Optical fibre is a good solution for this. A revolutionary alternative to this is wireless technology. The cordless phone technology can be extended to public network. DECT (Digital European Cordless Technology), PHS (Personal Handiphone Systems), CDMA (Coded Division Multiplexing Access) are the latest in this regard. More than a million PHS lines in Japan are now functioning. These are just like cellular mobile telephones. Cellular can operate at higher travelling speeds. But PHS can operate only at 20 - 30 Kmph. In Japan Cellulares are used by the business class and PHS are used by the economy class.



Complicated and Expensive Network

The Telephone exchanges all around the world are getting digital. With satellite and optical communication making their presence, sending large bandwidth signals has become a reality. But, one significant area has remained unchanged right from the invention of telephone, the last connection between the exchange and the subscriber (ultimate user). This is the area which is most important in deciding the efficient working of any telephone network. This local loop (from exchange to the subscriber) as of now requires digging up roads, laying cables, drawing overhead lines to provide connection. This link may not remain secure all the time because of various natural and human factors. The solution to this problem lies in adopting the WILL (Wireless in local loop) technology. Wireless in this last part of the connection will get rid of all the problems associated with

Simple and inexpensive Network

snapping connections. There are various methods of 'WILL'. The prominent 'WILL' network in use is the one in Japan called as the Personal Handiphone System (PHS).

The Personal Handiphone System is a very good method of providing wireless local loop link. A city like Bangalore may require something around 20,000 transmitters which are located at various points in the city in comparison to cellular network, which needs around 40 transmitters. Though the number of transmitters in a PHS are more, the installation charges are much lesser than cellular phones as shown in the table. In final analysis the PHS has a better construction cost advantage over the cellular network. Also the cellular network is complicated when compared to PHS, since there are several stages involved before the message can reach the desired destination. But in a PHS network it is only the cell station which has to be encountered before the message reaches the called subscriber. The only problem with PHS network is that it cannot work at high travelling speeds. The maximum travelling speed at which this can work is at 30 kmph. In Japan the PHS is available for as low as Rs.300/- (with government subsidies). Indian Telecom department is seriously thinking of having a PHS network as also other WILL networks. The other popular WILL networks being considered are DECT (Digital European Communication Transfer) and CDMA (Code Division Multiplexing Access). Infact, CDMA is under field testing in Delhi awaiting implementation.

Comparison of CS* Construction

Item	Cellular	PHS
Number of CS in Tokyo Metropolitan area	60 approx.	40,000 approx
Cost ratio for single CS	200	1
Total CS Cost (ratio)	1	3
Subscriber Capacity (ratio)	1	20
Ratio of CS construction cost per each subscriber	6	1

*CS: Cell station

Installation costs are one-fifth to one-sixth lesser in PHS when compared to cellu-lars.

Q: What is your opinion about the privatization of telecom sector?

CGM: Liberalisation was intended to attract direct foreign investment and to improve the local production of telecom equipment. Since Telecom department funds its own projects, capital inflow is important. This is expected from foreign investment.

Q: How do you rate ITI in the wake of privatisation?

CGM: I am not supposed to talk about ITI. But it was the pride of our country. It has a large infrastructure, large manpower and welfare measures. But it cannot take its own decisions because of being a PSU. Now it has huge overheads. ITI as an establishment cannot be blamed for this. The whole setup should be blamed. Technology is changing at a rapid pace. Even ITI is making sincere efforts to grow with the latest technology.

Q: What are your plans for the future?

CGM: I would like to upgrade telecom services in rural areas. Once we adopt the wireless in local loop (WILL) system, we can provide more connections to rural areas too. WILL will be the technology of the future in villages. With wireless system, rural areas can have efficient telecom networks. This high reliability system has the potential to be a great success in India. This year DECT and CDMA networks will be on trial in selected cities.

Q: How do you compare Indian telecom industry with that in advanced countries?

CGM: India has a long way to go to be on par with other countries in Telecom sector. Quality and discipline are the keywords for success in any field. We need to adopt them in our activities.



Man With a Mission

Bangalore is regarded as one of the fastest growing cities in the world. But the facilities available in Bangalore are not commensurate with the rapid pace of its growth. Especially communication, which is an absolute necessity for a city like Bangalore, wasn't effective enough to cater to its needs a few years ago. But now, Bangalore is one among the top cities in the country in terms of number of connections and efficiency of telecom service. This wouldn't have been possible without the broadvision and efficient handling of the situation by Mr. J. Ramanujam, the Chief General Manager of Karnataka circle. By providing 76,000 connections in the year 95-96, as a CGM, BGTD he broke all previous records. More importantly he proved to his people that anything could be achieved with dedication and hardwork. Right from his early days in DOT he has given importance to quality and efficiency. Mr. Ramanujam, who completed his B.E. in the year 1963, joined DOT in the year 1964. After a training of 2 years, he joined the Telecom Research Centre (TRC) as a Scientific officer. He went on to become the Asst. Director of T.R.C and as a member of task force, improved the performance of crossbar systems in the country. He continued his good work in crossbar systems when he was appointed the Chief Engineer in M/s ITI in 1974, by designing and producing the Indian Crossbar systems. After a brief stint of 5 years in ITI he rendered service as the Director of PHS, PHX and MSE in P&T Directorate, where he worked extensively on electronic exchange systems. During the period 1986-1991, he was chosen to be the Advisor to the Ministry of Communication, Republic of Yemen, where he was involved in Project Planning and execution of Telecommunication Systems there. From 1991 onwards he has been constantly striving to improve the performance of local telecom networks. Initially as a GM of Hyderabad Telephone District, he was responsible in Hyderabad getting the best maintained district award. Then as GM and SGM of Bangalore Telecom District he was not only successful in increasing the number of telephone lines (by 1.5 lakhs) but also was instrumental in getting the Best Telecom district award in 95-96. Mr. Ramanujam, who is now CGM of Karnataka Telecom Circle, has travelled far and wide and has gained valuable experience in latest Telecommunication trends. Now he is all geared up to realise his dream of bringing telecommunication to every nook and corner of the country. He is confident that the wireless system will provide answers to the communication problems of this country.