



सह वीर्य करवावहे

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IETE NEWSLETTER

May-June 1999

FROM PRESIDENT'S DESK

May-June, though generally hot, have become hotter due to the events in Kargil. IETE also has felt the heat of this trying time for the nation. Let us all together pay our respect and praise the dare devil work and supreme sacrifices made by our Armed Forces in general and those in Kargil in particular.



As has been informed earlier, IETE has adopted IT as one of its objectives in addition to Electronics and Telecommunications. To give an impetus to the growth of IT, number of seminars and conferences have already been organised and many more are being planned.

IT has now become an integral part of our daily life. No section of the society can afford to ignore its impact and advantages. In addition to IT, equal stress needs to be given to Electronics, Telecommunication and Infrastructure facilities for the growth of IT. Internet with all its advancements cannot gain its due place without the development of Telecom and related infrastructure. We have, therefore, planned International Conferences in related areas in the coming months. As in the previous years, ATC has been planned on 25-26 Sep 99 with the theme "IT in Socio-economic Development".

No technological developments will be complete without being used in the day to day social life, particularly in the service of disabled and deprived. Keeping this in view, our IETE Chennai Centre is proposing an International Seminar on "IT Enablers for Persons with Disabilities" to project development of IT and its applications in the service of disabled. The Seminar is proposed to be organised in association with Rehabilitation Council of India and Rehabilitation Technology Cell.

Considering the all pervasive applications of IT, I would request all our Members to take keen interest in the spread of this awareness in use of Electronics, Telecommunications and IT in social uplift of our people and help us in spreading the use of IT and IT based services to all the members and non-members. This effort should spread equally to all even in remote and distant areas. I, therefore, invite all Electronics, Telecom, Computer and IT Professionals to join IETE and share our goals and help in making India a resurgent New India.

Cdr (Dr) H S Sharma, IN (Retd)

NEWS FROM HEADQUARTERS

World Telecommunication Day

On 17th May every year, the International Telecommunication Union (ITU) celebrate World Telecom Day to commemorate its founding in Paris in 1865. The day is observed by IETE at all its centres with a special function at the headquarters.

The theme chosen by ITU for 31st World Telecom Day was "Electronic Commerce". Mr Yoshio Utsumi, Secretary General, ITU in his message highlighted the importance of Electronic Commerce, challenges and opportunities it would provide in the next millenium. He also said that access to information networks for investors, producers of goods & services and consumers will change the very nature of economic activity for people of developed as well developing world. Countries that do not have necessary infrastructure and have people who do not know how to use electronic information networks & services will not grow, even if they are endowed with rich natural resources. Countries, therefore, must be prepared to provide widespread access to information networks & services; open their economies to foreign investors & suppliers and educate their people in the skills required in the information technology for making full use of advantages and opportunities offered by 'Electronic Commerce'. Finally, he asked the members of ITU to resolve to help people every where communicate better with each other, so that together they can build a truly human world for the future.

Shri Jagmohan, Hon'ble Minister of Communications was the Chief Guest for the World Telecom Day celebrations at IETE Hq. Dr H S Sharma, President, IETE welcomed the audience and conducted the proceedings. Speakers who addressed the gathering on the theme of the day included Shri P S Saran, Member (Services), Telecomm Commission, Shri Amitabh Kumar, Acting CMD, VSNL & Dr N Vijayaditya, DDG, NIC. Vote of thanks was proposed by AVM Atma Singh, VSM (Retd), Chairman Delhi Local Centre.

A report of the World Telecom Day organised at the various centres is included along with the report of activities from different centres.



Seen are Dr N Vijayaditya, Cdr (Dr) H S Sharma, IN (Retd) and Hon'ble Shri Jagmohan, Minister for Communications

NEWS FROM THE LOCAL CENTRES

Ahmedabad

The Centre celebrated the 31st World Telecommunication Day on 17th May '99 at its own premises. Shri D S Kushwah, Chairman IETE, welcomed the guests and audience. Shri N Mohanty, Dy. Director, SAC, ISRO Ahmedabad was the Chief Guest. He shared his thoughts on E-Commerce. The need to provide access to information networks was the focus of his address. The celebrations received good coverage in the local dailies. The function was covered in the news bulletin in local news. Shri Sudhir Agarwal, Hony Secy, IETE proposed the vote of thanks.

Aligarh

Shri Ashok Kumar, Chief General Manager (Telecommunication) West Zone was the Chief Guest at the 31st

World Telecommunication Day celebrations organised by centre at the Z H College of Engg. & Technology, Department, AMU, Aligarh on 17th May '99.

Bangalore

Activities of April & May '99.

- 4th April '99:- Inauguration of SUSIE-99 & SUSIC-99 IX & X std school children by Shri Y Gopala Rao, E Dir, BEL. About 75 students participated in these courses. Another short term intensive course on "Digital Signal Processing & microprocessors & Microcontrollers" was also inaugurated by Shri T S Kuppuswamy, GM Telecom district, Bangalore, about 85 participants enrolled.
- 11th April '99:- A lecture on Signals & Systems as a part of DSP lecture series was delivered by Shri Veluswamy. About 40 participants attended. Prof S Jaganathan spoke on Digital fundamentals as a part of microprocessor & microcontrollers lecture series. Nearly 45 students attended.
- 18th April '99:- One day workshop held on DSP Solutions. Current trends. The inaugural & key note address was delivered by Prof V U Reddy, IISc Bangalore. Dr M Kori Chairman, IETE Bangalore centre presided over the function.
- 25th April '99:- "Introduction to Microprocessor 8085" by Prof S Jaganathan, and "DSP: sampling of continuous time signals" by Shri Satya Sudhakar.
- 2nd May '99:- Valedictory function of SUSIE-99 & SUSIC-99 were held. Dr Surendra Pal, Gp Dir., ISRO Satellite Centre was the Chief Guest.
- 17th May '99:- World Telecommunication Day lecture was delivered by Shri M Raghavan, Project Manager Global Services India (P) Ltd on the theme "E-Commerce". Dr M H Kori, Chairman IETE Bangalore Centre presided over the function. Prof C Murthy, Executive Committee Member IETE Bangalore Centre proposed vote of thanks.

Bhopal

The 31st World Telecommunication Day was celebrated at the sub-centre at Maulana Azad College of Tech, Bhopal. R P Singh, Chairman, IETE Bhopal Centre welcomed the guests and highlighted the importance of the World Telecom Day. The Chief Guest was Shri P P Khare, CGM, MP Telecom Bhopal. Shri Sudhir Gupta GM (Project), Bharati Telecom Bhopal was the invited speaker on the topic of E-Commerce which was the theme of this year's World Telecom Day. The function was presided over by Dr K S Sayann, Principal, MACT, Bhopal. Large number of dignitaries from DoT, Bharati Telenet, faculty members and students of M

attended the function. The message of the Secretary General, ITU, was read out by Dr D K Trivedi. Ms Ritu Shrivastava, Member proposed the vote of thanks.

Chandigarh

A lecture on "E-Commerce- Opportunities & Challenges" by Shri J K Chhabra was delivered on World Telecommunication Day on 17th May '99 amidst large gathering. The speakers were of the opinion that the Electronic Commerce will revolutionise the world economy, as traditional economic activities would become more efficient and profitable. Yahoo and American Online companies have already started dealing in this business. By 2003 more than 705 of all business relationship may adopt electronic commerce according to a reputed American company, Garter Group.

The programme was televised on local TV channel & also published in local newspaper.

Chennai

31st World Telecom Day was celebrated on a grand scale on 17th May '99 with most of the engineering associations & VSNL at Chennai Centre participating in the function. Shri T G Saranathan, CGM, Chennai Telephones Tamilnadu Circle presided over the celebrations. He also distributed the NORAD certificates of IETE computer course to successful candidates. Coverage of the event was done by Doordarshan Kendra, Chennai. All India Radio also gave a detailed radio report.

Cochin

A Zonal seminar on "Modern Trends in Personal Communications" was conducted by the Cochin centre on 4th-5th May '99. Chairman, Cochin Centre Shri V Chander



President, IETE Cdr (Dr) H S Sharma, IN (Retd) lighting the lamp at inaugural session during the seminar on Modern Trends in Personal Communication at Cochin.

welcomed the gathering and President, IETE Cdr (Dr) H S Sharma, IN (Retd) inaugurated the seminar by lighting the lamp. Key note address was made by Gp Captain Kaushal, Chairman TPC. Seminar proceedings were released by Shri Sateesh Kumar, Chairman Consumer. Sixteen technical papers were presented in 5 sessions with Dr Kulkarni, chairing the session. About 40 delegates attended the seminar. Talks were delivered by VSNL, SAC, Aptech Computers and Motorola. Shri Parameswaram, Chairman, Organising Committee gave vote of thanks.

A lecture by Gen Manager, Thrissur Telecommunication Circle was arranged in joint collaboration with IETE Cochin Chapter and Institution of Engineers on 17th May '99.

Dehradun

The Centre celebrated the World Telecommunication Day on a grand scale on 17th May'99 at Defence Electronics Applications Laboratory (DEAL), Dehradun. Shri R S Misra, Sc-F, Chairman, IETE Dehradun Centre welcomed the guests and read out the message from Mr Yoshio Utsumi, Secretary General, ITU. Speaking on the theme, the guest speaker Shri Rahul Patet of Graphic Era, emphasized that the most important decision to engage in E-Commerce was to select the right software to develop a website, display products, conduct purchase transition and provide feed back & results. The lecture was attended by atleast 150 IETE members. Shri Dilip Kumar, Hony Secy proposed vote of thanks.

Delhi

A national seminar on "Spectrum & Standards Requirement for 3G Wireless Technologies" was jointly organised with Core Group of Telecom Industry Association (CTIA) and was



Shri Anil Kumar, Chairman, Telecom Commission with Cdr (Dr) H S Sharma, IN (Retd), President IETE, during National Seminar on Spectrum & Standard Requirement for 3G Wireless Technologies held at Delton Hall, IETE HQ on 7th May '99.

supported by Wireless Planning and Coordination (WPC) Wing, Ministry of Communication on 7th May'99 at Delton Hall. Shri Anil Kumar, Chairman Telecom Commission was the Chief Guest and Shri P S Saran, Member (Services), Telecom Commission gave the key note address. Dr H S Sharma, President IETE presided over the function. 11 papers were read by the experts from Motorola, Nokia, Ericsson, Qualcomm, WPC, GSM-II K, TEC (DoT), CTIA and IETE(DC). The event was co-sponsored by VSNL, Nokia, Motorola, ITI, Ericsson and Alcatel.

In another function, DOEACC approved 'O' level training certificates were distributed by AVM Atma Singh, VSM(Retd) Chairman, IETE Delhi Centre, on 12th May '99. DOEACC has also authorized the centre to run newly 80 hours structured Computer Course for Common Man. The first batch was scheduled to start from 21st May '99.

Goa

IETE Goa Sub-centre and Institution of Engineers (India), Goa local centre jointly celebrated the 31st World Telecommunication Day. Dr Jagdish Pathak, Head, Modern Office Management, Govt Polytechnic, Panaji, delivered an interesting talk on the theme of the day. He emphasized the need of E-Commerce in globalizing and modernising all business opportunities using telecommunication services as backbone. Dr S N Lall, Principal, College of Engg., presided over the event. Mrs Madumita Tamhane, Hony Secy, IETE Goa Sub-centre read the message from Mr Yoshio Utsumi, Secretary General, ITU for the World Telecommunication day. Shri Kedar Keni, Student Member presented the vote of thanks.

Guwahati

Commemorating the 31st World Telecommunication Day a seminar on the topic "E-Commerce" was organised by the Guwahati Centre. The Seminar was presided over by Shri P M Dastidar, Chairman of the centre. Dwelling on the theme he said that both the public and the private sectors along with the international organisations have to work in tandem to ensure that people benefit from this revolution underlying the rise of E-Commerce. The seminar was also addressed among others by Shri J M Mishra, CGM, Assam Telecom Circle, Prof Dilip Barua, Dept of Economics, Cotton College, Ms M S Rugmini, Dy Dir General (NE), AIR, Shri Umesh Sarma, Principal, Commerce College, Guwahati, Shri Pradip Dastidar, Principal, Pragjyotish College, Guwahati, Dr P C Mahanta, Principal, Assam Engg College, Shri U R Dhar, Head, MBA Dept, Guwahati University and Shri B Barua, Exec Dir, Guwahati Stock Exchange. The welcome address and vote of thanks was by Shri Prasanta Saikia, Hony Secy, IETE Guwahati Centre. Prominent coverage of the function was given by all sections of media.

Hyderabad

Following lectures/ talks were organised by the centre.

- 7th April '99:- A technical talk on "Development Strategy in DRDO: A Case Study" by Shri N Divakar, Director, DLRL, Hyderabad and he was felicitated on his elevation as Director, DLRL, Hyderabad. The Chairman, IETE Hyderabad centre presided.
- 21st April '99:- A Panel Discussion and a technical presentation by Philips India on "Phillips Semiconductors and Components for Electronic Ballast-A Total Solution" was jointly held by IETE Hyderabad Centre and Electronic Industries Association of AP.
- 8th May '99:- Short term training course in electronics under the scheme of Summer School was inaugurated with the strength of 20 candidates.
- 10th May '99:- A talk on "Evolution of Microprocessors" by Dr Y Venkatarami Reddy, Vice-Chancellor, JNTU, Hyderabad was organised. Shri DVS Raju, Chairman of the centre chaired the programme.
- 17th May '99:- In connection with the 31st World Telecommunication Day, a round table discussion on "Reforms in Indian Telecommunications - Content and Consequence" was organised by IETE Hyderabad Centre, Centre for Telecom Management and Studies and National Telematics Forum, Hyderabad Chapter as a team. Shri T H Chowdary, Director, CTMS presided.
- 21st May '99:- "Optimum Infrastructures for Broadcasting Radio Terrestrial and Satellite Media" a lecture by Shri Achille Forler, Chairman, Silk Road, Communications, New Delhi was arranged.

Jabalpur

"Sensors for Industrial & Scientific Applications" a seminar was organised by the Centre and CSI, Gwalior Chapter on 23rd May'99 at DRDE, Gwalior. Dr R V Swamy, Director, DRDE, was the Chief Guest and inaugurated the seminar. Dr J H Agarwal, Vice-President, IETE chaired the seminar. The vote of thanks was delivered by Shri R K Ketan, Chairman, CSI, Gwalior Chapter. Twenty Two research papers were presented in two technical sessions. In which Prof K K Shrivastava, Principal, MPCT, Gwalior chaired the first session and Dr A Bhattacharya, DRDE, Gwalior chaired the second. A souvenir was released containing 'Abstracts' of papers submitted to this seminar.

Jaipur

A seminar on "Solar Technologies" was organised by the Centre on 22nd May'99 and sponsored by Rajasthan Energy Development Agency & Rajasthan Electronics & Instruments



A view of the dias during the Seminar on Solar Technologies on 27th May '99 at Jaipur.

Ltd. Audience was welcomed by Shri Girdhar J Gyani, Chairman, IETE Jaipur Centre. The function was also addressed by President, IETE. The Chief Guest, Dr Chandra Bhan Singh, Energy Minister of Rajasthan Govt delivered the Inaugural address. While the Secretary of the Centre proposed vote of thanks.

The seminar proved to be a great success mainly on account of excellent technical papers presented by the experts in the area. The session concluded with a panel discussion & valedictory address by Shri M M Bhardwaj, MD, REIL, Jaipur.

Jammu

A lecture on "Information Technology-21st Century Revolution" by Prof Parveen Lehana, covering various aspects viz. E-Commerce, holography, virtual reality and Internet was arranged to mark the celebrations of 31st World Telecommunication Day by the Jammu Centre on 17th May '99. Shri Ashwini Salwan, Deputy General Manager, DoT J&K Circle was the Chief Guest. The function was chaired by Dr R K Abrol, Chairman Jammu Centre and was attended by a large number of technocrats, scientists and students.

Kanpur

IETE Kanpur Centre jointly with IE Kanpur organised a seminar on the theme 'E-Commerce' at Hotel Landmark. An exhibition was also organised with number of reputed organisations participating in it and was inaugurated by Shri Shabbir Ahmad, CGM-DoT, Lucknow. It attracted approximately 500 visitors. On this occasion a souvenir was released by the Chief Guest Mr S Martin Fish, Chief Executive, Standard & Chartered Bank India. The seminar was attended by number of members, delegates, guests, VIPs and others.



31st World Telecom Day celebrations at Kanpur. A view of the dias.

Kathmandu

The 31st World Telecommunication Day was jointly organised and celebrated by Society of Electronics & Communication Engineers Nepal (SECEN) and IETE Nepal Chapter. Nepal Television & several local leading newspapers provided good coverage of the occasion. A talk programme was organised to create awareness in E-Commerce. Shri Ram Prasad Sharma, the SECEN President & the first General Manager of Nepal Telecommunications Corporation, chaired the programme. During the next millennium those not exercising the E-Commerce would be losers, pointed out the Chief Guest, Shri Shree Ram Poudel, Secretary to the Ministry of Information & Communication.

Highlighting the role of E-Commerce, a keynote speaker, Shri Sanjeev Rajbhanday, a prominent business man and pioneer in internet and e-mail services in Nepal stated that by the turn of century approximately 1.3 trillion dollars worth of trade would be done through electronic commerce. However, he was skeptical about the same situation in Nepal due to current stringent regulations imposed by the government. Shri Suman Neupane, Senior Manager from Himalayan Bank too expressed his doubts about its success in Nepal in the foreseeable future due to traditional habits of the buyers & sellers & some other legal complications.

To conclude the celebrations of the day SECEN & IETE, Kathmandu centre jointly hosted a dinner for the guests & the members of both the organisations.

Lucknow

On the occasion of 31st World Telecommunication Day, a seminar on "Electronic Commerce" was organised by IETE Lucknow Centre at Surya Officers Institute, Lucknow on 17th May'99. Shri R L L Dixit, GM Uptron & Chairman, IETE

Lucknow Centre welcoming the guests, apprised the importance of World Telecom Day. Speaking during the seminar, the experts highlighted the various aspects of E-Commerce. The Chief Guest, Shri Sant Kumar Tripathi, APC & Addl Chief Secretary, UP considered E-Commerce as a most powerful tool for economic development of our country. Many local dailies covered the news.

Mumbai

IETE Mumbai Centre teaming with MTNL, Mumbai celebrated the 31st World Telecom Day at Conference Hall, Prabhadevi Telecom Bldg, Dadar, Mumbai. Shri S Ramani Iyer, CGM, MTNL, Mumbai was invited as the Chief Guest. A talk on this year's theme-E-Commerce was delivered by Shri Shantanu Nandy, Associate Vice President, Technical Consultancy Group, Global E-Commerce Services Ltd.

Nagpur

Just like other centres, the Nagpur Centre also organised a workshop to celebrate the 31st World Telecom Day. The Divisional Engineer of Regional Telecom Training Centre, Nagpur, Shri Sitaraman and the Principal of G S College of Commerce, Prof S G Sahasrabudhe were the expert speakers on the theme of E-Commerce. Shri J Sitaraman during his presentation briefed the way business would be conducted worldwide with the turn of millenium using internet. The General Manager of Telecom, Shri B K Sinha presided over the function. Shri P K Rangole, who earlier gave the welcome address, conducted the proceedings and proposed vote of thanks.

Navi Mumbai

The IETE Navi Mumbai Sub-centre successfully conducted "An evening Technical Session & Membership Drive Workshop



L → R Prof V R Dongaonkar, Shri Anant Karveer, Shri K J Chacko and Prof G R Sreenivasan.

on Latest Trends in Communication Engineering for Industries" on 28th April'99. Shri K J Chacko, GM, MTNL and Chairman, IETE Sub-centre and Shri Anant Karveer, Chairman, IE, Belapur Centre, Chief Engr, CIDCO inaugurated the event. A lecture on "VSAT system for industries" was delivered by Shri K L Shankar, Com-satman. Participation of the students were good.

Pilani

The Centre's celebrations of 31st World Telecom Day took place in the Old Auditorium of CEERI, Pilani on 17th May '99. Dr S Ahmad, Chairman, welcomed Prof P V Indiresan, the Chief Guest and the key speaker of the day along with Shri V Upendranath. He emphasized the importance of E-Commerce and the need for its preparedness. The Message of ITU Secretary General was read by the Hony. Secretary, Shri G K Gautam.

Next to this, two invited lectures were delivered. Shri V Upendranath, Scientist, CEERI, Pilani was the first speaker, who introduced the theme with the help of number of view graphs followed by Prof P V Indiresan, Ex-Director, IIT, Madras. The Chief Guest emphasized the need of networking, accessibility of information & education as the three key parameters required to implement E-Commerce and make use of it. The talk of the Chief Guest was a blend of philosophy, humour & technical content. Conclusion of the function was by a vote of thanks from Hony Secretary, Shri G K Gautam.

Pune

Gp Capt V R Patwardhan (Retd) Chairman, IETE Pune Centre and Dr G S Tasgaonkar, Chairman IE (I), Pune chaired the 31st World Telecom Day on 17th May '99 at Pune Centre. Shri Pawan Duggal, the speaker of the day explained various aspects of E-Commerce on Internet.

Vadodara

A symposium on E-Commerce was organised by the IETE in association with The Institution of Engineers (I) Local Centre, Vadodara Telecom District, DoT and Vadodara Internet Promotion (VIP) Forum at Vasvik Hall, Vadodara. Shri R K Sharma, DGM, Vadodara Telecom District presided over the function. The programme commenced with a welcome address by Shri K G Tuli, Chairman, IE(I), Vadodara Local centre. Col P K Bakshi, Chairman of the sub-centre introduced the subject matter of the symposium & the speakers. The various aspects of the theme such as E-Money, E-cash, E-mail, E-fashion and Internet Conferencing for business or technical design were discussed by the speakers. Dr Chaitanya Buch, Chairman VIP Forum proposed vote of thanks at the end.

Visakhapatnam

To mark the 31st World Telecom Day the Visakhapatnam centre organised a programme at Hotel Daspalla, Visakhapatnam. Prof R Radhakrishna, Vice Chancellor of Andhra University was the Chief Guest. The key note address was by the Special Guest, Prof V Radhakrishna Murthy, Principal, AU Engg College. RADM S Mohapatra, VSM, Director, NSTL and Chairman Vizag Centre presided over the function and read out the message from ITU President. A talk on Network-Security Aspects for E-Commerce was delivered by Shri S Sridhar, Scientist, NSTL. Prof M Madhusudhana Rao of ECE Dept., AU Engineering College spoke on "E-Commerce in share markets". Shri V V Ramana, Secretary of the Centre proposed of thanks.



31st World Telecom Day celebrations at Visakhapatnam.

Trivandrum

The World telecom day was observed with IETE, IE, IEEE & CSI-along with the Department of Telecommunications at Institution of Engineers Hall. Shri P P Ramachandran, Principal, GM, Telecom Circle Kerala, Shri Satish Babu, Chairman, CSI, Shri K Sreekantan Nair, GM, Trivandrum Telephones and Shri Muralee Mohan Lal, Chairman, IEEE addressed the gathering by expressing their views on the theme. Welcome speech was by Shri K G Chandrasekharan, Chairman, IE(I). Shri N M Kumar, Secretary, IETE, proposed vote of thanks.

A good gathering of professionals and engineers actively interacted at the programme. It was also well covered by press and media.

EMERGING TECHNOLOGY

Local Number Portability (LNP)

Local Number Portability (LNP) enables subscribers to retain their phone numbers even when they change the service provider or change from one network to another. Currently various methods of implementing the service are being studied by the Study Group 11 of the ITU-T (Telecommunication Standardisation Sector of the International Telecommunication Union).

Local Number Portability can be of the following three types:-

- * **Service Provider Portability:** This permits subscribers to retain their telephone number when they change service provider without changing their location;
- * **Location (Geographical) Portability:** Location Portability allows subscribers to keep their phone numbers when they move from one location to another;
- * **Service Portability:** When the services from one operator are not available, service portability allows them to secure these services from other operators without the change of phone numbers.

LNP can be implemented either by call forwarding or through Intelligent Network (IN) applications.

- * **Call Forwarding:** This is a short term solution wherein the call is forwarded from the earlier operator to present operator exchange.
- * **IN Solution:** This is a long term solution wherein the forwarded calls are intercepted and routed more efficiently. The solution relies on databases containing LNP identifiers which are queried to route the call.

The additional signalling requirements needed for switch based solutions and IN Techniques are under study by ITU-T. The capabilities for LNP are expected to be developed based on CCS7 signalling. The additional information required to be carried through CCS7 signalling would be: Network Routing Number, LNP status indication, End user's public number.

The basic service of LNP gives flexibility to the subscribers to change their service operators without changing the Directory Numbers. The costs involved in providing the service can be divided into two parts. The first part includes the fixed expenses incurred in building up the system to provide the service. This includes the changes in the switching system software, the cost of providing centralised data bases etc. The other component of the cost is of using the facilities mentioned above. As the donor network will be involved in

the call processing, the calls to be routed to the ported number will use resources from the donor network and the extent of usage will be determined from the implementation methodology of the service.

Ashok Golas,
Deputy Director General (Satellite),
DoT, New Delhi.

Mobile Mapping System - A Solution for Rapid Mapping Applications

Positioning and navigation are one of the earliest problems addressed by humans. Stars and celestial bodies along with simple equipment like sextants were used to position and navigate oneself. Obviously, these are not universal in terms of location and time. The satellite based technologies principally developed for the US military using NAVSTAR Global Positioning System offer universal measurement in any part of the globe. This has found innumerable applications that are based on innovative use of positioning along with other measurement.

The advent of powerful computing environments, graphics, management of large data bases has led to the emergence of spatial information system more often referred to as GIS (Geographic Information System). In the earlier stages of development, GIS was more often used to create archive and present spatial data (both thematic and non-thematic) of interest. Over the years, GIS has grown beyond this and used more for analysis capabilities like what if scenarios etc.

As can be seen, the combination of GPS which can provide position and GIS which can offer attribute information leads to more innovation solutions. In Department of Space, a Mobile Mapping System (MMS) is developed for applications like map updation, feature capturing, attribute tagging etc.

With MMS, mapping applications become less cumbersome and less time-consuming. Normally in Differential Mode of GPS Surveying, one GPS receiver is positioned at a surveyed point (base station) while another is making measurements in the field (rover). Data processing is done either in real-time mode, where data communication between the base and the rover takes place with the help of a radio-link, or in the post-processing mode where data from the base and the rover is combined subsequent to the field visits. Survey techniques where a radio link is used to communicate differential corrections between base and a rover fall under the category of Real Time Kinematic (RTK).

While capturing simple attributes can be made and entered into a laptop computer while surveying, capturing more complex feature attribute information is also possible along with Real Time Positioning with the help of any of the image

capturing devices (like digital cameras, digital video camcorders), ranging devices (laser ranging equipment).

Using MMS the following applications have been attempted in the Department of Space:

- * Tracking of vehicles (both covert and overt purposes),
- * Monitoring a fleet of transport vehicles,
- * Patrol vehicles.

R C Garg,
Director, Advanced Data Processing Research Institute,
Secunderabad.

DISTINCTION

Council Member Wg Cdr (Dr) M L Bala (Retd) was conferred with Indira Gandhi Rajbhasha Award by Shri Krishna Kant, Vice President of India at a glittering ceremony at Vigyan Bhawan, New Delhi on 14th May 1999 for his book "Raksha Vigyan". The book was earlier released by Dr APJ Abdul Kalam, the Scientific Advisor to Raksha Mantri, the top defence scientist on 1st January 1998.

The book written in simple Hindi deals with the various technologies used in modern war. A copy of the book is available with IETE Hqs library for those who wish to read it.



Council Member Wg Cdr (Dr) M L Bala (Retd) receiving the Indira Gandhi Rajbhasha Award from Shri Krishna Kant, Hon'ble Vice-President of India.

EDITOR'S COLUMN

Technological Challenges for the Next Decade

The next decade will be one of the greatest challenges in all aspects of life, impacted by the developments in technology.

In India, the major factors affecting change are essentially : population growth, increasing standards of living and increased awareness for protecting the environment. There is likely to be tremendous resource scarcity in the areas of food, energy, water, and material resources. Due to global concern for environmental impacts, the conventional means of satisfying these demands will also have to be altered, requiring sustainable developmental technologies. We will also face political and social changes due to globalisation of economy and privatisation of national infrastructure. The information technology revolution will, however, assist in better management of resources by providing timely appropriate information. The increase in food production in next decade will have to be done by using biotechnology and "farming" parts of the ocean and not by expansion in the area of cultivated land.

The demand for energy will rise dramatically due to increase in population, standard of living and is likely to double by 2010. India has limited hydrocarbon reserves. Large hydroelectric schemes may have environmental concern. Whereas coal and natural gas fired power station create CO₂ pollution, Nuclear Power Stations are accepted warily because of perceived problems of radio activity. Renewable energy sources such as solar, wind, tide can meet a small fraction of overall demand. Sustainable energy generation is a major challenge for technology. The likelihood of "Fusion" power to be developed to a commercial reality or completely new system may come to our rescue.

There is growing realisation of the impact of human activities on environment, on the physical and biological resources of the planet and accumulation of carbon dioxide emissions in the atmosphere. This will affect all industrial production processes so as to limit carbon output. It may start a new industrial revolution.

The IT has been recognised as a driving force for the future. We, however, need a major change in attitude towards its importance. There is a need to establish a Ministry for the

information Industries to provide focus at Central Government Level. Electronic Commerce will change the nature of economic activity, but requires establishment of Information Networks and access to them. Electronic information services and product for house holds and business/ office will be vital and access for them to be provided. The IT industry in India is already a major driver of the Indian economy. There is ample scope for its improvement which will require our education establishments to produce innovative scientists and engineers, increase our research investment for developing new & emerging technologies, and establish venture capital industry encouraging innovation and new industries.

The major challenge for technology in the next decade will be the management to feed, house and provide reasonable standard of living for 100 crores population of India at acceptable economic and environmental cost.

Maj Gen Vinod Krishna, AVSM (Retd)
Hony Editor, IETE Newsletter

Obituary



It is with profound sorrow to announce the demise of **Shri Jagdeesh Prasad** former President of the IETE (1962-63) on 10 May 99. Born in 1909, he was a pioneer in the field of Electronics and Telecommunications who saw the emergence of satellite communications and gave its development a valuable impetus.

Shri Jagdeesh Prasad retired from P&T as Member, Planning and Development (1966), was the Managing Director of ITI, Bangalore for more than 7 years and became the General Manager, BHEL, Hardwar, after retirement. In 1969, he was appointed as Chairman, Delton Cable Industries, Delhi. In 1974, he joined the Chinmayananda's Ashram at Powai and rendered yeoman's service amalgamating science, humanity and spirituality.

A Homage and Salute to our Brave Soldiers

Our brave and valiant jawans have fought and won the formidable battle in Kargil to regain Indian positions clandestinely occupied by Pakistan. Our defence forces have carried out an unparalleled task in the annals of warfare. Many have laid down their lives for the nation and a large numbers have been wounded. As a humble gesture of our gratefulness to the supreme sacrifice of our soldiers, the Council of the IETE has decided to contribute a sum of Rupees one lakh towards the welfare of these valiant sons of India. This amount has been remitted to Army Central Welfare Fund.

The Council has also decided to offer free student membership to the wards of our defence services personnel who have laid down their lives for the country or have been wounded during the operations. Similar concessions will be offered by our Centres for other programmes being run by them including the NORAD programme.

I earnestly request the members to give wide publicity to these concessions.

Maj Gen K B Jhaldiyal, AVSM (Retd)
Secretary General

CALENDAR OF EVENTS

Subject	Date	Venue	Contact
• Workshop on Managing Projects through PERT/CPM Analysis	13-14 Aug 1999	Noida	Kiran Karri, Asst. Vice president Centre for Excellencé in Project Mgmt A-48, Sec-5, Noida-201301
• AIMA 26th National Management Convention on "Managing Enterprises in the Era of Uncertainty"	18-20 Aug 1999	New Delhi	Mr Kamal Singh, All India Management Association 14, Institutional Area, Lodi Road, New Delhi 110003 Ph: 4635015, 4640316 e-mail: dirproj.aima@access.net.in
• Workshop on Multi project Portfolio Mgmt through Project Scheduler 7	27-28 Aug 1999	Noida	Kiran Karri, Asst. Vice President Centre for Excellence in Project Mgmt A-48, sec-5, Noida-201301
• 3rd Intl Confernece on Knowledge-Based	31 Aug-1 Sept 1999	Adelaide, Austrlia	http://www.unisa.edu.au/pes/kes.htm
• Smart Cards Expo'99	28 Sept-Oct-1 1999	New Delhi	Shri S Swarn, Electronics Today, 4-A, Naaz Bldg, Lamington Rd, Mumbai-4 Ph: 91-22-3860436/3851781, Fax: 91-22-3801782/6360436
• Telecom 99+ Interactive 99 Exhibition & Forum	10-17 Oct 1999	Geneva	Mr Jean-Patrick Bare President, Telecom and Chairman, Telecom Board TELECOM, ITU, Place des Nations, CH-1211 Geneva 20, Switzerland
• EMC Asia 99 Exhibiton with workshops Compatability	2-4 Nov 1999	Singapore	Mesago, Messe & Kongress GMBH, Rotebuehlstrasse 83-on Electromagnetic 85, D-70178 Stuttgart, Germnay
• International Symposium On "Automotive Electronics & Alternative Energy Vehicles"	20-21 Nov 1999	Kanpur	Secretariat for International Symposium on Automotive Electronics & Alternate Energy Vehicles
• ISRAMT'99-7th Intl Symposium on Recent Advances in Microwave	13-17 Dec 1999	Spain	Prof Banmali Rawat, Tech Prog Co-Chair Technology Deptt. of EE./260, Univ of Nevada Reno, NV, 89557-0153, USA
• Radar Symposium India-99	14-17 Dec. 1999	Bangalore	Mr Ananda Babu K V S IRSI'99 Symposium Secretariat LDRE, C V Ramn Nagar, Bangalore-560 093.
• Componex/electronic India' 2000	27-30 Jan, 2000	Bangalore	-do- AND Nikolaus Wollmann, IMAG-Intl Exhibition & Fair Service Ltd., Member of Messe, Muenchen Intl, Am Messesse 2, D-81829 Muenchen, Germany Ph: ++49-89-94922-119, Fax:++89-94922-350
• 6th National Conf on Communication	29-30 Jan 2000	Delhi	Dr S D Joshi, Dept of EE, Indian Institute of Technology Delhi 110 016 e-mail: ncc2000@ee.iitd.ernet.in
• 8th Intl Exhibition & Conference on Electro-magnetic Compatibility (EMC)	22-24 Feb 2000	Messe Dusseldorf Germany	Mesago Messe & Kongress GmbH Rotebuehlstrasse 83-85 D-70178 Stuttgart, Germany
• Americas Telecom 2000	10-15 Apr 2000	Rio de Janeiro Brazil	Place des Nations, CH-1211 Geneva 20, Switzerland Ph: +41.22 730 6161, Fax: + 41 22 730 6444 e-mail: telecominf@itu.int,internet: www. itu.int/telecom
• ITU Telecom Asia 2000	4-9 Dec 2000	Hong Kong China	Mr Thomas Frankl, Head, Press & Public Relations for Telecom 99+ Interactive 99. Tel: 41227300331; email: thomas.frankl@itu.int

Note: The Institution of Electronics and Telecommunication Engineers assumes no responsibility for the statements and opinion expressed by individual author and speakers.

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