FOR ATTENTION OF VENDORS OF HARDWARE/SOFTWARE/COMPUTER STATIONERY AND SERVICES/BOOKS CONCERNING COMPUTERS

There have been repeated requests from various individuals and organisations for compiled lists of vendors in India for hardware, software, services, computer stationery, computer consultancy, and books relating to computers.

We have so far not compiled any list, and I therefore request you to send me the complete address of your organisation if it belongs to any of the categories mentioned above. Details should be sent in the following format to the Executive Secretary, CSI, 16 Hajji Ali Park, Bombay 400 054 by Dec. 31, 1980:

1. Name of the organisation
2. Full address
3. Contact telephone/telex nos.
4. Persons to be contacted
5. Goods and services offered by your organisation.

H. Ranji
Exe. Secretary

President's Desk

IFIP & SEARCC

As I write this, a number of our colleagues are either attending the 8th World Computer Congress in Tokyo and Melbourne or are getting ready for the South East Asia Regional Computer Conference in Jakarta. I myself was planning to attend these conferences but dropped the idea due to some last minute changes in plans. The Computer Society of India provided partial financial assistance for some of the delegates (as recommended by a special committee under the chairmanship of Dr. P. P. Gupta, past president).

Also being held at about the same time is the UNESCO sponsored meeting of Directors of Computer Centres from South East Asian countries and the Executive Committee meeting of the SEARCC. On behalf of CSI, Mr. A. C. Jain and Dr. B. C. Mehta are attending the UNESCO meeting & Dr. O. P. Mehra, our Honorary Secretary, the SEARCC Exec.Com.

IFIP Silver Core

Members will be glad to know that Prof. R. Narasimhan has been conferred the prestigious IFIP Silver Core. This award is bestowed on those people who have shown exceptional dedication to IFIP.

National Electronics Conference

Efforts are afoot for the organisation of the National Electronics Conference in Delhi during the month of February 1981. The Department of Electronics has requested the Computer Society of India, along with a number of other learned societies and trade organisations, to cooperate in the organisation of this conference. We have agreed to do so, Brig. V. M. Sundaram, past president of CSI, is the CSI representative on the planning committee for this conference. Plans are at present being finalised with regard to the organisation of this conference and it will not be very long before we will know the details.

The last Electronics Conference was held in Bombay at the Hotel Bhavika Auditorium of the Tata Institute of Fundamental Research during March 1979, when Dr. V. A. Sarabhai was chairman of the Electronics Committee (which was then associated with the Department of Defence Production). It was at this conference that Electronics was recognised as a vital area which required special attention and the need for an apex body to organise and coordinate all activities connected with the electronics was felt out. This, in fact, laid the basis for the genesis of the Electronics Commission and the Department of Electronics. The National Electronics Conference was therefore an important landmark in the development of electronics in the country. The other subsequent developments are, of course, part of history now. There is every reason to expect significant and important results from the national electronics conference proposed now. Let us look forward to these!

Professional Ethics

The question of professional ethics is a matter of major concern not only to individuals practising the profession but perhaps even more so to a professional or learned society. What positive role can a professional society play in inculcating the best standards of professional ethics among its members. This question is perhaps not very difficult to answer. A much more difficult question would be 'What is a society to do if one of its member is alleged to have blatantly violated the code of professional conduct?' A case like this arose when I received a letter from a computer software company, alleging theft of their software by a competitor (who is a CSI member) from a computing centre which both had access as users. The computing centre which is part of a research laboratory of national repute, appears to have verified the complaint and found it to be correct. Should the society seek independently to establish the truth and, if established, take action on the parties concerned?
Software Professionals

We are looking for persons at various levels of management for development of modern computer-based application systems including online applications for markets worldwide, chiefly in Europe, America and Australia.

The persons we are looking for are:
(a) those who have at least two years of actual programming experience and
(b) those who have between one and ten years of software project management experience on modern computing systems.

For both the above categories a First Class Graduate/Post Graduate Degree in Engineering, Computer Science, Business Management, Operations Research, Mathematics or Statistics is required.

Salary and benefits will be commensurate with the qualifications and experience of the candidates. Other benefits include P.F., Medical Reimbursement, Gratuity and Personal Accident Insurance. We offer a challenging and professional work environment where career growth will depend on the performance of the individual.

Please apply within 10 days of the advertisement with a detailed biodata, indicating the post applied for and giving full details of experience, age, qualifications, salary drawn and expected to:

Divisional Manager (Personnel)
Tata Burroughs Limited
Manish Commercial Centre
216-A, Dr. Annie Besant Road
Worli, MUMBAI-400 025.

Tata Burroughs Limited

Process Computer Control and Dye House

Sharan Saxena

The textile industry is constantly subjected to great pressures from the customers it serves. In a competitive world, the industry must constantly seek to increase production, reduce operating costs and improve or at least maintain the quality. To compound daily problems, changing styles and new fabrics require close control in production, as well as constant experimentation towards improving quality and production. Because of these great pressures, the industry has successfully applied sophisticated machinery, instrumentation and controls to meet these demands on the products. High-speed automatic machinery for use in manufacturing cloth has been in use for a long time. This machinery is largely mechanical and is being improved in speed, accuracy and the ability to produce consistent quality.

In the area of finishing, only in the last six years have there been significant strides in the use of new control technology to improve processing. Once the benefits of this type of control were realised, the industry began to look for other improvements. First came the cycle time controller, then programmed controller.

Cycle time controller is basically to control the dye cycle of a dye becket. Manually setting the temperature set point, setting the timer and pushing the start button are all that is necessary to automatically control the temperature rate of rise, the temperature hold time, the temperature rate of cool. The becket fill, rinse and drain functions are also performed by an operator who normally handles more than one dye becket.

The programmed controller is ideal for complex batch type operations where number of process steps involved may cause frequent operator errors. This system gets the batch formula or recipe from punched card or magnetic tape. Manually loading the cards or tapes and pressing the start button are all that is required for complete dye cycle control. It not only regulates rate of rise, hold time and rate of cool but also controls fill, dye add, rinse and drain. It reduces manual functions to leading and unloading the dye becket and taking a pitch. The results possible by good application of the programmers have been proven. Shorter cycle time and repetitiveness are inherent in this type of system resulting in increased production and consistent quality.
With the tremendous strides made in the industry in the use of new technology and sophisticated controls the user of the process control computer will not be far away. Interestingly, many of the processes in batch and semi-continuous applications are similar in industries like chemical, petrochemical, paper and textile. Rate of rise, hold times, rate of cool, multiple on/off functions and sequential control are quite common. In fact, these are the areas of greatest return on investment. The reduction in cycle time, repeatability, flexibility, and the process safety afforded by the Computer, results in increased production, constant product quality, and safety for the personnel and equipment. The benefit derived from a process control computer system includes all those of the cycle time and programmed controllers, great flexibility and safety plus the ability to handle many process units simultaneously from one control room.

SYSTEM CONTROL AND COMMUNICATION LINK:
To what extent is the computer controlling the batch dyeing operation? What problems still remain in instrumentation? What are the prospects for achieving complete "closed loop" automation and how? In the interest of maintaining clarity, the term "automation" as it is used in this article involves the use of a computer to control a process through sensing instruments which detect and signal changes in the process to the computer. Then controlling instruments act upon instruction from the computer to re-establish the required consistency in quality and rate of production. This "closed loop" system (fig.1) clearly implying non-human control over processing represents the ultimate degree in computer programming. Thus a punched card/tape control system would not constitute automation as defined here.

To obtain maximum utilization of the system control, it is imperative that man-machine communication channels be established. The system control and communication link between all the units and departments shown in fig.2 is directly involved in the dyeing procedure. At each dye beck, a dye cycle status and action station is located. In the drug room, a dye mix alert and acknowledge signal station for each beck is provided. The instrument panel is the central "switch board" for the incoming measurement and outgoing process adjustment signal. This provides the means of controlling the dyeing process if the computer is down for any reason. The computer continuously calculates the optimum set point and changes them if necessary on the panel.

THERMOSOL DYE RANGE:
The prime target of computer control is the continuous Thermosol dyeing range. It is made up of more than ten process steps, each involving such variables as moisture, temperature, level, pressure and flow that could upset the dyeing of the fabric. These various steps are shown in fig.3. Altogether, there are more than 30 process variables.

All dyeing procedures are coded and programmed in a computer memory. Fabrics to be dyed are assigned lot and shade numbers, dye and chemical formulas, dyeing procedure to be used; type of beck; process variable standards such as temperature, level, pressure, flow etc.; any other desired information like yardage and weight of fabric. This information can be entered on a weekly basis or as frequently as required by the production and scheduling departments.

An automatic batch control system stores all dyeing procedures in drum memory which is an integral part of the control panel. This system does not have much relation with this article as it does not qualify our definition of closed loop automation, because it is a most common procedure in the programmed controller and it should not be bypassed. Selection of the dyeing procedure is accomplished by means of a counter. The operator simply selects the dyeing procedure identification number on the counter and then pushes the start button. Everything else is fully automatic. The counter sends a pulse signal to the memory drum assembly which responds by positioning the desired dyeing procedures in memory into action stage.

There are two drum assembly in the system. One drum contains the dyeing procedures, including set points for the temperatures, rates, time and pressures along with the signaling functions pertinent to the dyeing procedure. It is referred to as the "memory drum".

The other drum contains the steps that in any combination are common to all dyeing procedures in the system and is referred to as the "stepping drum". The drum assemblies can be replaced by punched card or tape system by storing the complete dyeing procedures on card or tape. Programming of these types of control system requires peripheral such as punching machine and a card or tape reader to prove out the card or magnetic tape before filling for production use—this could be a single testing indica.
function at low current, requiring interposing relays to boost the current to operate switches and solenoid valves in the control system. If the dye procedures are stored in the system disk which is normally a magnetic disk, this control system will be completely automatic once the computer is boosted. The magnetic disk have comparatively less access time than the card/tape reader. The modification in the dye procedure can be easily updated in magnetic disk.

**PROCESS COMPUTER**

The prime consideration in understanding the computer and how it is interfaced with the process is this: A computer by itself is not a control system. The computer is made up of five basic elements: input element, memory element, arithmetic and logic unit, output element and control element. To utilize the high speed calculation and logical capabilities of the computer for process control application, the additional input/output devices have been designed. In addition to these five elements of a computer, four major interfacing sub-systems are used in the process control system (fig-4).

**Analog-to-Digital Interface**

This subsystem has the capability of reading analog signals, converting them to an equivalent digital value and transmitting this value to the computer. These analog signals may represent the values of such variables as flow, temperature, level density or PH from the process.

**Digital-to-Analog Interface**

After receiving the digital value, the computer performs comparison and calculation of this value. The comparison results might e.g. call for the correction of the valve position. The amount of the correction is calculated by the computer and the digital to-analog subsystem converts the correction signal to an analog signal acceptable to current-to-pneumatic or other type of converter. The converted signal adjusts the valve to the new position calculated by the computer.

**Contact Input Interface**

This subsystem interfaces all contacts associated with the process. Push buttons, steam and water pressure switches, and limit switches are all connected to this subsystem. The computer stores in memory the desired status of all these switches, knowing at all times whether each switch should be on or off. Thus, the contact input interface, the computer simultaneously scans the actual contact status and compares this to the desired contact status information stored in memory.
Contact Output Interface:
In every process there exists a need for sequential control. Sequential control implies a series of steps or functions which must be performed during a process cycle to control the process effectively. At any discrete time during a process cycle, a solenoid valve may require actuation, pump may have to be started, or alarm action may have to be initiated. These controlled on/off functions or combinations thereof are provided by the contact output interface. Within the program are event timers and sequential operating instructions which are initiated by specific program condition arising as a function of time.

The final and most important interface to make the computer and the subsystem into an operating process control system is the software (the program). The computer essentially performs only one function at a time. Programming the computer to do this in an established sequence is a relatively simple task. But in a process computer control system, although functions are performed one at a time and a sequence is established, the system must perform thousands of functions which are sequenced and ultimately modified in response to process conditions. In contrast with conventional data processing, any process computer control system programs are loaded in advance. The process data are requested and entered through the input/output subsystem directly or from an operator through a peripheral device.

Typically, a process control program never runs more than a fraction of a second. The system is subjected to constant interruptions due to changes in process conditions. These short-run programs allow the computer to perform the multitude of functions required to control a multi-unit process. Programming the individual tasks to be performed by the computer is relatively simple. Programming of all the required tasks and functions in a co-ordinated manner to maintain total control of a process is what transforms a computer into a process computer control system.

At the start of the dye cycle, the computer and associated control instruments under the direction of the designated program automatically sequencizes the valves or actuators necessary to fill, heat, pressurize, make chemical and dye additions, depressurize, cool and drain the bath. At the appropriate time in the dye cycle, the computer will be signaled to take a sample patch of the fabric for shade evaluation. If the shade is approved, the program continues to its completion. If not approved, the supervisory computer can directly inform the operator of the need of a required re-run instead of cycle completion.

This system is not yet completely automatic because of operator intervention for shade evaluation. So the solution is interfaced spectrophotometer. The spectrophotometer will measure the wave length of the dye and give this information to the computer. The computer calculates the difference between this wave length and the standard wave length of the dye solution given in the program. So, during the dyeing cycle, if the patch is not approved for shade, it is a simple task to set up a corrective and flexible subroutine and temporarily interrupt the program. When the subroutine is completed, the machine is automatically again under the program control. During the dyeing cycle, selected process information may be displayed or logged on a typewriter in the control room or other strategic location as needed.

In addition to performing various tasks, the computer can simultaneously perform other on-line-off-line functions as required. For example, the computer with an information link can provide many other benefits such as the selection of the most economical and suitable dye formulas, formulation volume for partial dye lots, and corrective dye for formulas.

PROFIT
One of the major advantages of the computer is its ability to regulate and logically to feed back information. Beside this, another important feature is its ability to perform tests upon its own input/output interface devices to assure itself of accuracy and workability. Specified signals are generated by the D/A interface, fed to the A/D interface, are read, converted, and passed again to the required output signals. If the module is off-calibration, the computer compensates automatically for the mis-calibration. This allows the system to be run for longer periods of time before recalibrating. If off-calibration reaches an intolerable limit, an alarm message is immediately generated.

A very important aspect of the subsystem is the fact that they operate rather slowly (in milliseconds) in relation to the computer (in microseconds). If proper process I/O interface equipment is not selected, a severe timing problem can be created. For this reason, properly designed I/O equipment operates independently from the computer. The computer simply requests the systems to read a particular input then returns to its other tasks. In parallel, the subsystem accepts the request, reads the requested input, converts it to an acceptable digit value, stores this value and signals the computer when the function has been performed. The computer acknowledges this signal and then reads in the value. Outputs are handled in the same way. But a computer cannot make a faulty value open or close. This is still a maintenance responsibility. The equipment must be in tip-top condition.

Progressive switch management realizes that the computer can’t perform miracles. They know it is not a substitute for sound management. It can’t predict emotional response of consumers to new fashion trends. It isn’t a substitute for hard experience in dyeing or practical knowledge in colour physics.

But, nonetheless, they are interested in automation because they sense that it is the coming they are waiting for its lower way of life. What they are waiting for is lower cost of hardware and software—and more important, the word of positive results of computer applications.

REFERENCES
2. Drift Control Systems.
Prestel: Britain's Public Viewdata Service

Prestel is the world's first public viewdata service. Viewdata is a term for computerized information that can be transmitted along telephone lines for display on a television screen in the form of words, figures and simple graphics; on March 11, 1980 it was announced that it is now possible for pictures to be displayed. Prestel, which has been developed by the Post Office, enables users to call up information at any time of the day or night.

The information covers a wide range of general topics of interest to the domestic user, and economic and commercial subject-matter of value to the business user. The service started in London in March 1979 and was made available to Birmingham and Nottingham in December, and to Edinburgh and Glasgow in March 1980. It is planned that by the end of 1980 it will also be available to all telephone subscribers in Manchester and Liverpool, as well as a number of other cities.

Prestel is thought to be about two years in advance of any similar system and other countries have purchased the Post Office's expertise to help produce their own viewdata services. Sales are made in three forms: pilot trial (basically a working model); market trial; and the public service (such as that now being operated by the Post Office). Switzerland's Posts and Telecommunications authority has bought the pilot trial software, while those of the Federal Republic of Germany, the Netherlands and Hong Kong have bought versions of the market trial software. In conjunction with the United States company General Telephone and Electronics, Aetgen International Ltd (formerly Injox Viewdata), part of a company set up to market British software and hardware in overseas countries, has recently announced that more than 20 American corporations are to install private Prestel information systems.

Operation
Prestel sets may be either standard black and white or colour television sets which have been suitably adapted, or sets with the facility built in. Those sets usually include the software needed to receive those teletext services which are technically compatible with Prestel. The set is operated by means of a separate 'keypad' which looks like a pocket calculator. The user presses a special button on the keypad which automatically connects the set, via the telephone line, to the computer. A message appears on the screen welcoming the user by name to Prestel, confirming that the set has been correctly identified and that information may now be called up. Prestel's information is stored in a series of separate, numbered, screen displays or 'frames', of which there are about 150,000 available for use. To identify the number of the frame required the user may consult either a separate directory (like a telephone directory) or 'index' frames on Prestel itself. The frame appears on the screen by line, taking about four seconds to be completely displayed.

Prestel can operate in several languages; it is possible to show all the European variants of the basic Roman alphabet, and Cyrillic and Arabic characters have also been included.

Picture Prestel
The most recent advance in the Prestel service is that it can now show pictures and illustrations on the frame display. This is a major technical development and makes Prestel even more versatile as an information and advertising medium. The picture or pictures occupy a maximum of about 10 per cent of a Prestel frame and can be shown in colour. They are stored in the Prestel computer and take about 15 seconds to appear on the screen.

In order to receive this facility Prestel sets will have to be fitted with an additional piece of electronic equipment; future sets will probably have this device built in. Development work on 'picture Prestel' is to continue and it is likely, therefore, to be some time before it becomes generally available.

Information
The information on Prestel, which is being expanded and greatly expanded, covers topics including government statistics and law, share prices, exchange rates, environment, news and weather reports, travel, holidays, consumer goods prices, investment information, house prices, taxation, job vacancies, government statistics and economic information, and a guide to government departments and the British system of government. About 10,000 articles have been condensed from a 20-volume encyclopedia in a way that is suitable for the medium. A variety of games and quizzes also appear on Prestel. Where necessary, the in-
Import—Indigenous Dilemma

T. Sriramamurthy, Sr. Technical Officer, Computer Group, ECIL, Hyderabad writes a rejoinder to the Prime Minister's letter published in the August issue and to the views of other computer professionals expressed in the September issue of CSI Communications.

The Prime Minister's directive to all the Ministries to import the present restrictions is a healthy indication to the development of a very little Nation towards the objective of self-reliance. The shift in the Government policy is an indication of the country on the move to build a self-confident, strong and independent India.

The present below my views on this matter with reference to the computer industry. This policy is encouraging to the computer industries based in India with indigenous know-how.

By and large, it can be stated that the percentage who are aware of computers in the Indian market is very little. The percentage still goes to the extreme end downward, when professionals and users are accounted. India is still in the early days of adopting computerised methods. A majority of organisations, due to the changeover, are not accustomed to the thinking of computerised methods with a good beginning and smooth switchover. Neither the users accept nor are the suppliers equipped to quick changes. Time and effort are required to give the required shape.

For certain applications in Defence and other secured areas like Intelligence, the country cannot afford to deal with an agency outside India. Where few details may have to be disclosed on the intricate details. It is likely that these agencies may not be able to give enough attention to the problems faced by us due to the other unavoidable reasons. The communication between the user and the suppliers of indigenous equipment is always better than communicating with an external agency. The problems, the needs and specific requirements can better be understood and exchanged between the user and the supplier. The indigenous manufacturers are fully aware of the Indian conditions. Such perfect understanding might be missing with the suppliers outside India. The indigenous manufacturer can easily and quickly be accessed.

The other aspect is the reliability of the system. The normal tendency brings out the imported systems are more reliable than the indigenous ones. If we go deep in the matter, we come out with a conclusion that indigenous systems are also reliable and equal in competion. The reliability of the present day equipment as against its reliability at the time of introducing proves that much effort was put into this aspect and will continue to be put in the time to come. When we turn back to the pages of history, we find that we stepped into this field only a decade ago with the firm policy of developing the systems with indigenous know-how. Reliability is a factor dependent on the efforts put in Research and Development. The sophisticated technology comes out as a by-product. The present circumstances do not allow us to put in high investments in Research and Development. As a consequence, the indigenous products are sometimes inferior to the imported ones. Another reason behind the heavy equipment costs is our production turnover which directly depends on our requirements. However, the cost should not play any role because the cash is not going out of the country. On the other hand, the foreign exchange reserves are safe. Thus, it can be anticipated that these will get solved in due course of time.
Digital Plotters

PTC-5A-1 Microprocessor Plotter Controller
This system employs a microprocessor to provide automatic selection and correction of data transmission and automatic generation of alphanumeric characters. T.V. circular buffer memory and compatibility with all COMPLUT plotters at various transmission rates. Switch selectable data rates of 110, 300 or 1200 baud.

PT-1 11" Drum Plotter
The original COMPLUT plotter has been updated to get up to 600 incremental points at 0.01" or 0.025" (0.10 mm or 0.25 mm) step sizes. In addition, it now has a solid-state memory for storing up to 600 incremental points. It can be used for both G0 and G1 motions.

PT-11 11" Highspeed Drum Plotter
We offer a new highspeed drum plotter on our newest model, with speeds of up to 4000 steps per second. It is switch selectable step sizes and Microstribe for super quiet operation.

PT-10 Plotting System
This is the new PT-10A plotter, which includes a built-in microprocessor for vector, character and circle generation.

PT-8 36" Drum Plotter
This wide drum plotter is available in one- or three- pen models. It is quiet and the need for a cover has been eliminated even when plotting at its maximum speed of 63 inches per second. Six switch selectable step sizes are standard on the PT-80 and PT-81 models.

PT-9 6" Drum Plotter
A new and improved plotter capable of speeds of up to 450 inches per second. The model PT-90 has the same programming, pens and switch selectable step sizes as standard.

MTR-4 Magnetic Tape Readers
Both the MTR-3 and MTR-4 add offline plotting capabilities to COMPLUT incremental plotters. Vector plotted data, built-in line segment generator, a 1 K buffer memory, and keypunch check are standard on both models. The MTR-4 offers 8 switch selectable plot spots and forward and reverse block search.

Manufactured by
houston Instrument

ComplUT Communications, November, 1989

Indeed, many imported systems are under-utilized. The capabilities are not fully explored and give rise to wastage of resources. The import of a system to an organization is often referred to and regarded as a status symbol without proving into its utility and need. Immediate results cannot be expected in relying on the indigenous technology. But it does certain help in avoiding the dependence on a long term range. Certain disadvantages such as poor quality, deferred supplies, delayed services, etc. might be associated with the monopolistic situation. Allowing the imports is neither an answer nor a solution to this problem. To increase the quality of the systems or to keep up the commitments and stick to schedules or to offer prompt services, the competition may be increased within the country. This can be achieved by setting up few more computer industries either in the public sector or the private sector. The struggle for survival automatically leads to better performance and quality products.

Under these circumstances, I do not find the need for importing the systems. I feel that it is unjustified to import a sophisticated system. In fact, an indigenous system is far more powerful and has the capacity to operate under the Indian conditions and meet our requirements even after the anticipated expansion of operations, quite satisfactorily. Installing an imported system is unfair when the means to make use of its power to the fullest extent are unknown. It has to be kept more or less as a showpiece which does not coincide with my views.

The indigenous systems are easily maintainable with the availability of skilled technical staff. The facilities exist to undertake the repairs. We do not have to depend on external sources for spare parts. The possibility and necessity to stockpile the spares is eliminated. We can achieve shorter MTR.

In spite of the above, the imports are released and the foreign systems drop in the country. The licences are issued based on the independent merits of the proposals. Therefore, the proposal should be strong enough, and enough reasons are to be put forward for justifying of import which may be far from reality. The proposal emphasis in the feature which are missing in the indigenous systems. Thus, the projected requirements fully shadow the actual requirements. The result is the green signal for import. However, we certainly cannot progress with the policy of complete ban on imports. The imports are to be restricted on a selective basis after critically probing into the matter. The ban can be on the total indigenous systems and not on sub-systems such as peripherals or sophisticated components like I/Os. The import of these items should continue, not because we are indispensable of making them, but because it is not feasible and economically not viable to produce. Huge investments should go against the requirements in small quantities. Moreover in sectors like power and oil, we should not hesitate to import. Otherwise, it hampers the working and growth of these sectors and the effects are hazardous and not compensatory. The released imports may be routed through a reputed manufacturer in India, with a view to indigenous the equipment in due course of time and meet the further demands.

The confidence and responsibility must be placed on an Indian company and enough resources and encouragement should be provided.

The above matters lead us to a conclusion that any rigid policy is not a good sign. Therefore, there has to be a compromise between these two, which can be done by following the above strategies and procedures in the release of import licences. It is unfeasible that the technological gap cannot be built under the present conditions in the immediate future. But it is not impossible to achieve our goals. The Government's support to this effect is mandatory and I am sure that this coincides with the thinking of the present Government.
Sixteenth Annual Convention

CSI-81

ATTENTION:
CSI-81 AUTHORS

The Programme Committee has already dispatched the information on acceptance or otherwise of the abstracts to all the authors individually. In case any author has not received a letter from the Programme committee he should contact the chairman, Programme committee at the following address:

RATTAN K. DATTA
Director, India Meteorological Department, Room No. 303, Mauam Bhavan, NEW DELHI 110 003.

CSI-81 Tutorial on Data Base Management

February 23, 26 1980

New Delhi

The authors whose abstracts have been accepted are requested to send four copies of their full paper to reach the chairman, programme committee by November 15, 1980. The full paper has to be in a specific format which has already been communicated to individual authors. The reference number of the author's paper should be mentioned in all correspondence.

In the October issue of Communications, our president, Prof. P. V. S. Rao threw a broad hint that the organisers of CSI 81 share some details of the programme of the convention. I take this opportunity to give briefly an idea of what we have been doing in Delhi.

Right from the beginning of this year the Delhi Chapter organised the various committees to plan the CSI 81 Convention. The Programme Committee was given the responsibility to reach all the members through a separate brochure to get quick response. This involved printing of brochures and its posting to over 4000 members in India and abroad. We also sent in the invitations to various members of the IFIP.

We are extremely pleased that there was an overwhelming response from members both in India and abroad. We received over 280 abstracts and an additional 100 innovations forms giving their intention to attend the Convention. This was really very heartening and we appreciate the warm response given by the members. I am told that this is the first time that such a large number of contributions dealing with diversified applications of computers in fields varying from homoeopathy to sports and intricate problems of satellite launching, forecasting of severe weather systems etc. have been received.

These abstracts were reviewed by a sub-committee of four experts and over 280 authors have been requested to send their full papers.

While the whole Delhi Chapter has extended support wholeheartedly, mention must be made of the contributions of Prof. K. V. Gokhale (Redi), Prof. K. D. Sharma of IIT and Prof. Sudarsand of JNU in reviewing and selecting abstracts for the Programme Committee. As you are all aware, selection is expected to be on the evening of March 1, 1981. Let me at the moment keep the name of the V.I.P. who is going to inaugurate, in suspense. However, we have already got the kind acceptance from the following dignitaries for delivering the keynote addresses during the Convention:

1. Prof. Nural Hasan, Vice President, CSIR on the use of computers in planning science and technology in India.

2. Prof. M. S. Swaminathan, Member, Planning Commission on "Computers in National Planning and Development".

3. Dr. P. K. Das, Director-General, Meteorology, "On Computers and Monsoon".

4. Dr. Vinay Bharat Ram of DCM on "Computer applications in Indian Industries".

Prof. Sampath, Member UPSC has kindly agreed to deliver a popular talk on "Computer awareness".

We hope to get acceptance from at least two more dignitaries to address our Convention.

The keynote addresses will be in the morning and immediately after lunch, and the rest of the period of the Convention, March 2-4, 1981, has been divided into 9 slots of 1 hour 15 minutes each. It is planned to run three to four parallel streams of technical sessions during each slot. We will try our best to so arrange that each stream is independent of the other once they run parallel. However, in case there is some clash we request our members to bear with us.

CSI Communications, November 1980
Keeping to the above pattern, we hope that it will be possible to have personal presentations of two papers in each technical session, thus making a total of 64 papers. Besides this, we are planning reviews of 5 papers in each session by a rapporteur thus making possible a review of 125 papers. Additional papers are proposed to be published in the proceedings as state of art reports.

No doubt, the usual exhibition will depict some new innovations. There will be a student paper contest, and special interest divisions and group meetings. After the three-day technical sessions we hope to entertain you with a cultural programme, convention dinner etc. Manufacturers will be giving their presentations. On the days that we have four parallel streams, we also promise to arrange some popular tutorials.

To top this, New Delhi, the capital city is at its best during this period of the year. The weather is very pleasant, maximum temperature remaining within 24-26°C and minimum 10-12°C. The sky is normally blue, the serenity of which is broken only by a rare thunderstorm. Incidentally, this is also the period when roses are in full bloom, which I am sure will be very pleasing to all the delegates especially to the ladies. So, repeating what our president said, let me urge all members not to lose this once-in-a-decade opportunity of participating in the CSI Convention in Delhi.

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CSI Communications, November, 1980

REGION III

A Review of Activities During 1979-80

REGION III (SOUTHERN REGION) of the Computer Society of India has been growing in strength by way of membership and multifarious activities. The region has done quite well in many activities, like conducting programming courses, arranging technical lectures, screening feature films and undertaking various educational activities. Some of the highlights of this region include the First Regional Conference on Computer and Decision Making—an unprecedented event in the glittering history of CSI.

During the period under review, a new chapter in Karikudi and student branches in Karikudi and Bangalore have come into existence. Thus, Region III is the largest by way of the number of chapters and student branches. Great enthusiasm has been shown by the students of the Engineering College, Mysore for the formation of a student branch in Mysore, recognition of which will soon be given to a student branch in Mysore. An epitomisation of the activities in the region is as follows:

BANGALORE CHAPTER

Technical lectures, programming courses and film shows constituted the major activities of this chapter during this period. Thus the chapter conducted nine technical lectures, five programming courses and four film shows during this period. An All-India Seminar on "Microprocessors Systems and Applications" was cosponsored by this chapter in association with the Institution of Engineers, Karnataka Centre and Controllerate of Inspection Electronics, Bangalore in April 1980.

HYDERABAD CHAPTER

Technical talks were the highlights of this chapter during this period. Three technical lectures and two technical sessions were arranged by this chapter besides co-sponsoring an exhibition of US computer and peripheral equipment catalogues in January 1980.

MADRAS CHAPTER

Technical meetings were the major activities of this chapter. The chapter has been maintaining close linkage with various organisations like Computer Manufacturers, Unit Record Machine Manufacturers, etc. Programming courses in FORTRAN and COSOL have also been initiated.

TRIVANDRUM CHAPTER

Computer programming courses, technical lectures and joint meetings with other professional bodies formed some of the major activities of this chapter during this period. This chapter in collaboration with the Computer Centre, University of Kerala, conducted a three-week course on Data Processing and FORTRAN IV in April 1980. The chapter also co-sponsored two seminars with other organisations. A presentation on DEC series of computers was given by Mr. Allan Wilson, Technical Manager, Digital Equipment Corporation.

VISHAKHPATNAM CHAPTER

Technical talks formed part of the activities of this chapter. A talk by the regional representative on 'Computers and Mathematics' was arranged in August 1979. The chapter is maintaining close linkage with various professional bodies. This chapter hosted the first ever Regional Conference (Region II) of CSI, which was attended by over 100 delegates from various parts of the country. Two technical sessions viz., (a) General business and industrial applications and (b) Science and Engineering applications were held in addition to a panel discussion on 'Computer in the Developing Economy'.

HYDERABAD STUDENT BRANCH

During this period, the branch conducted two film shows, a technical visit, two technical lectures, a computer quiz, a FORTRAN programming course and a project presentation. Besides these activities, the branch arranged an information systems exhibit in connection with the library week of the O.U. Engg College.

KARAIKUDI STUDENT BRANCH

Programming courses and technical lectures were the main activities of this branch. Thus, the branch conducted a short-term course on HCL language in April 1980. Under the joint auspices of the Mecha-
BANGALORE STUDENT BRANCH

A student seminar and a computer olympiad to increase computer awareness at the college level, basically as a quiz-contest, formed the major activities of this branch. Lecture programmes once a month and programming courses are some of the proposed activities of this branch.

D. D. SARMA
Regional Representative.

REGION III

From the Chapters

BANGALORE CHAPTER

A panel discussion was held on 'Inventory management and use of computers', The panel members were:

(a) Dr. H. S. K. Murthy
(b) Mr. A. H. Khan
(c) Mr. A. V. Krishna Murthy
(d) Mr. S. Sankaran

The scope of the discussion was:

(a) Existing inventory managemen systems, in the respective organizations.
(b) Limitations of the present systems.
(c) Scope and possible improvement over the existing systems, if the systems are to be modified using computers.
(d) Software features and applications.

A presentation of ORG Computer Systems was held by the Operations Research Group.

DELHI CHAPTER

A lecture arranged by the chapter was given by Dr. S. S. Pilai, joint director, ICAR, New Delhi, on "Information system for agriculture". Dr. Daroga Singh, director, IASRI was presided over the function.

Dr. Pilai said that with the help of MIS's, in the area of agriculture, they could manage the quality and quantity of various agricultural products in a better way. He also described various information systems existing at the national and international level in this field, particularly the library indexing system in which any article published anywhere in the world in the agricultural field is documented by them and can be easily referred.

Prof. N. P. Mukherjee, Dean, School of Computer & Systems Sciences, Jawaharlal Nehru University, inaugurated a Cobol Programming Course. Prof. Mukherjee, while narrating the wide range of applications of computers in different fields, emphasised the revolution computers have ushered within the realm of human knowledge.

BOURKELA CHAPTER

A meeting of the chapter was held at the Institution of Engineers Hall, when Mr. George Varkey of KELTRON spoke on "An Introduction to Computer Graphics."

Mr. George Varkey, in his talk explained in detail the software aspects to be considered in the development of graphic systems. The growth of a graphic package from its initial minimum capabilities of drawing simple curves on specified devices to that of an elaborate system allowing building up of complex pictures in an interactive manner from picture segments that are defined in a device independent manner and are stored in picture libraries was well illustrated in the lecture.

CM Communications, November, 1980

Computer Maintenance Corporation Limited

announces its schedule of Courses on Computers for November 1980 - March 1981

<table>
<thead>
<tr>
<th>Course</th>
<th>Bombay</th>
<th>Calcutta</th>
<th>Madras</th>
<th>New Delhi</th>
<th>Duration</th>
<th>Fees per participant (in Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Unit Record Machines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 weeks</td>
<td>750/-</td>
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<tr>
<td>2. AUTOCODER programming</td>
<td></td>
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<tr>
<td>a) Card system</td>
<td></td>
<td></td>
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<td></td>
<td>2 weeks</td>
<td>800/-</td>
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<tr>
<td>b) Tape system</td>
<td></td>
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<td></td>
<td></td>
<td>1 week</td>
<td>300/-</td>
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<tr>
<td>c) Disk system</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 week</td>
<td>300/-</td>
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<tr>
<td>3. COBOL Programming</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4 weeks</td>
<td>1200/-</td>
</tr>
<tr>
<td>4. Programming in BASIC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 weeks</td>
<td>800/-</td>
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<tr>
<td>5. Mini Computers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3 days</td>
<td>400/-</td>
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<tr>
<td>6. Introduction to Data Base</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5 days</td>
<td>750/-</td>
</tr>
<tr>
<td>7. Systems Analysis and Design</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3 weeks</td>
<td>1500/-</td>
</tr>
</tbody>
</table>

For further details contact:
P. M. Parthasarathi
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