

# **REPORT**

## **INTRODUCTORY**

Information Technology requires development of both Software and Hardware to accelerate India's emergence as a Global IT player. While the Indian Software Industry has been doing consistently well over the last several years, recording an annual average growth rate of more than fifty per cent, the Indian Hardware Industry has been passing through a transition and is under a lot of pressure for survival as discussed subsequently in this Report.

The very issue of survival of the Hardware Industry has been a matter of major concern in view of the fact that the progress and problems of Software, Hardware and IT enabled services are totally intertwined and that neither the Software nor the IT enabled services can progress very far unless India has a vibrant and strong Hardware Industry as well. The Committee has, therefore, dealt with some core issues in the Report in this regard.

## **CHAPTER-I**

### **(i) SOFTWARE**

Indian Software Industry today represents one of the most successful business models that has maintained high growth and competitiveness. It has done consistently well during the last few years recording an annual average growth rate of more than fifty per cent. The Committee has been informed that the size of the Industry has grown from Rs.24,350 crore in 1999-2000 to Rs.37,760 crore in 2000-2001. Software exports from the country continued to grow and reached Rs.28,350 crore in 2000-2001 from Rs.17,150 crore in 1999-2000 constituting a growth rate of about 65 per cent. Domestic software demand has also grown from Rs.7,200 crore in 1999-2000 to Rs.9,410 crore in 2000-2001.

2. Further, India's Software Industry has achieved the remarkable distinction of providing excellent quality. More than 50 per cent of companies in the world, which have acquired SEI (Software Engineering Institute, USA) level five maturity (the highest quality standard for Software practices) are located in India. As per the National Association of Software and Services Companies (NASSCOM) survey, more than 185 of the Fortune 500 companies i.e. almost two out of every five Global giants outsourced their Software requirements from India.

3. According to a latest NASSCOM study, the Software and Services Industry recorded an annual revenue of Rs.48,000 crore (\$10.1 billion) during the year 2001-2002, registering an overall growth of 27 per cent in rupee terms. Out of the total revenue, exports grossed Rs.36,500 crore (\$7.68 billion) while the domestic Software market contributed Rs.11,500 crore (\$2.42 billion). The Industry has generated 92,000 new jobs and provided indirect employment to over 2.5 lakh people in the year 2001-2002.

4. On the outlook for the Financial year 2002-2003, NASSCOM expects the total size of the Software and Services Industry to be Rs.60,700 crore (\$12.3 billion). Additionally, IT services export is expected to grow by 22 per cent to Rs.35,800 crore and ITES export is expected to grow by 65 per cent to Rs.11,700 crore. The domestic market is expected to grow to Rs.13,200 crore in the year 2002-2003.

5. The Committee has been informed that the National Task Force on IT and Software Development and NASSCOM – Mckinsey study expects the different segments of Software and IT services to grow as under by the year 2008.

<i>Software Sub-Sector</i>	<i>Total market</i>	<i>Exports</i>
IT Services	\$ 38.5 billion	\$ 23 billion
Software Products	\$ 19.5 billion	\$ 8 billion
IT Enabled Services	\$ 19.0 billion	\$ 15 billion
E-business	\$ 10.0 billion	\$ 4 billion
<b>Total</b>	<b>\$ 87.0 billion</b>	<b>\$ 50 billion</b>

The manpower requirement has been projected at 2.2 million by the same year.

6. In this context, the Committee desired to know the measures taken/contemplated to achieve the target set for 2008 as well as to meet the required manpower by the same year. It was replied that the following measures have been taken and incentives granted to the Software sector with a view to achieving the target set for the year 2008:

- (i) Export Promotion Capital Goods scheme (EPCG) has been rationalised and extended uniformly to all sectors without any threshold limit on payment of 5% duty.
- (ii) Approvals for all foreign direct investment proposals relating to the Information Technology sector, with the exception of Business-to-customer (B2C) e-commerce are under the automatic route.
- (iii) Software Technology Park (STP) Scheme is implemented under the aegis of the Ministry of Information Technology through a single window mechanism of the Inter-Ministerial Standing Committee (IMSC).
- (iv) DTA access upto 50% of the FOB value of export is permitted for software units under EOU/EPZ/STP schemes.
- (v) Accelerated depreciation norms for computers and computer peripherals for units under Export Oriented schemes (EOU/EPZ/STP/EHTP) have been enhanced. These shall stand depreciated to overall limit of 90% over a period of 3 years instead of around 5 years earlier.
- (vi) In the 2000-01 Budget, Customs duty on Computers and Peripherals had been reduced from 20% to 15% and continues to be same. The Customs duty on all storage devices, integrated circuits, microprocessors, data display tubes and deflection components of colour monitors also continues at 0%. In the 2001-02 Budget, Customs duty on Information Technology Agreement (ITA-1) items of

WTO (IT and Telecom products) has been reduced from existing 20-25% to 15%.

- (vii) Information Technology Software is exempted from Customs and Excise Duty.
- (viii) EOU/EPZ/STP/EHTP units are exempted from payment of Income Tax on export profits, upto 2010, in terms of Section 10A and 10B of the Income Tax Act. On site development of computer software and services will also be eligible for tax exemption.
- (ix) Definition of Computer Software, as in Section 80 HHE of the Income Tax Act has been widened to include transmission of data.
- (x) Benefit of Section 80 HHE is available to supporting software developers.
- (xi) IT Enabled Services have been made eligible for Income Tax benefit under Sections 10A, 10B and 80HHE of the Income Tax Act.
- (xii) A National Venture Fund for Software and IT Industry (NFSIT) has been set up with a corpus of Rs.100 crores, out of which MIT shall contribute Rs.30 crore.
- (xiii) Exemption of withholding tax on interest on External Commercial Borrowings (ECBs) has been extended to the IT sector.
- (xiv) Income by way of dividends of long-term capital gains of a Venture Capital Fund or Venture Capital company from investment made by way of equity shares in a Venture Capital Undertaking, which has been expanded to include the Software and IT sectors, will henceforth not be included in computing the total income.
- (xv) To give thrust to Venture Capital finance, SEBI has been made the single point nodal agency for registration and regulation of both domestic and overseas venture capital funds.
- (xvi) There will be no tax on distributed or undistributed income of Venture Capital Funds. The income distributed by the VCFs will only be taxed in the hands of the investors at the rates applicable to the nature of the income. VCFs will continue to be eligible for exemption even if the shares of the VC undertaking in which the VCFs have made the initial investment are subsequently listed in a recognised stock exchange in India.
- (xvii) Under policy on portfolio investment, Foreign Institutional Investors (FIIs) are permitted to invest in a company upto an aggregate of 24% of equity shares, extendable upto 40% subject to approvals. This limit has been raised from 40% to 49% in the Budget 2001-02.

- (xviii) Under the Employee Stock Option Scheme, income tax payable on income from GDRs purchased in foreign currency by a resident employee of IT software and service companies, shall be at a concessional rate of 10%.
- (xix) Tax holiday under provisions of Section 80-IA (Infrastructure Status) has been extended to Internet Service Providers (ISPs) and Broadband Network providers.
- (xx) Two-way fungibility has been permitted for ADRs/GDRs. Local shares can now be reconverted into ADRs/GDRs, subject to sectoral caps.
- (xxi) To induce more investment for R&D activities, a weighted deduction of 125% on the sums paid to any university, college or an institution or a Scientific research association for the purposes of scientific, social or statistical research has been provided.
- (xxii) Information Technology Act 2000 has been enacted. This act deals with Cyber Security, Cyber Crime and other information security related legal aspects. This will encourage expansion of e-commerce through internet.
- (xxiii) Software Technology Parks of India (STPI) has set up a business support centre in the USA, which is operational since November, 1999, to promote business for STP units and provide marketing support to SMEs.

7. As regards the measures taken to meet the required manpower by the year 2008, the Committee was apprised that the 'Task Force on Human Resource Development (HRD) in Information Technology', in its Interim Report, has made forty-seven specific recommendations to ensure adequate supply of manpower for the information technology sector. These recommendations specifically relate to IT faculty, curriculum and courseware development; strengthening of computing and networking facilities; digitisation and modernisation of libraries; use of IT in administrative services and promoting interface with the Industry which in turn are aimed at increasing the availability of quality IT manpower in the country and helping Indian Software services sector to increase its productivity and move up the value chain enabling the country to capture larger share of Global market of IT software and services.

8. It was stated that the Ministry of Human Resource Development has been responsible for taking action on the above recommendations to meet the required manpower by the year 2008.

9. The Committee asked in evidence about the role of the Department of Information Technology and whether there has been any interaction with the Ministry of Human Resource

Development. The representative of the Department replied that they have been mainly concentrating on the non-formal sector i.e. children joining courses after school.

10. The Committee in the context of its 24<sup>th</sup> Report (Thirteenth Lok Sabha) wherein it had observed that the total size of the IT industry in India would be over 100 billion US Dollars with the requirement of 23.67 lakh IT professionals by the year 2008 for which the Task Force had launched a special drive called 'Operation Knowledge' and as a result 46,000 new seats have been added during 2000-01, asked whether any further progress has been made in this regard; the Secretary, DIT replied that 20,000 more seats were added by Ministry of Human Resource Development during the year 2001-2002.

11. The Committee further pointed out that by the year 2003 the number of students would be around 2,25,000 whereas shortage of teachers would be doubled up to 10,000. In that context, the Committee asked about the measures proposed to overcome the shortage of teachers. In reply, a representative of DIT stated that the Department has been making efforts towards online and distance education which would help to some extent.

12. The Committee then asked whether the recent global slowdown, especially in the US economy, would have any impact on the targets set by the National Task Force. It was replied that the slow down of the US economy was a temporary phenomenon and the situation was expected to turn around soon. However, the major impact of the slow down in the US economy is likely to be on the business of on-shore development. It can be seen as an opportunity for India since clients in USA could be more interested in off-shore development. US corporates are looking to cut cost and may find out-sourcing their work in India more attractive. Further, the companies may exploit the hitherto untapped or under-tapped markets in other countries in Europe and Asia Pacific regions. Moreover, IT enabled service sector is one which has potential and may ensure that overall export figures in the long run may not suffer.

13. In this context, the MD and Chairman, Digital Committee, ASSOCHAM, responding to a query of the Committee, stated that despite the global slow down, the Indian Industry has been looking positive in the sense that there has been positive projections in terms of the Software service sector. He further stated that due to such recession, which was expected to continue for another year or so, there have been significant job cuts thereby forcing many Indians to come back. However, it may prove to be a blessing in disguise as US may create an environment to give them an opportunity in India itself. Another representative of ASSOCHAM supplemented that it has been the most opportune time when the Government should come out with some specific and concrete measures to counter the ongoing recession.

14. The Committee then asked the Department of Information Technology about the measures taken for withstanding the slowdown. The representative of the Department replied that ever since the impact of slow down has been faced, the Government has taken some major initiatives on technology for e-commerce, information security, on-line learning, R&D etc. He further stated that the Department has been giving emphasis on Availability, Affordability, Appliances and Applications of Information Technology.

15. Moreover, National Centre for Software Technology (NCST) has been set up. It is operating as a Centre for Excellence in Software technology and related Computer Science and has developed its reputation as the National Laboratory for Software Technology. It has been acting as a consultant to several Institutions, both Government and Private, in areas of e-commerce, wide area networking, financial services, education and other sectors. NCST has been selected as one of the two operational Centres of the Commonwealth Network for Information Technology for training and development. Being a premier R&D institution, NCST has developed software in the areas of Intelligent Computing, Visual Computing, Internet technology, Data and Knowledge Engineering, On-line Education and Testing and localisation for use in Indian languages.

16. The Committee asked in evidence how many such centres have been operating in the Country and what has been the investment for each such centre and how many students, scientists or researchers could be accommodated at one centre. The representative of DIT replied that two such Centres have been operating, one each in Navi Mumbai and Bangalore. It has been planned to further expand them. The investment in each Centre was approximately to the order of Rs.11.5 crore and for four diploma level programmes that were being offered by the Centre, about 30-40 students can be accommodated. Thus, there would be around 150 Researchers per year in the country.

17. Expressing its surprise over the fact that in the whole country there were only two such Centres for Excellence producing only around 150 Research fellows per year, the Committee desired to know whether the Department has any programme for opening such centres in other parts of the country. The representative of DIT replied that it has been proposed to have extension centres of NCST in other States also, but it depends upon the response of the States.

18. The Committee asked about the efforts made to find out the response from other States in this regard. The representative, DIT replied that they had to interact with IITs, Allahabad and Guwahati to find out the possibilities. The Secretary, DIT added that it would be a matter

of whole time approach as the interest level and computer savviness vary from person to person and State to State.

19. In view of the inadequate number of only two such R&D Centres where all the state-of-the-art facilities are available, the Committee enquired about the steps taken by the Central Government in opening such Centres at other places also. The Secretary, DIT submitted:

“We need to take care of this and this would definitely take place”.

20. The Committee was informed that Software Technology Parks of India (STPI) scheme was undertaken in 1991 to promote software exports from the country. It has been providing incubation facility, High Speed Data Communication (HSDC) facility and acting as a single window interface for software exporting units. Twenty STPI centres have been set up across the country in the last ten years and more than 6,400 units have been registered under the STP scheme.

21. The Committee was further apprised that out of the total software exports of Rs.28,350 crore from the country during the financial year 2000-2001, STPI units accounted for about 71 per cent (Rs.20,051 crore). This has been made possible because of 100 per cent reliable and efficient wide-band HSDC facilities provided by STPI through their International Gateways set up in various parts of the country.

22. In this context, the Committee desired to know whether the STPI has been facing any constraints in its functioning and the measures taken to overcome the same. In reply, it was stated that International Private Leased Circuits (IPLC) offered by STPI can carry limited voice. However, IPLCs are not permitted to get connected with PSTN at both ends. STPI has been receiving several requests from STP units for permitting connectivity with PSTN at the foreign end for meeting their mission to critical applications. These Units/Companies want to have connectivity from STPI due to its reliable and stable datacom services. But as per DoT's instructions, these companies have to take the datacom link from VSNL.

23. The Committee was informed that such instructions could have been appropriate in case of switched/commercial voice where the IPLC is connected to PSTN both on Indian and International sides. In case of call centres, which operate under well defined parameters of STPI and which provide follow up services from India, there is no PSTN connectivity on the Indian side and therefore no “local Indian” call traffic is “bridged” to this circuit.

24. On the overall performance of the country in software, the Chairman, IT Committee, FICCI apprised this Committee that as per a study done by the World Bank, India has a



competitive and unique advantage in software over other countries because it has been rated the highest in quality alongwith some other countries but lowest in cost. He further stated that out of the total Indian exports in 2000-2001, the contribution of software was 14 per cent, up from only 2.5 per cent a few years back. In the year 2008, when India achieves 50 billion US Dollar export, it would contribute 35 per cent i.e. more than one-third of the total exports. India will be a net foreign exchange earner and 7.5 per cent of India's GDP will be contributed by Software alone. Moreover, approximately 22 lakh more jobs will be created by software exports over the next six/seven years. The representative summed up by saying that the impact of creation of jobs, foreign exchange earnings and domestic utilisation of software would be mind-boggling in the coming years and there would be no other industry which can change the national scene to the extent software can.

25. The Committee asked about India's share in world's software trade. The Chairman, IT Committee, FICCI responded that India's share has been two per cent only. Expressing its surprise, the Committee asked how India's share has been so small despite a brilliant performance in software, what are the bottlenecks in this regard and what the Government should do to further boost the software industry. In reply, the witness stated that the domestic software market has been relatively a small industry as compared to exports. It is a worrisome factor because no industry in the world has been able to sustain exports unless their domestic industry is also strong and stable. He further submitted that Indian Government's expenditure on IT has been very low compared to any other country. The Government has, therefore, to take initiative for e-governance in the fields of education, agriculture, health-care etc. for improving productivity and efficiency by use of IT in a big way. It would go in a long way by reducing the inflation rate and making India an IT superpower.

26. The Chairman, FICCI Committee further stated that inadequate communication infrastructure in the country has been one of the main factors that has been slowing down growth in all areas, whether it is software or hardware or IT enabled services. Therefore, twenty-four hours power and a very good telecommunication network are absolute necessity.

## **(ii) IT ENABLED SERVICES**

27. The Committee has been informed that IT Enabled Services is a new area which has come in a couple of years but has a huge opportunity for growth. It encompasses data processing, medical transcription, call centres, support services through telephone or Internet, back office operation etc.

28. In this context, the representative of FICCI apprised the Committee that there has been vast response to the IT enabled services as it has been creating ample job opportunities. He further stated that in the overall Software Industry, around 2.2 million more jobs would be created by the year 2008 and IT Enable Services would account for half of that. The revenue generation by the same year would be around Rs.18,000 crore or 20 billion US Dollars.

29. Another representative of FICCI, in response to a query of the Committee, submitted that the biggest advantage of this industry has been that it does not need much qualified persons unlike the Software Industry where engineers and highly trained professionals are required. A large number of ordinary graduates, or even lesser qualified than that can get a job in IT Enabled Services. So, from the employment angle, it is much more suitable for the Indian environment.

30. The Committee asked whether any special training is required for the job aspirants who have got lower skills. The witness replied in the affirmative and stated that such trainings are not very complicated. For example, language training has to be very good as the industry needs people who can speak good English and other languages like German, French, Japanese, Swedish etc.

31. Asked to state the constraints being faced by this Industry, the Chairman, FICCI Committee replied that the business model of this Industry have been mainly built on sufficient communication. Customers in the US, Europe or Japan must be able to access instantly to the call centres in India and therefore the availability of telephone, transmission etc. has to be very high.

32. Secondly, if this Industry is to grow, then a labour legislation is required as it will employ a lot of women.

33. The representative further stated that the biggest problem that has been faced by the IT enabled industry is that the curriculum in the colleges has not adverted to the requirement of this industry.

34. The Committee asked whether there have been any interaction between FICCI/ASSOCHAM on one hand and the Universities/UGC on the other. The witness replied:-

“We are just in the process of taking separate initiatives in this regard together with the Universities”

**35. The Committee notes with satisfaction that the Indian Software Industry has been performing consistently well and today it represents one of the most successful business models that has managed to sustain high growth and competitiveness, despite**

adversaries. It is heartening to learn that the software driven IT industry is today on top of India's national agenda as an instrument and means for lifting India's economy. The turnover of the industry has grown from Rs.24,350 crore in 1999-2000 to Rs.37,760 crore in 2000-2001 and further to Rs.48,000 crore in 2001-2002. Software exports from the country were worth Rs.17,150 crore in 1999-2000, Rs.28,350 crore in 2000-2001 and Rs.36,500 crore in 2001-2002. Similarly, domestic software revenue has also grown from Rs.7,200 crore in 1999-2000 to Rs.9,410 crore in 2000-2001 and further to Rs.11,500 crore in 2001-2002. For the year 2002-2003, it has been anticipated that the total size of the Industry, exports and domestic market would increase to Rs.60,700 crore, Rs.35,800 crore and Rs.13,200 crore respectively. Moreover, the industry has generated 92,000 new jobs and provided indirect employment to over 2.5 lakh people during the year 2001-2002. However, amid such a satisfying performance the Committee is constrained to observe that India's share in the world's software trade has been a meagre two per cent. Secondly, the Government's expenditure on IT has been very low *vis-à-vis* other countries in the world. In view of the fact that it would be extremely difficult to sustain exports in the absence of a strong and stable domestic industry, the Committee impresses upon the Government to make all out efforts for encouraging use of IT in a big way. It should take more initiative for e-governance in the fields of education, agriculture, health care etc. It would go a long way in not only maintaining the momentum of software growth but also making India a true IT Superpower.

36. However, it is a matter of serious concern that Central Government's expenditure on IT has been very low despite the country's unique and competitive advantage in software i.e., best in quality but lowest in cost as per a study of the World Bank. It is regretted that Government Departments could not take advantage of quality software products produced in the country as the Government had been expending very little on introduction of IT in Government offices. Apathy and inaction of the Government in this regard are contrary to its proclaimed role of a 'pro-active facilitator'. It is imperative that the Government should come out with innovative ideas to allocate to each Department a sizeable amount for promotion of IT every year, should it wish to make the Industry more vibrant. In this context, the Committee would like the Government to closely monitor the actual expenditure on IT by different Ministries/Departments as earmarked for them every year and thereafter take suitable corrective measures, wherever warranted.

37. The Committee notes that the National Task Force on IT and Software Development and NASSCOM-MC Kinsey study has set a total market target of 87 billion US dollars for Software and IT services by the year 2008 - the break up being \$ 38.5 billion for IT services, \$19.5 billion for software products, \$ 19 billion for IT enabled services and \$ 20 billion for E-business. Similarly, the exports target has been fixed at 50 billion US dollars out of which \$ 23 billion has been fixed for IT services, \$ 8 billion for software products, \$ 15 billion for IT enabled services and \$ 4 billion for E-business. In order to meet the aforesaid targets, a number of measures have been initiated which the Committee considers to be small steps in right direction. The Committee trusts that much more initiatives will be devised in consultation with captains of Information Technology Industry. Further, the Committee learns that if India achieves 50 billion US dollars software exports by the year 2008, it would contribute more than one-third of the total exports of the country and 7.5 percent of India's GDP will be contributed by software alone. Not only that, India will be a net foreign exchange earner and more than 22 lakh jobs will be created. Therefore, it becomes all the more important for the Government to accelerate growth and development of this sector so that not only the targets set for the year 2008 are achieved but the country also takes full advantage of the opportunities that come in its way through the information revolution all over the world.

38. The Committee observes that additional manpower requirement would be around 2.2 million by the year 2008 and in order to meet the same, the Task Force on Human Resource Development in IT, in its interim Report, has made several recommendations like development of IT faculty and curriculum, strengthening of computing and networking facilities, digitisation and modernisation of libraries, use of IT in administrative services etc. to ensure adequate supply of manpower for the IT sector. While the responsibility of the implementation of these recommendations has been vested with the Ministry of Human Resource Development, the Department of Information Technology has been concentrating mainly on the non-formal sector i.e. children joining IT courses after schooling. The Committee feels that the Department has a larger role to play in making available the required manpower than just concentrating on the non-formal sector. There should be closer and more intense interaction between the Ministry of Human Resource Development and the Department of Information Technology with a view to increasing the availability of quality IT manpower and helping the software

services sector to increase its productivity and move up the value chain, thereby enabling the country to capture larger share of global market of IT Software and services.

39. The Committee is concerned to note that by the year 2003 there would be severe shortage of teachers to the extent of approximately 10,000 whereas the number of students in different IT courses would be around 2,25,000. It is a matter of serious concern. In view of the same, the Department has initiated steps towards online and distance education in order to bridge the gap. The Committee feels that it is a step in right direction. Further, the Department should work in unison with the Ministry of Human Resource Development to make good the shortfall of teachers as far as possible in view of the fact that there could hardly be any substitute for quality classroom teaching.

40. The Committee is glad to note that the two units of National Centre for Software Technology (NCST) which have been set up at Navi Mumbai and Bangalore at a cost of Rs. 11.5 crore each are operating as Centres for Excellence in software technology and related Computer Sciences and have developed their reputation as the National Laboratory for software technology. Being a premier R & D institution, NCST has developed software in the areas of intelligent computing, visual computing, Internet technology, on-line education etc. It produces around 150 Researchers every year by offering four diploma level programmes. However, the Committee is constrained to observe that such Centres for Excellence have been set up at only two places in the country. Secretary, DIT's statement that opening such centres in other places depends on the response of the States as the interest level and computer savviness varies from person to person and State to State is not at all convincing in view of the fact that no efforts whatsoever have apparently been made by the Department to ascertain the response of different States in this regard. Possibilities should be explored earnestly to set up such state-of-the-art R&D Centres in other places also by the Central Government so that the young aspirants at other parts of the country are also provided opportunities nearer to their homes. No State should be denied such facilities.

41. The Committee appreciates that out of the total software exports of Rs.28,350 crore during the year 2000-2001, STPI units, through their 100 per cent reliable and efficient wide band HSDC facilities, have accounted for about 71 per cent *i.e.* Rs.20, 051 crore. Due to STPI's reliable and stable datacom services, Companies/Units registered with it are desirous of having datacom connectivity from STPI itself, but as per DoT's instructions, these companies have to take the datacom link from VSNL. The Committee

is at loss to find any justification for such restrictions. Such instructions of DoT would have been appropriate in case of switched/commercial voice where the IPLC is connected to PSTN both on Indian and International sides. The Committee would like to impress upon DIT to take up the matter with DoT and also at other appropriate level so that STPI which has been rendering magnificent service towards software exports, can truly act as a 'single window interface' for the exporting units/companies.

42. The Committee learns that the major impact of the global slowdown, especially US economy, is likely to be on the business of on-shore development. This transitory recession may turn out to be a blessing in disguise as the clients in the USA could be more interested in off-shore development and they may find out sourcing their work in India more attractive due to quality and cost-effectiveness. The Committee feels that it is the most opportune time for the Government to come out with some concrete measures to ensure that the USA creates an environment to give the Indians, who have come back from the United States due to global slowdown, an opportunity in India itself. It is also equally important for the Government to facilitate the Software companies to exploit the hitherto untapped or undertapped markets in other countries in Europe and Asia Pacific regions.

43. The Committee observes that IT enabled services, a new area, which encompasses data processing, medical transcription, call centres, support services through telephone or Internet etc. has a huge opportunity for growth as it has been creating ample job opportunities. The Committee learns that in the overall Software Industry, around 2.2 million jobs would be created by the year 2008 and IT enabled services would account for half of that. The revenue generation by the same year would be around Rs.18,000 crore (\$20 billion). The biggest advantage of this Industry is that a large number of ordinary graduates or even lesser qualified can get a job there, which is most unlikely in the Software Industry. But unfortunately it is stated that the curriculum in the colleges/Universities is not equipped to meet the requirements of this industry. The industry representatives like CII/FICCI/ASSOCHAM are stated to be taking initiatives together with the Universities in this regard and the Committee would like the Department of Information Technology to associate itself also in the matter. Further, the other requirements like uninterrupted availability of telephone, transmission and other facilities should be taken up at appropriate levels in view of the Industry's tremendous potential for employment generation.

## CHAPTER-II

### HARDWARE

44. As has been mentioned earlier, while the Indian Software Industry has been doing consistently well, the Hardware Industry has been under a lot of pressure for survival due to infrastructural constraints, inverted tariff structure, high incidence of overall duty, lack of strong engineering and design base and R&D infrastructure, lack of availability and high cost of finance, policy and procedural issues relating to Industrial, Fiscal and EXIM policy and Inspector Raj, low volumes of production, large inventory levels, low technology level, low degree of automation, lack of investment and a modern Fab, emerging competition from MNCs etc.

45. The various organisations/associations of the units engaged in manufacturing hardware for the IT industry have represented to the Committee that for the development of Hardware Sector, the following measures should be taken by the Government:-

- (i) Customs duty on raw materials *viz.* Steel, Copper, Aluminium, Plastics and Chemicals required for manufacture of electronic components of capital goods for Electronic and IT products, on tools, dies moulds for Electronic and IT Hardware Industry and on parts of computers and peripherals under HSN 8473.30 should be reduced to zero per cent.
- (ii) Excise duty on all electronics and IT products should be reduced to eight per cent.
- (iii) Procedures relating to Customs and Central Excise should be simplified.
- (iv) No physical bonding should be made for Software Technology Park (STP) and Electronics Hardware Technology Park (EHTP) Units.
- (v) Sales Tax on IT products should be fixed @ four per cent in all the States.
- (vi) No Octroi, turnover tax or entry tax should be levied on IT products.
- (vii) Flexible labour laws should be made for the IT Industry operating under STP/EHTP/EOU/EPZ/SEZ Schemes.
- (viii) Government should provide Grant-in-aid for establishment of a Mega Fab in India as done in foreign countries like Israel, Ireland, Malaysia etc.
- (ix) Infrastructure like power, road, rail, ports airports etc. should be improved to reduce the transit time.

46. The Committee asked about the initiatives taken by the Department of Information Technology to address the abovementioned constraints and desired to know the level of interaction between the DIT on one hand and other Central Government Ministries/Departments and the State Governments on the other for the development of the Hardware Sector.

47. In reply, it was stated that the Department had been regularly discussing the issues with all the concerned Ministries/Departments to impress upon the problems of the Hardware Sector. As a result, inverted tariff is being gradually rectified by the Ministry of Finance and all quantitative restrictions (QRS) have been removed on electronics and IT products. Moreover, procedural issues are being handled as and when problem is confronted by the Industry.

48. In reply to a query in this regard, the Department of Information Technology in a note has stated that to promote Hardware, steps have been taken for the development of the Industry which *inter-alia* includes rationalisation and extension of Export Promotion Capital Goods scheme (EPCG) uniformly to all sectors without any threshold limit on payment of 5% duty, approvals for all foreign direct investment proposals relating to the Information Technology sector, with the exception of Business-to-consumer (B2C) e-commerce are under the automatic route, implementation of Electronics Hardware Technology Park (EHTP) Scheme through a single window mechanism, DTA access upto 50% of the FOB value of export for electronics hardware units under EOU/EPZ/EHTP schemes, enhanced accelerated depreciation norms for computers and computer peripherals for electronic units under Export Oriented schemes (EOU/EPZ/EHTP) and setting up of Special Economic Zones to enable hassle free manufacturing and trading for export purposes.

49. It has further been stated in reply to a query by the Committee that the IT Hardware Industry is complex, highly competitive and intensive in capital and R&D, rapidly changing and of global dimensions. Marginal retuning of policies by the Government did not have the desired impact and therefore, a major paradigm of the policy regime is essential for the survival of the Hardware units.

50. The Committee asked what has been the real impact of the above cited measures undertaken by the Government. It has been stated that the impact of incentives already provided to the Hardware sector has been as follows:-

- (a) Exporters get Income tax holiday on export profits which enables the exporters to compete in the international market by reducing the cost of export products.



- (b) 100% FDI permission on automatic route has reduced the number of channels through which an applicant had to pass for getting permission. Now the investor has to file an application with RBI for just information sake thus saving time and overhead cost.
- (c) DTA access upto 50% of FOB value of export at 50% of the applicable duties permitted under export oriented schemes (EOU/EPZ/EHTP Schemes) enables the unit to meet the indigenous requirement which otherwise may be imported from other sources thus spending the foreign exchange. This has helped to build the volumes to achieve economies of scale.
- (d) Because of the fast obsolescence rate in computers, 60% depreciation has helped the industry to upgrade and replace them within 2 or 3 years.
- (e) SEZ, EOU, EPZ and EHTP schemes have helped the exporters to get inputs and capital goods at lowest duty of 0%, so as to keep the cost of production at the minimum and be competitive in the international market. Exporters in the DTA are availing the benefit of Advance Licensing Schemes to import their inputs for export production at 0% duty and the EPCG scheme to import the capital goods at 5% duty, subject to stipulated export obligation.
- (f) Import of Second hand capital goods upto 10 years old have been permitted freely. This has helped in relocation of plants.
- (g) Broadbanding the definition and providing the exemption from customs and excise duty on Information Technology software has helped the importers of telecom software, medical software, application software etc. to keep the cost low and avoid the problem of classification at the field level.
- (h) Rationalisation of tariff structure, though at a slow pace, is providing some relief to the hardware manufacturers.

51. In reply to a further query in this regard, the Department of Information Technology has stated that the incentives extended to the Hardware Sector have helped the industry to certain extent but a lot more has to be done in this regard. For example, freedom and hassle free environment to the manufacturers is required so that they can concentrate on production quality and marketing aspects instead of coming to the customs or DGFT or any other Government Department and wasting time and energy there. So, prompt decision making process would be advantageous to the Industry, otherwise more hardware units would close down soon.

52. ASSOCHAM, in this context, has submitted to the Committee that India's hardware manufacturing Industry is insignificant. Out of a total size of about 4 billion US dollars, including services, maintenance etc., over 2 Billion US dollars worth of components and raw materials are imported. Currently, India has the ability to manufacture mother boards, cards, terminals, thin clients, dot matrix printers, UPS, CD Roms and floppy discs, passive components etc. But the policy environment is not conducive to manufacture these items in India.

53. Referring to a newspaper article wherein it was mentioned that by the year 2008, \$160 billion worth of cumulative hardware equipment would be required to meet the software and service target of US \$87 Billion, the Committee enquired whether these equipments would be manufactured and whether the figure was authentic. The Secretary, DIT clarified that out of the 50 billion US dollars worth of total production (that has been anticipated) \$20 billion would be for domestic consumption and \$30 billion for export purpose.

54. Asked to furnish a comparative statement showing the current status and the estimated requirement of electronics and IT equipment/components by the year 2008, the following information was furnished to the Committee.

**ESTIMATED REQUIREMENT OF ELECTRONICS AND IT  
EQUIPMENT/COMPONENTS BY THE YEAR 2008**

**Telecom Sector**

<u>Current Density</u>	<u>2008 (Target)</u>	<u>Total Value</u>
	As per NTP-99	
22 per 1000	125 per 1000	\$100 bn
	(100 million addl. Telephones required)	Cost:\$1000 per Line

**PCs**

<u>Current Density</u>	<u>2008(Target)</u>	<u>Total Value</u>
	As per IT Task Force	
2 per 1000	20 per 1000	\$18bn
	(18 million addl. PCs required)	Cost:\$1000 per PC

**TVs**

<u>Current Density</u>		<u>2008(Target)</u>	<u>Total</u>
<u>Value</u>			
75 per 1000	225 per 1000	\$ 30 bn	
	(150 million addl. TVs required)	Cost:\$200 per set	

### **Strategic and Professional Electronics**

<u>Current Production</u>	<u>2008 (Target)</u>	<u>Total Value</u>
\$ 1bn	\$ 12 bn	\$ 12 bn

- A Total Equipment Requirement:  $100+18+30+12 = \$160$  bn
- B Estimated Requirement of Equipment to be met indigenously: 75% of A = \$120bn
- C Estimated Requirement of Components: 50% of B = \$60bn
- D Estimated Requirement of Components to be met indigenously: 65% of C = \$39bn
- E Investment Required for Components: \$13bn (Ratio 1:1.5)  
Assuming production of \$20 bn worth of components per annum by 2008
- F Investment Required for Equipments: \$3bn (Ratio 1:10)  
Assuming production of \$30bn worth of equipment per annum by 2008 (20:Local, 10:Export)
- G Total Investment Required = E+F, i.e.  $13+3 = \$16$ bn (Upto 2008)
- H Total Import of Equipment upto 2008(2000 to 2008): \$40 billion (A-B, i.e. 160-120)
- I Total Import of Components upto 2008(2000 to 2008): \$21 billion (C-D, i.e. 60-39)
- J Total Imports over 8 years, upto 2008(2000 to 2008) : \$61 billion (H+I)
- K Import component of G (Total Investment Requirement) assumed as 75%: \$12 bn
- L Total Import Requirement (i.e. Foreign Exchange [FE] Required: \$73 bn (J+K)  
Over 8 years (2000 to 2008)
- M FE Savings over 8 year period (2000-2008) = A-L i.e. 160-73 : \$87 bn  
Average FE Savings per annum =  $87/8 : \$ 11$  bn approx.

### **Employment Generation**

- Current Per Capita Productivity per Annum: \$ 20,000

- Assuming Per Capita Productivity per Annum of \$ 100,000 by 2008, Employment Potential by 2008= $\frac{\$160 \text{ bn}(B+D)}{100000}$  : 1.6 million (Employment generated directly by Hardware Sector).
- Indirect Employment  $2 * 1.6$  : 3.2 million
- Total Employment Potential of Hardware Sector by 2008 : 4.8 million

55. Some of the Associations of the Information Technology Industry like ASSOCHAM, FICCI etc. who appeared before the Committee emphatically stated that the Government needs to put in place a regime to promote information technology in the domestic industry in all areas, especially in R&D and encourage private and public sectors to invest in IT for R&D and engineering.

56. Citing its Thirty-Sixth Report on Demands for Grants (2002-2003) relating to the Department of Information Technology, the Committee drew attention to reduction in allocation for R&D to Rs.113.30 crore from the proposed outlay of Rs.454.53 crore in 2002-2003 and the Department's subsequent statement that core R&D activities being carried out at the R&D Societies would be curtailed due to reduced budgetary allocation. In that context, the Committee desired to know what efforts have been made by the Department to get the desired funds as well as to encourage indigenous manufacturers of hardware equipments to undertake R&D activities. The Secretary, Department of Information Technology replied that so far as R&D is concerned there is greater need for bringing the industry requirements and the research that has been taking place both in the Government and the industry in perfect harmony. He further stated:-

“But my own impression is that at the moment the research projects do not fit into a big picture.....we need to enrich our research, make it a long term objective, have a big picture to move in certain directions and have focussed research activities. But at the same time, it is also important today that with innovation, international property branding should be done which we are not doing.”

57. Asked in this context, the representative of FICCI submitted that in hardware, India has so far lost the race against South-East Asian countries like Singapore, Thailand, Malaysia and Taiwan together with China and Korea which have accounted for a major proportion of world's hardware industry. That is because about 80 per cent of the components are imported and only the rest comprising some keyboards, printers, monitors etc. are manufactured locally.

58. The Committee asked about the role played by Industries' Associations like FICCI, CII and ASSOCHAM towards promoting R&D activities in the manufacture of hardware equipments. The representative of FICCI replied that a lot of companies have been doing R&D work in India. He cited the example of one product called 'simputer' – a simple computer completely developed in India and has been well received world wide to the extent that there have been volunteers from all around the world desiring to contribute to the development of this product. 'Simputer' has been designed to take information technology to the rural masses. Another product called 'high station' has also been developed entirely in Bangalore. It is a simple e-mail device which is being marketed all over India.

59. The representative of the Department of Information Technology elaborated that a lot of medium and small entrepreneurs have been coming up with hardware products. He cited the example of one Teja Communications and Instruments which has done outstanding work in optical network in Bangalore. Some institutes in Chennai and Bangalore have also been doing good work in low cost communications etc.

60. The Committee asked about the initiatives taken by the Government to encourage the research work of the above mentioned Companies. The representative, Department of Information Technology replied that they were trying to come out with a connectivity called "moving up the value chain" with Government as the facilitator. The Department has interacted with all those Organisations/Companies who believe that India can have intellectual property based products and therefore, the Department has been trying to work very closely in terms of creating technology incubation centres.

61. The Committee desired to know the perceptions of the industry about the role of the Government to boost the R&D activities and thereby the hardware industry. The representative, ASSOCHAM replied that to invest in R&D, there have to be significant volumes in the country. In other words, usage of IT is more important as it will drive the spread, R&D and investment in hardware. Another representative stated that Industry perforce would get attracted to invest in R&D or to do any business activity in any area where they see returns and in a perspective of time.

62. The witness further added that the most important issue to be addressed is the competitiveness of the Indian Hardware Sector vis-à-vis the rest of the world because the trade barriers have been coming down.

63. The representatives of FICCI, CII and ASSOCHAM have been of unanimous view that Government should create an environment that allows sufficient inducement and a competitive advantage. Then only the Hardware Industry can develop.

64. Asked to suggest some specific measures that the Government could take to develop the Hardware Industry, the representative of CII replied that logistics, exchange control and availability of power have been the three most basic problems that could be easily addressed by the Government for attracting investment in hardware sector. He elaborated that logistics has been a problem for the component industry. In India it takes at least five days to ship out the finished products whereas the requirement is within five hours. Secondly, exchange control convertibility has not been allowed till recently by the Government of India. However, the industry representatives took up the matter with the Ministry of Finance as a result of which exchange control has now been relaxed only in the special economic zones. Lastly, availability of uninterrupted power has to be ensured because even a fraction of a second of a fluctuation or a blip or a variation in the frequency can result in loss of millions of dollars. Therefore, if these basic problems are not attended to, huge investment in hardware components can not be expected.

65. Another representative submitted that whosoever has been manufacturing hardware in India can produce high quality stuff, but not many people are coming into the country as there has not been sufficient inducement.

66. The Committee has further been apprised that the prerequisite for services in hardware sector is speed of business, including speed of man, material and decision making across time and space. Countries like China which have been successful in this sector have shown tremendous speed and flexibilities in this regard. The following comparative chart was furnished to the Committee.

<b>India Vs. China</b>			
<i>Parameter</i>	<i>India</i>	<i>China</i>	<i>World</i>
Approximate GDP in USD Bn	480	1030	NA
PC Sales (Mn units)	1.7	7.2	140.0
PC Penetration per 1000 people	6.2	13.2	26.0
IT spending as % of GDP	0.8	1.1	3.6
Internet User Base (Mn Nos.)	2.5	22.5	407.1
Telephone Lines per 100 people	2.7	8.6	15.2

Cellular phones 100	0.2	3.4	8.2
International bandwidth GBPS	1.0	5.0	NA
<ul style="list-style-type: none"> <li>• <i>Even if we achieve China's PC penetration levels, if not world average, we require doubling of PC Sales every year.</i></li> </ul>			

67. After analysing the above statement, the Committee enquired about the reasons of higher penetration of information technology in China *vis-à-vis* India. In reply, it has been stated that China became extremely successful due to:-

- (i) large domestic consumption led by the Government;
- (ii) unique packages of investments and tax incentives;
- (iii) competition among the local governments for attracting Hardware industry related investments;
- (iv) high investments in infrastructure sector;
- (v) flexible labour laws; and
- (vi) linking of access to domestic market with condition of local manufacturing.

68. In this context, the Committee asked about the targets fixed for the hardware industry and the measures taken to achieve the same. The Secretary, Department of Information Technology replied that in the years 1999-2000 and 2000-2001, the growth rate was 11 per cent and 9 per cent respectively which was much higher than the average growth rate of the overall Indian Industry. But as per the ten year targets set by the Task Force in 1998, the Industry has been grossly under performing.

69. The Committee was informed in reply to a query that for computers and peripherals, a production target of Rs.17,850 crore was set for the terminal year (2001-02) of the Ninth Plan. However, the production of these items has been of the order of Rs.3,400 crore only. Referring to it, the Committee asked in evidence how these targets were fixed and why the achievement was so low. The Secretary, Department of Information Technology replied that the reasons for under performance were because the targets were carried over since 1998 and those were almost at par with the software targets. He further stated that still the performance of the electronic hardware sector has been much above the average performance of the overall Indian Industry.

70. The Committee asked about the performance in the Electronic Sector. The representative of Department of Information Technology replied that the consumer electronics sector comprising audio-video products like radio cassettes, televisions, VCRs etc accounts for 40 per cent of the total hardware production in the country. During the Ninth Five Year Plan, the

achievement in this sector has been 90 per cent. There were some slippages in the year 2000-2001 when the achievement was Rs.11,700 crore against the target of Rs.13,000 crore.

71. The Committee then queried what has been the share of indigenous companies in the total production and how much imported components have been used. The representative, Department of Information Technology replied that in the total production worth Rs.11,700 crore during 2000-01, 55 per cent has been accounted for by the Indian Companies and the rest by the multinationals. Further, out of the total production, only about 20 per cent has been the total import components everything put together.

72. To another query, it has been stated that BPL, Videocon and Onida have been the three major Indian Brands that have actually been in demand in consumer electronic sector. The market share of these three would be around 40 per cent.

73. Asked to state the constraints being faced by this sector, the representative, Department of Information Technology replied that prior to 1991, this sector was all regulated and no foreign companies were permitted. But due to a change in the policy, all the foreign brands entered the scene as a result of which Indian companies suffered. Thus, stiff competition from the MNCs and lack of investment in the component sector further aggravated the situation. On top of that, lack of industry clusters and high incidence of duties and taxes in the form of import duty, excise duty, sales tax, CST, Octroi etc. has put the Indian Industry in a disadvantageous position.

74. The Committee asked then what would be the possible solution to protect the Indian Industry. The Secretary, Department of Information Technology replied that the answer should be competition and not protection. Asked to elaborate how the industry could be more competitive, the Secretary further replied:-

“If our industry is getting priced out, it must learn how to be competitive. But if the consumer is getting below international cost, that means dumping is taking place. (There) we must intervene.”

75. In this context, the representative of CII submitted to the Committee that it has really been a myth that Indian Industry needs protection. What it actually needs is facilitation from the Government side i.e., allowing it to have a high speed of business. Exuding confidence, he further stated that the success of hardware industry is all because of clusters and if the industry is given a level playing field, the existing market share of Indian companies would be much more. He concluded that in strategic sectors like Defence, the local industry has to be given an impetus.



76. Another representative of FICCI stated that the various duties and taxes imposed upon the industry need to be reduced and the duty differential between components and finished goods has to be kept at 10 per cent so that people who import components and assemble them for selling computers are, at least, not put at disadvantage against those who are importing computers as a whole. If it is done it will increase the organised sector's scope *vis-à-vis* the grey market.

77. **The Committee is perturbed to note that our Hardware Industry which is well diversified, highly competitive and Capital intensive has because of the rapidly changing policy and global dimensions been under pressure for survival. It has also been so due to infrastructural constraints, inverted tariff structure, high incidence of duties levied, lack of investment, lack of strong engineering and design base and inadequate R&D facilities etc. It is a matter of serious concern that hardware manufacturing industry is insignificant and it has so far lost the race against South-East Asian countries like Singapore, Thailand, Malaysia and Taiwan together with China and Korea which have garnered major chunk of World hardware industry. It has happened so because out of a total size of about 4 billion US dollars, including services, maintenance etc., over \$2 billion worth of components and raw materials were imported. Further, about 80 per cent of the components of a computer were imported and the rest comprising some keyboards, printers, monitors etc. were manufactured locally. What hurts is the fact that although India has the ability to manufacture significant components like mother boards, terminals, printers, UPS, CD Roms, floppy discs etc., the policy environment had not been conducive to manufacture these items in India. The constraints experienced by the indigenous industry primarily included high customs duty on raw materials and capital goods etc., high excise duty and sales tax, Octroi on IT products and inadequate infrastructure like power, road, rail, ports etc. besides a plethora of other constraints which might be the offshoot of the primary causes. The Department of Information Technology has stated to have been discussing regularly the issues of concern with all the concerned Ministries/Departments to impress upon them the problems of Hardware Sector. As a result of such efforts, inverted tariff structure is being gradually rectified and all quantitative restrictions have been removed on electronics and IT products. Further, a number of measures like rationalisation of Export Promotion Capital Goods (EPCG) scheme, implementation of Electronics Hardware Technology Park (EHTP) scheme, establishment of special economic zones, concessional rate of customs duty for specified**

raw materials etc. have been undertaken to promote the Hardware Sector. Although the incentives extended to the Hardware Sector have helped the industry to some extent, yet it fell short and could not create the desired impact, as has been candidly admitted by the Department. Therefore, it has become imperative to have a major paradigm of the policy regime which should encompass flexible Duty/Tax structure, freedom and hassle free environment to the manufacturers, guarantee of proper communication and uninterrupted power supply and moreover speed of business including man, material and decision making process so that there is sufficient inducement and competitive advantage for investment in the Indian Hardware Sector.

78. The Committee notes that a lot of companies have been doing R&D work in India as a result of which some outstanding products like ‘Simputer’ – a simple computer designed to take IT to rural masses; ‘high station’ – a simple e-mail device, have been developed which have become quite popular. Further, a number of medium and small entrepreneurs have been doing outstanding work in optical network and low cost communication. The Department on its part has been trying to encourage these entrepreneurs through a method called “moving up the value chain” with the Government as the facilitator. Nevertheless, these small and medium entrepreneurs should be encouraged in terms of creating technology incubation centres. However, the Committee is perturbed to note that focussed R&D efforts have not received the desired attention and momentum as has been admitted by the Secretary, DIT. It is really shocking that the country’s tremendous potential in terms of expertise, talent and brain, although recognised the world over, have not been properly utilised for research and development projects and the Department appears to be still on a thought process. The matter is more alarming due to the fact that during the year 2002-2003, the actual allocation for R&D activities has been Rs.113.30 crore against a proposed outlay of Rs.454.53 crore. Due to such reduced budgetary allocation, core R&D activities would be curtailed as has been stated by the Department. In view of the fact that the quality of innovation would ultimately make the country competitive and self-sufficient especially in Hardware, it is high time the Government put in place the research priorities of the industry in a time-bound and articulate manner, create a conducive atmosphere for investment in R&D, extend all possible help and assistance including sufficient budgetary support to enrich the research activities and thrive to make it a long term objective.

79. The Committee finds that the role of industry itself towards R & D activities has also not been very encouraging. Their contention is that in order to invest in R & D, there have to be significant volumes in the country and industry performance would get attracted to invest in R & D where they see returns. The Committee feels that the industry has to play a significant role and supplement Government's efforts to promote the R & D activities. In other words, while the industry expects the Government to display a trust based facilitator attitude by way of creating a conducive manufacturing environment, the Committee expects the industry to display exemplary focus on domestic hardware growth by way of investing significantly in hardware design and manufacturing, building world class quality levels on hardware and focusing on exports. As there is a greater need for bringing the industry requirements and the research that has been taking place in the Government side and the industry side in perfect harmony, both the Government and the industry have to ensure that the hardware industry not only survives but flourishes also like the software industry.

80. The Committee is constrained to note that for computers and peripherals, a production target of Rs.17,850 crore was fixed for the year 2001-2002 whereas the actual production of these items has been of the order of Rs. 3,400 crore only. Although during the years 1999-2000 and 2000-2001 the growth rate of the hardware industry was 11 per cent and 9 per cent respectively which was much above the average growth of the overall Indian industry, yet the Hardware industry has been grossly under performing so far as the ten years targets set by the Task Force in 1998 are concerned. Such under performance has been attributed to carry over of the targets since 1998 and fixation of hardware targets almost at par with software targets. The Committee is unable to accept these reasons for shortfall of targets in computers and peripherals as it feels such targets have been grossly unrealistic in view of the reported absence of an environment that allows sufficient inducement for the manufacturers. Without addressing the basic constraints faced by the Hardware manufacturers, the Department can not hope to achieve the targets. Further, in order to curb the menace of grey market which had an adverse effect on the achievement of targets in computers and peripherals, the duty differences between components and finished goods should be fixed at 10 per cent, as suggested by the industry, so that the people who import computer components and assemble them for selling are not at disadvantage against those who are importing

computers as a whole. Such a move would definitely help the organised sector's scope *vis-à-vis* the grey market so far as production of computers and peripherals is concerned.

81. The Committee notes that the Consumer Electronics Sector comprising Audio-Video products i.e Transistors, Televisions etc. accounts for 40 per cent of the total hardware production of the country. It is appreciable to learn that the achievement in this sector has been 90 per cent during the Ninth Five Year Plan although there have been some slippages in the year 2000-01 when the achievement has been Rs. 11,700 crore against the target of Rs. 13,000 crore. What is more encouraging is that out of the total production worth Rs. 11, 700 crore during 2000-01, three leading indigenous companies have accounted for 55 per cent that year and on an average the market share of these three would be around 40 per cent at any given point of time. However, stiff competition from MNCs, lack of investment, lack of industry clusters and high incidence of duties and taxes have put this sector in a disadvantageous position. The Committee feels that indigenous industry must learn how to be competitive; however, if and when dumping is resorted to by the MNCs, the Government must intervene to protect the indigenous manufacturers, as was also assured by the Secretary, DIT. It is stated that the Indian industry does no longer require protection, as admitted by the representatives of FICCI, ASSOCHAM and CII. What it needs badly is facilitation from the Government in terms of provision of a flexible duty regime, promotion of clusters etc., what is needed to be looked into that there may not be indiscriminate entry of MNCs, in the name of competition only, without adverting to the state of our domestic industry, which is suffering from serious constraints and is not able to expand as it needs to. The Committee believes that if a level playing field is provided to the Indian industry it would attract investment, make the industry competitive and thus, the existing market share of the Indian companies would increase.

82. The Committee notes that by the year 2008, the total equipment requirement would be worth 160 billion US dollars, the break-up being \$100 billion for Telecom Sector, \$30 billion for TVs, \$18 billion for PCs and \$12 billion for strategic and professional electronics. The estimated requirement of equipment to be met indigenously would be \$120 billion; estimated requirement of components would be \$60 billion and estimated requirement of components to be met indigenously would be \$39 billion. Similarly, investment requirement for components and equipments would be \$13 billion and \$3 billion respectively. The Committee wonders whether under the existing scenario i.e.,

rigid duty/tax regime, inadequate infrastructure, lack of a strong engineering and design base, absence of R&D, reluctance of the Industry in investing in Hardware etc., the above mentioned targets by the year 2008 would ever be achieved. Needless to say these bottlenecks have to be dealt with a sense of urgency and priority so that the above targets do not remain illusory.

83. In this context, the Committee can not but refer to the position in China which has overtaken us to a great extent. For example, PC penetration per 1000 people is 13.2 in China whereas in our country it is only 6.2. Similarly, Internet user base is 22.5 million in China and a meagre 2.5 million in India. Likewise in basic and cellular phones per 100 people, China is way ahead of India. The Committee finds that China's success has been due to large domestic consumption led by the Government itself, unique packages of investments and tax incentives, high competition among the local Governments for attracting Hardware industry related investments, high investments in infrastructure sector, flexible labour laws and linking of access to domestic market with condition of local manufacturing. The Committee believes that it would be worth to make a proper study of the development-model of IT industry in China, of course in the abovementioned fields, more so when the Indian Hardware Industry is battling for survival.

84. To sum up, so far as the problems of Software, IT enabled services and Hardware and the requirements of IT industry are concerned, the Committee finds that although Software Industry has been doing consistently well despite the global recession, yet the domestic software market has relatively been small; there is dearth of teachers, Institutions like NCST have been confined to only two places etc. So far as IT enabled services are concerned, curriculum in Colleges/Universities have not been adverting to the requirements of this Industry. In Hardware, there are constraints galore in terms of duties, taxes, lack of investment in R&D and others. The biggest constraint that is slowing down growth in all the three sectors is inadequate communication infrastructure. The Government has to look into all these aspects urgently and the industry has to come forward to invest in Hardware design and manufacturing and build world class quality levels on Hardware. All possible encouragement should be extended to small and medium entrepreneurs who have brought out innovative products like 'simputer', 'high station' etc. Moreover, the Academic Institutions should volunteer to have joint development with industry on technologies besides focussing on Hardware Projects incubation and developing IPR oriented curriculum. The Committee trusts, with such combined efforts

**from the Government, Industry and Institutes, India can attain its long cherished vision of a true IT Superpower.**

New Delhi

**26 August, 2002**

4 Bhadrapada, 1924 (Saka)

**SOMNATH CHATTERJEE,  
CHAIRMAN,  
STANDING COMMITTEE ON  
INFORMATION TECHNOLOGY**

## ACRONYM

1.	ADR	---	American Deposit Receipts
2.	ASSOCHAM	---	Associated Chambers of Commerce and Industry of India
3.	B2C	---	Business-to-Customer
4.	CII	---	Confederation of Indian Industry
5.	DGFT	---	Director General Foreign Trade
6.	DTA	---	Domestic Tariff Area
7.	ECB	---	External Commercial Borrowings
8.	EHTP	---	Electronic Hardware Technology Park
9.	EOU	---	Export Oriented Unit.
10.	EPCG	---	Export Promotion Capital Goods Scheme
11.	EPZ	---	Export Processing Zone
12.	EXIM Policy	---	Export-Import Policy
13.	FDI	---	Foreign Direct Investment
14.	FICCI	---	Federation of Indian Chambers of Commerce and Industry
15.	FII	---	Foreign Institutional Investors
16.	GDR	---	Global Deposit Receipts
17.	HRD	---	Human Resource Development
18.	HSDC	---	High Speed Data Communication
19.	IIIT	---	Indian Institute of Information Technology
20.	IMSC	---	Inter-Ministerial Standing Committee
21.	IPLC	---	International Private Leased Circuits
22.	IPR	---	Intellectual Property Right
23.	ISP	---	Internet Service Provider
24.	ITA	---	Information Technology Agreement
25.	NASSCOM	---	National Association of Software and Services Companies
26.	NCST	---	National Centre for Software Technology
27.	NFSIT	---	National Venture Fund for Software and IT Industry
28.	PSTN	---	Public Switched Telephone Network
29.	QR	---	Quantitative Restrictions
30.	SED	---	Special Excise Duty
31.	SEI	---	Software Engineering Institute, USA
32.	SEZ	---	Special Economic Zone
33.	SME	---	Small and Medium Enterprises
34.	VCF	---	Venture Capital Funds

