3.0 INTRODUCTION

This unit introduces some of the Information Technology (IT) projects as well as those projects which use IT in India. It describes some of the projects that are completed as well as under implementation by National Informatics Centre (NIC). Similar topics are dealt with in the case of ERNET also. The impact of Broadband is significant across the Country. The projects that are using Broadband are introduced in one of the sections. Finally, SWAN is introduced and the list of projects that are completed/under implementation across various states are listed.

3.1 OBJECTIVES

After studying this unit, you should know about:

- NICNET
- ERNET
3.2 NICNET

NICNET stands for National Informatics Centre Network. National Informatics Centre (NIC) is an institution under the Government of India. It provides solutions in the area of e-governance particularly for the sectors that fall under Government of India. It supports NICNET. It can be made available to all organizations (both public and private) organizations engaged in specific projects and programmes. NICNET produced the enabling facilities for supporting added activities, projects and programmes in the special work areas.

NIC plays a major role in the information revolution at all levels (district level, state level and national level) by implementing projects in Information Technology in the following programmes:

- **Speedy Court Cases Trials**: A successful Experiment through Video Conferencing between the Jail and the Court. This process is implemented in the Bihar State and in other States too.

- **Redressal of Public Grievances**: It is the Ongoing programme of Chhattisgarh Government through NICNET and also spreading many states which have Video Conferencing facilities.

- **IT in Indian Courts**: Landmark project covering the all levels of Courts(Supreme Courts, High Courts and District Courts) in India.

- **AGMARKNET**: It provides globalization of Indian Agriculture. Networking of Agricultural provides Wholesale Markets for dissemination of Agricultural Products Market prices information.

- **Sales Tax Administration**: The following are success stories in different states - STAMINA, TACKIS & MUDRA.


- **COIN – Cooperative Bank Management Software**.

- **SMART Nagarpalika**: It is the framework of ICT for functioning of administrations of Municipal.

- **E-Panchayat**: Framework of ICT for administration of Panchayat.
• **IT Training**: It is a way to Business Process Re-Engineering.

• **IT in Environment**: It provides Environment Security.

• **Passport services**: It provides e-Passport for Indian Citizen.

• **SERMON**: It facilitates Intranet solutions for the Central Excise Revenue Collection.

• **IT & Road Transport**: SARATHI & VAHAN provides SMART Revolution in Road Transport sector of India.

• **Central Civil Pension**: Authorization through approximately 32500 Public Sector Bank branches.

• **Property Registration**: CARD, STAR, PEARL, CORD, HARIS, PRISM are used for registration.

• **Land Records Computerization**: BHOOMI, BHUMI, TAMILNILAM, Bhoolekh, HIBMHOOMI, BHUIYA, APKAKhata, DHARNI, etc.

• **Utility Mapping of Delhi**: It is used for Spatial Planning in Delhi.

• **E-Granthalaya**: Agenda for Library Automation and Networking to usher in “India a Knowledge Society”.

• Treasury and Budget Computerization Programme.

• Postal/Telecom Circle level Accounting Programme through out the country.

• **HOPTS**: TPS(Transaction Processing System) in 600 HPOs of the Indian Postal System in the Country.

• **ePOST**: Enabling People to send or receive messages e-mail in all Post offices in the country.

• Postal Life Insurance (PLI) Computerization projects in all States.

• **Rural Bazaar**: Implementing e-Commerce for Rural Micro Enterprises and divisions.

• **Community Information Centre (CIC)**: It aims at economic and cultural development of remote and rural areas of the Country (State of Sikkim, etc.).
- **Treasury System**: online treasury system was established in Chattisgarh up to sub-treasuries.

- Rural development services (RDS) in Karnataka.
- **DACNET**: It is an e-Government Project for the Department of Agriculture & Cooperation of the Union Government.

- **enRich**: An ICT Framework Product of UNESCO and NIC.

- **Smart Card**: Technology for application of e-Government.

- **CollabCAD**: It is an Open Source Computer Aided Design Package.

- **GramSampark**: A GIS-based social sector projects implementation.

- **DISNIC**: A District Government Informatics Development Programme for grassroots level development launched during 1987.

- **IntraNIC**: It facilitates G2E model and appears as a case study in http://www.microsoft.com.

- **RACE** (Revenue Administration through Computerized Energy billing)

- **India Portal**: The National Portal by the Government to facilitate single window web based delivery of information and services.

- Global Market Informatics Services provides networking with GTPNet of Electronic Trading Opportunity (ETO) System, developed by United Nations Trade Point Development Centre (UNTPDC).

- Medical informatics and services of Tele-medicine.

- Bibliographic Services.

- Intellectual property & Know-how Informatics Services.

- Information Services of Weather Resources.

NIC involved in implementing “e-Governance agenda” of the Central Government with respect to the following:

- Internet/Intranet Infrastructure (PCs, Office productivity tools, Portals on Business allocation) up to Section officers levels
• IT empowerment of Officers or Officials & Capacity Building
• ICT enabled Services (G2G, G2E, G2C and G2B)
• ICT plans for Sectoral Informatics Development

Services profiles, among the others, include the following:

• Network services (WAN, MAN, LAN)
• Data mining and data warehousing
• Total ICT Solutions
• Video Conferencing & web services
• Certification Authority and PKI Services
• Domain (gov.in) Registrar
• Computer Emergency Response Team (CERT) Services
• National Disaster Recovery Centre
• Geometrics & Informatics design and development for decision support
• Sectoral ICT Plan formulation

NIC implemented and developed a very large number of projects for various State and Central Government Ministries and Organizations. Many of these projects are carried out by the divisions of NIC at New Delhi Headquarters and State/District centres in the country. The following are some of such projects:

• Agricultural Marketing Information Network (AGMARKNET)
• Community Information Centres (CICs)
• Court Information System (COURTIS)
• Department of Agriculture Network (DACNET)
• Examination Results Portal
• Land Records Information System (LRIS)
• National Hazardous Waste Information System (NHWIS)
• Training
• Video Conferencing

3.2.1 AGMARKNET

AGMARKNET stands for Agricultural Marketing Information System Network. It is a procedure sponsored by the Directorate of Marketing and Inspection (DMI), Ministry of Agriculture and executed by the Agricultural Informatics Division of NIC for linking important agricultural produce markets in the country. Towards globalization of Indian Agriculture, the NICNET-based AGMARKNET produces transmission and generation of prices and arrival information from agricultural
produce markets and its web-based dissemination for the use of individual producers, farmers organizations, consumers, traders, NGOs, communication agencies (Radio, newspapers, TVs, web sites, food processing industries, Chambers of Commerce, policy makers).
3.2.2  Community Information Centres

Communication Information Centres (CICs) is an effort by Information Technology Department, NIC and the state Governments of the North-Eastern states. Each CIC centre is managed by two operators and provides G2C services: Web access, email, printing, data entry, word processing and IT training to the local people.

3.2.3  Court Information System

Court Information System (COURTIS) is being implemented by NIC to serve all stakeholders like Judges, Advocates, Litigants, Law Firms, Legal Institutions, Government, Researchers and General Public in the legal system. NICNET based COURTIS project interconnects the Supreme Court and all High Courts and is in the process of computerization and integration of all District Courts in India. The main components of COURTIS are Case Status, Judgment Information System (JUDIS), Cause Lists and Daily Orders on Internet.

3.2.4  DACNET

DACNET stands for Department of Agriculture Network. NICNET based DACNET is a project of e-governance executed by NIC. It provides dissemination and exchange of faster and reliable agricultural information across the Ministry of Agriculture and Directorates and Field Units of Department of Agriculture and Cooperation. It aims to improve work culture through better transparency, streamlining of existing administrative and technical methods and practices, greater integration and use of the data collected from variety of data sources, moving towards a paperless office environment, knowledge sharing and research. DACNET supports Decision Making for planners, integrates Government to Government (G2G) functions, connects Agri-Business Partners (B2B) and Farmers (C2C) and ensures IT Empowerment of the Officials of the Directorate.

3.2.5  Examination Results Portal

The first source of Examination Results on the web is produced by the portal, that is a one-stop source to get online results of various Academic, Entrance and Recruitment examinations conducted by various government agencies. CBSE, State Education Boards, Universities, Professional Institutes (Engineering, Medical, MBA, CA, etc), Central and State level entrance examinations for Medical, Engineering, MBA, etc. and Staff Selection Commission (SSC) and other recruiting agencies using this portal to deliver the results.
3.2.6 LRIS

LRIS stands for Land Records Information System. LRIS is used for realizing the needs of land management. NIC in association with the Ministry of Rural Development, Government of India has developed a computerized Land Records Information System (LRIS) targeted at farmers, landowners, administrators, planners, decision makers and for resources related to revenue, survey, agriculture, forest, irrigation and land resources. NIC contributes in Configuration Management, Human Resources Development and Technology upgradation. The system has acquired copyright under the name BHULEKH.

3.2.7 NHWIS

NHWIS stands for National Hazardous Waste Information System. NHWIS is an online database containing information of more than 10,000 hazardous waste generating industries. NHWIS serves as a compliance and enforcement tool for Central and State Pollution Control Boards and Ministry of Environment and Forests. It provides updated information on Hazardous Waste Management to the policymaking, implementing authorities, consultants, NGOs and general public and is useful in urban and industrial planning process and in exploring investment opportunities.

3.2.8 IT Training

NIC offers IT related trainings at its centres located all over the country to fulfill the current and future IT needs of Government Administration and Public Sector Undertakings. A wide variety of training programmes have been designed to implement e-governance at all levels, such as Executive Development Programmes, Office Productivity Tools, Sectoral Development Programmes, DOP&T Training Programmes for IAS Officers, DOL Trainings in Hindi, Customized Training Programmes and Technology Update Training Programmes for NIC Officers. The spectrum of technologies covered include Application Development Programming, Database Technologies, OS, Networking, Video Conferencing, Internet/Intranet Technologies, Web Authoring Tools, GIS, CAD/CAM, Utility Mapping, MEDLARS, Office Productivity Tools, Digital Certification, etc.

3.2.9 Video Conferencing

NIC has been providing videoconferencing services over its high speed satellite-based network called NICNET. This is the largest videoconferencing network in India connecting 127 cities including all north-eastern state capitals. The network used is a SCPC VSAT link operating at 128 Kbps from each of the 127 locations which are connected to Delhi in a star configuration. NIC is also using ISDN lines for many
IT Projects in India

Central and State Government ministries. Its portable SCPC VSATs can facilitate videoconferencing and high speed internet connectivity from any place in India. With its Multipoint Conference Server (MCS), NIC can provide videoconferencing service to any organization under the NICNET domain, enabling several sites to participate in a live conference with audio-video and document sharing.

3.3 ERNET

ERNET stands for Education and Research Network. The Research & Development projects are initiated by ERNET groups. The core groups of ERNET have worked towards the development of products and technology transfer to the industry.

The following are some of the ongoing projects:

- Wide area Quality of Service Network Test bed
- Bringing Europe's electronics infrastructure to expanding frontiers
- Setting up of vocational centers for skill creation for the disabled children in the area of Information Technology
- Planet Lab test bed
- Community Information Centres - Vidyavahini (CIC-VVs)

The following are some of the projects undertaken earlier:

- ASEAN India Digital Archive
- Instruction on Demand
- NETMASTER (Bandwidth manager)
- Network Monitoring Tool (NMT)
- Establishment of IPv6 enabled test bed at ERNET

3.3.1 Ongoing Projects

The following is a brief description about the ongoing projects at ERNET:

- **Wide area Quality of Service Network Test bed**

  The objective of this is to provide Quality of Service (QoS) assurances to applications. It requires assured bandwidth from end-to-end, communication privacy, minimal round time for packet delivery, regularity of the data flow. This test bed will be interconnected with the local test bed at other locations in the country. It serves as a vehicle among other institutions to carry out R&D and distance learning. This test bed will be integrated with ERNET2.

  The R&D aims to develop QoS sensitive applications and platform for multimedia communication, interactive distance learning-virtual class room, digital library,
real-time robotic/process control, and telemedicine, secure & scalable IP multicasting platform.

- **Bringing Europe's electronics infrastructure to expanding frontiers (BELIEF) under (FP6 IST Programme)**

The 'BELIEF' is an infrastructure Research proposal for development of robust and reliable Grid infrastructure worldwide. The players of this project are S.P.A. Corso Italy, ERNET India, CNR-ISTI ITALY, University of Athens, ENGITECH Ireland, PUSP Brazil, and Wisconsin - Madison University US. The duration of the project is two years.

The following are the main objectives of BELIEF:

- To build and support an effective Communication network Platform to forge alliances between academics and industries;
- To identify key application areas on grid-based and other electronic infrastructures;
- To develop, maintain and populate a Multimedia Digital Library; and
- To deliver Network Workshops, and participate & organize conferences, exchange knowledge.

- **Setting up of vocational centers for skill creation for the disabled children in the area of Information Technology**

This project is designed for communicate the computer literacy, enhancing the skills and providing job-orientation training to the disabled children to obtain employment in the IT and IT enabled service industry.

Following Courses educate the computer literacy, enhancing the skills and providing job-oriented training to the disabled children to obtain employment in the IT and IT enabled service industry.

- Computer Access & Operation Technology
- Computer Access & Application Technology
- Special course on IT Enabled Service industry-Call Centre/BPO

Approximately, 18 ICT vocational centers have already been established in Tamil Nadu and Delhi for blind and deaf students

The computer lab at the vocational centre equipped with Computers, Server and Printer. Scanner Screen Reader, Specialized software - Web Software, CCTV with Screen Magnifier for blind, listening devices for deaf and 256Kbps Internet connectivity.

- **Planet Lab Test Bed**
ERNET India has joined Intel Planet Lab test bed, which is an open, globally distributed test-bed for developing and accessing planetary scale network service. The test bed is available to ERNET for carrying out experiments in network services and applications.

- **Community Information Centres - Vidyavahini (CIC-VVs)**

Community Information Centres - Vidyavahini (CIC-VVs) are being established in the government schools located in Andaman & Nicobar Islands and Lakshadweep Islands. The centres will enable schools to access Internet applications, e-content, pursue distance education and watch webcast.

### 3.4 BROADBAND

Broadband projects can be categorised by access, content and capacity. These three categories provide the greatest impact on ICT projects.

- **Access**: The equipment needed to access the internet. The most important areas are e-communities and e-commerce/e-business practices.
- **Content**: What people choose to access and the services which encourage them to go online. The primary and secondary sectors are agrifood and SMEs, ICT and e-business practices, respectively.
- **Capacity**: Developing new skills to make the most of ICT. These address e-Learning and e-Skills for populations targeted located in predominantly rural and in remote / isolated areas.

From an analysis of case studies, the following are six major success factors contributing to the broadband:

- Financial support from the EU
- Support from national/regional authorities (political, financial and legal)
- Involvement and co-operation of local businesses and organizations
- Understanding and reacting to new business opportunities created by ICT
- Local communities strong involvement
- Understanding the need to promote the Information Society

### 3.4.1 Projects using Broadband

The following are some of the ongoing projects in India that are using Broadband. The projects were listed state-wise:

**Andhra Pradesh**
Information Systems

1. Andhra Pradesh Rural Poverty Reduction Project
2. AP Community Forestry Project
3. AP District Poverty Initiative Project
4. Andhra Pradesh Economic Restructuring Project

Assam

1. Assam Agricultural Competitiveness Project

Bihar

1. Third District Primary Education Project
2. Lucknow-Muzaffarpur Highway Project

Chhattisgarh

1. Chhattisgarh District Rural Poverty Reduction Project

Gujarat

1. Gujarat State Highways Project
2. Gujarat Emergency Earthquake Reconstruction Project

Karnataka

1. Karnataka Urban Water Sector Improvement
2. Karnataka Community-based Tank management
3. Second Karnataka Rural Water Supply and Sanitation Project
4. Karnataka Watershed Development Project
5. Karnataka State Highways Improvement Project

Kerala

1. Kerala State Transport
2. Kerala Rural Water Supply and Environmental Sanitation project

Maharashtra

1. Maharashtra Water Sector Improvement Project
2. Maharashtra Rural Water Supply and Sanitation ‘Jalswarajya’ Project
3. Mumbai Urban Transport Project45
4. Maharashtra Health Systems Development Project

Madhya Pradesh

1. Madhya Pradesh Water Sector Restructuring Project
2. Madhya Pradesh District Poverty Initiatives Project.
Mizoram

1. Mizoram State Roads Project

Orissa

1. Orissa Health Systems Development Project

Rajasthan

1. Rajasthan Health Systems Development Project
2. Rajasthan Water Sector Restructuring Project
3. Second Rajasthan District Primary Education Project
4. Rajasthan Power Sector Restructuring Project
5. Rajasthan District Poverty Initiatives Project
6. Rajasthan District Primary Education Project (I)

Tamilnadu

1. Tamil Nadu Empowerment and Poverty Reduction Project
2. Third Tamil Nadu Urban Development Project
3. Tamil Nadu Health Systems Project
4. Tamil Nadu Road Sector Project

Uttar Pradesh

1. UP State Roads Project
2. UP Water Sector Restructuring Project
3. UP Health Systems Development Project
4. Uttar Pradesh Third District Primary Education Project
5. Uttar Pradesh Sodic Lands Reclamation Project II

Uttaranchal

1. Uttarakhand Decentralized Watershed Development Project

3.4.2 Multi-State Projects

The following are some of the multi-state projects:

1. Tsunami Emergency Reconstruction Project
2. SME Financing and Development Project
3. Rural Roads
Information Systems

4. Carbon Tetrachloride (CTC) Sector Phase out Project – ODS IV
5. Hydrology II Project
6. Integrated Disease Surveillance Project
7. Elementary Education Project (Sarva Shiksha Abhiyan)
8. India Immunization Strengthening Project
9. Allahabad Bypass Project
10. Food and Drugs Capacity Building Project
11. Technical/Engineering Education Quality Improvement Project
12. Grand Trunk Road Improvement Project
13. Second Powergrid System Development Project
14. Third Technician Education Project
15. Second Renewable Energy Project
16. In-Telecommunications Sector Reform Technical Assistance Project
17. Technical Assistance for Economic Reforms
18. Immunization Strengthening Project
19. Integrated Watershed Development Project (Hills II)
20. National HIV/AIDS Control Project
21. Woman and Child Development Project
22. Malaria Control Project
23. Tuberculosis Control Project

3.5 SWAN

SWAN stands for State Wide Area Network. Haryana, Himachal Pradesh, and Tamil Nadu have successfully implemented SWAN. The three states have opted for the private-public partnership mode. As per SWAN implementation status report released by the Ministry of Information Technology, implementations are in progress under the PPP mode in the states of Jharkhand, Kerala, Gujarat, West Bengal, Assam, Bihar, Assam and Punjab.

Other states where implementation is in progress under the National Informatics Centre are Chandigarh, Delhi, Sikkim, Manipur, Tripura and Uttar Pradesh.

The request for proposal (RFP) has been approved for Rajasthan and Chattisgarh. The RFP for the states of Mizoram, Nagaland, Meghalaya, Dadra and Nagar Haveli, Arunachal Pradesh, Puducherry and Jammu and Kashmir are under review and finalization.

The following is description of some of the SWAN projects.

3.5.1 Assam State Data Centre

Assam State Data Centre (ASDC) for the state is to consolidate services, applications
and infrastructure to provide efficient electronic delivery of G2G, G2C and G2B services. SDC infrastructure shall provide adequate space to house ICT assets of various departments within the state in an environment that meets the need for reliability, availability, scalability, security and serviceability. Various applications and some of the functionalities envisaged at the ASDC include Secure Central Data Repository of the State, Core Application Servers, Service Delivery Gateway, Citizen Information/Services Portal, State Intranet Portal, Remote Management and Service Integration facility. Assam State Data Centre will act as a mediator and convergence point between open unsecured public domain and sensitive government environment. The ASDC will be equipped to host / co-locate systems such as Web Servers, Application Servers, Database Servers, SAN, and NAS etc.

RGCLP stands for Rajiv Gandhi Computer Literacy Programme. It is a unique educational venture with private sector participation. Government of Assam has initiated the Rajiv Gandhi Computer Literacy Programme to impart computer education in the State Government's schools. The Planning and Development Department and AMTRON, the State Nodal Agency for Information Technology had embarked on this ambitious project of providing computer education, free of cost, to the students of the Government Schools. In pursuance thereof, AMTRON has entered into a strategic tie up with NIIT, CMC and Educomp, leaders in the field of Computer Education, to achieve the highest level of excellence in the project. The Project is initiated in 4 Phases. First three phases cover 630 Higher Secondary Schools of Assam and fourth phase covers 300 High Schools in BOOT (Build Operate Own and Transfer) model distributed across the 23 districts of Assam.

3.6 SUMMARY

There are a large number of IT projects across India. Organizations like NIC, ERNET are playing major role in implementing IT projects. Broadband has created a major impact across the Country. Large number of people in the Country have access to Internet through different ways. SWAN is implemented aggressively across different states and it computerizes most of the activities of the State so that the citizens across the concerned state can obtain the necessary information through SWAN.

3.7 FURTHER READINGS

- [http://home.nic.in](http://home.nic.in)
- [http://www.eis.ernet.in](http://www.eis.ernet.in)
- [http://www.mit.gov.in](http://www.mit.gov.in)