



**INFORMATION TECHNOLOGY
DEPARTMENT**

**POLICY NOTE
2018 – 2019**

DEMAND NO. 31

Dr. M. MANIKANDAN
Minister for Information Technology

©

Government of Tamil Nadu

2018

1

INFORMATION TECHNOLOGY DEPARTMENT

DEMAND NO. 31

POLICY NOTE – 2018-2019

INDEX

Chapter	Contents	Page No.
I	INTRODUCTION	1-3
II	ELECTRONICS CORPORATION OF TAMIL NADU LIMITED (ELCOT)	4-69
2.1	Introduction	4-8
2.2	Information Technology ELCOT Special Economic Zones (ELCOSEZs)	8-25
2.2.1	ELCOSEZ – Sholinganallur, Chennai	9-11
2.2.2	ELCOSEZ – Vilankurichi, Coimbatore	11-12
2.2.3	ELCOSEZ – Ilandhaikulam, Madurai	13-15
2.2.4	ELCOSEZ – Vadapalanji, Madurai	15-17

Chapter	Contents	Page No.
2.2.5	ELCOSEZ – Navalpattu, Tiruchirapalli	17-20
2.2.6	ELCOSEZ – Gangaikondan, Tirunelveli	20-22
2.2.7	ELCOSEZ – Jagirammalayam, Salem	22-24
2.2.8	ELCOSEZ – Viswanathapuram, Hosur	24-25
2.3	Start-Up Warehouse, Chennai & Coimbatore	26-27
2.4	IT Tower at ELCOSEZ – Sholinganallur	27
2.5	Rural Business Process Outsourcing (RBPO) Centres in Tamil Nadu	27-29
2.6	Procurement	29-31
2.7	Scheme for Distribution of Laptops	31-32
2.8	e-Governance	32-46
2.8.1	e-Governance Projects	33-35

Chapter	Contents	Page No.
2.8.2	Websites Created for the Government Departments	35-36
2.8.3	Permanent Enrolment Centres	36-38
2.8.4	Open Government Data	38-39
2.8.5	Cloud and Web Hosting Services for Students and Young Entrepreneurs	40-41
2.8.6	eSmart Classroom	41-44
2.8.7	Training	45-46
2.9	Information Technology Infrastructure	46-67
2.9.1	Tamil Nadu State Wide Area Network (TNSWAN)	49-56
2.9.1.1	Background	49-50
2.9.1.2	TNSWAN Phase-III	50-51
2.9.1.3	Purpose of TNSWAN	51-52
2.9.1.4	Services provided through TNSWAN	52
2.9.1.5	TNSWAN Vertical Connectivity	53-54

Chapter	Contents	Page No.
2.9.1.6	Integration of TNSWAN and NKN (National Knowledge Network) at DHQ level	54
2.9.1.7	Horizontal Connectivity	55
2.9.1.8	Redundant connectivity to TNSWAN (Vertical)	56
2.9.2	National Knowledge Network (NKN)	56-57
2.9.3	Other bandwidth services	57
2.9.4	Tamil Nadu State Data Centre (TNSDC)	57-62
2.9.4.1	Tamil Nadu State Data Centre – I	58
2.9.4.2	Security Architecture of TNSDC	59-60
2.9.4.3	Salient Features of TNSDC	60-61
2.9.4.4	Tamil Nadu State Data Centre – II	61-62
2.9.5	Tamilnadu Disaster Recovery Centre (TNDRC) & Near Line DRC (NLDR)	63-66

Chapter	Contents	Page No.
2.9.5.1	National Data Centre (NDC) - PUNE	63
2.9.5.2	Tamil Nadu Disaster Recovery Centre (TNDRC)	63-65
2.9.5.2.1	Salient Features of TNDRC	64-65
2.9.5.3	Near Line Disaster Recovery Centre (NLDR)	65-66
2.9.6	Cloud at TNSDC (TNCLOUD)	66
2.9.7	Server Farm	67
2.9.8	e-Mail Solution	67
2.10	Financial Performance	67-69
III	COMMISSIONERATE OF e-GOVERNANCE AND TAMIL NADU e-GOVERNANCE AGENCY	70-118
3.1	Introduction	70-71
3.2	Institutional Framework	71-72
3.2.1	State Apex Committee	71-72
3.2.2	Tamil Nadu e-Governance Agency (TNeGA)	72

Chapter	Contents	Page No.
3.3	Organizational structure and Information Technology (IT) Cadre	73-75
3.4	State e- Mission Team (SeMT)	75-76
3.5	District e-Governance Society (DeGS)	76-77
3.6	Projects, Programmes and Schemes	77-85
3.6.1	e-District Programme	77-85
3.7	Arasu e-Sevai Centres	85-87
3.8	State Portal	87
3.9	Capacity Building	88-89
3.9.1	Training Programme	89
3.10	Tamil Nadu Geographical Information System (TNGIS)	90-94
3.10.1	Implementation of Tamil Nadu Geographical Information System	90-94
3.11	Creation of Standardised Digital Address Number (SDAN)	94

Chapter	Contents	Page No.
3.12	State Resident Data Hub (SRDH)	95-96
3.12.1	Objectives of State Resident Data Hub (SRDH)	95-96
3.13	e-Office	96-97
3.14	Activities of TNeGA during the year 2017-18	97-101
3.14.1	Hon'ble Chief Minister's Award for Excellence in e-Governance for Government Departments	97-98
3.14.2	Hon'ble Chief Minister's Award for Excellence in e-Governance for Students	98-99
3.14.3	Tamil Nadu e-Governance Award for Micro, Small and Medium Enterprises (MSME)	99-101
3.15	IT Security Audit	101
3.16	SMS based Service Tracking Facility	102
3.17	Centre of Excellence (CoE) for Capacity Building	103

Chapter	Contents	Page No.
3.18	e-Governance Standard Manual	103-104
3.19	e-Sign Facility	104-105
3.20	Achievements for the year 2017-18	105-108
3.20.1	e-Taal (Electronics Transaction Aggregation and Analysis Layer)	105
3.20.2	e-District	106
3.20.3	Aadhaar Permanent Enrolment Center (PEC)	106-108
3.20.3.1	Aadhaar Enrolment & Aadhaar Generated Details	108
3.21	Ullangaiyil Sanridhazh Scheme	108
3.22	Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA)	109-110
3.22.1	Target for the State (Tamil Nadu)	110
3.23	AMMA e-Gramam	111
3.24	AMMA-Assured Multi Model Access to e-Services	112

Chapter	Contents	Page No.
3.25	UMANG - Unified Mobile Application for New Age Governance	113-114
3.26	Namadhu Arasu (My Gov)	114
3.27	e-Madal (e-Newsletter)	114-115
3.28	e-Governance Policy	115-116
3.29	Financial Status	116-118
IV	TAMIL NADU ARASU CABLE TV CORPORATION LIMITED	119-135
4.1	Introduction	119
4.2	Revamping of the Corporation	120-121
4.3	Organization Structure	121-122
4.4	Cable TV Services	123-127
4.4.1	Cable TV Infrastructure	123-124
4.4.2	Digital Addressable System (DAS)	124
4.4.3	Launch of Digital Cable TV Service	125
4.4.4	Progress of Set-top-Box(STB) Distribution	126

Chapter	Contents	Page No.
4.4.5	Subscription Plans for Digital Cable TV Service	126-127
4.4.6	High Definition (HD) Cable TV service	127
4.5	Arasu e-Sevai centres	127-128
4.6	Permanent Enrolment Centres	128-130
4.7	Internet Services	130-132
4.7.1	Free Public Wi-fi Services	131
4.7.2	Free Broadband Internet to Government Schools	132
4.8	BharatNet	132
4.9	Financial performance of TACTV	133-135
4.9.1	Profit & Loss Status of TACTV	134-135
V	TAMIL VIRTUAL ACADEMY	136-159
5.1	Introduction	136-137
5.2	Vision	137-138
5.3	Activities	138-140
5.3.1	Academic Programmes	138-139
5.3.2	Digital Library	138-139

Chapter	Contents	Page No.
5.3.2.1	Documentation and Archiving of Tamil Art & Cultural activities	139
5.3.3	Tamil Computing	139
5.3.4	Development of Tamil Software	139-140
5.4	Academic Programmes	140-143
5.4.1	Primary Course	140
5.4.2	Certificate (classes 1 to 6)	140-141
5.4.3	Higher Certificate (classes 7 to 12)	141
5.4.4	B.A. (Tamilology) Degree Programme	141-143
5.5	Tamilar Tagavalaatruppadai	144-145
5.6	Visual Thesaurus for Tamil	145-146
5.7	e-Learning Web Portal for Tamil Virtual Academy	146-147
5.8	Creation of Digital Library	147-148
5.9	Digitization and Cataloguing of Palm-leaf Manuscripts	149
5.10	Monthly Lecture Series	150

Chapter	Contents	Page No.
5.11	Tamil Virtual Academy's Outreach Initiatives	150-154
5.11.1	Kanitamil peravai	151-152
5.11.2	Tamil perung kalanjiyam	152
5.11.3	Khan Academy's Educational videos	152-153
5.11.4	Creative Common Initiatives	153-154
5.12	On-going projects	154-158
5.12.1	Tamil Software Development	154-155
5.12.2	Development of New Syllabus	156
5.12.3	New course	156
5.12.4	Mobile Application for Students	156
5.12.5	Tamil text and speech computing tools	157
5.12.6	Sentence Patterns, Structures and Rules in Tamil for Machine Translation	157-158
5.13	Future Plan of Action	158-159

Chapter	Contents	Page No.
5.13.1	Department of Tamil Computing	158-159
VI	ICT ACADEMY OF TAMIL NADU	160-173
6.1	Introduction	160-161
6.2	Activities	162
6.3	Faculty Development Programme (2017 – 18)	162-163
6.4	Skill Development Training Programme (2017 – 18)	163
6.5	Entrepreneurship Development Programme (2017 – 18)	164
6.6	Youth Empowerment (2017 – 18)	165
6.7	Research and Publications (2017 – 18) Digital Object Identifier	165-167
6.8	Digital Empowerment (2017 – 18)	167
6.9	Industry - Institute Interaction (2017-2018)	168

Chapter	Contents	Page No.
6.10	ICT Academy of Tamil Nadu MoU signed (2017-18)	169-170
6.11	Projects completed (2017-18)	171
6.12	Tamil Nadu Government Projects being implemented in 2018-2019	172
6.13	Proposed Trainings for the year 2018-2019	173
VII	TAMIL NADU FIBRENET CORPORATION LIMITED (TANFINET)	174-176

CHAPTER-I

INTRODUCTION

The presence of Information Technology encompassing Digital revolution with adaptive latest and innovative technological tools in all sectors not only acts as constant driver of positive change but also guides both developed and developing countries to achieve the required target in all sectors with rapid speed and accuracy along with creation of large scale data for future use. The Information Technology revolution sweeping across the world triggers equitable growth and provides access to all sections of Society for new tools, practices, resources, services, products, Skills and latest technologies. In the above scenario, Information Technology Sector effectively contributes in terms of larger employment creation, higher contribution to

Gross Domestic Product (GDP), offering speedy services to citizens, making day to day life more comfortable in terms of saving energy and time.

Tamil Nadu is in the forefront of States in India in implementing the latest Information Technology Initiatives and e-Governance Programs of the State by using the highly talented human resources available in the State. The main aim of the Government is to provide Government Services on a speedy and transparent basis to Citizens.

As Digital Technology and Social Mobile Analytics Cloud (SMAC) are the emerging technologies in every sphere of activities, Information Technology Department, Government of Tamil Nadu has taken steps to update and augment available Information Technology infrastructure of

the State to implement the above technologies. Besides, latest advances such as Cloud, Machine Learning, Artificial Intelligence, Robotics, 3D printing, Information Technology Applications in Banking & Financial Service, Fin Tech, Med Tech, Agri Tech, Internet of Things, Electronics System Design and Manufacturing (ESDM) Sector, Animation and Gaming, Business Intelligence Software, Data Analytics, Data Warehousing and Data Centres related investments in Tamil Nadu will be continuously encouraged. By adopting these latest and evergreen technologies in Tamil Nadu, the State will benefit in long run, not only on the economic front but also in implementing the Social, Economic and Welfare Schemes of the State in an efficient, cost-effective and transparent manner to the citizens of the State.

CHAPTER - II

ELECTRONICS CORPORATION OF TAMILNADU LIMITED (ELCOT)

2.1 Introduction

ELCOT was established under the Companies Act 1956 on 21.03.1977.

Promotion of IT/ITES Industries, provision of technical assistance to Government Departments in IT procurement, e-Governance and IT services are the primary activities of ELCOT. Major projects like IT Parks, TNSWAN, TNSDC, DRC, NLDR e-Mail solution, Cloud computing, Start-up Warehouses, Distribution of laptops, Website Creation, Aadhaar Permanent Enrolment Centres have been successfully implemented and maintained by ELCOT.

ELCOT is the optional procurement agency for Government of Tamil Nadu and the Nodal Agency for Major IT projects implemented under funding assistance from Ministry of Electronics and Information Technology (MeitY), Government of India.

Statewise IT/ITES software exports three years:-

(All figures in Crores)

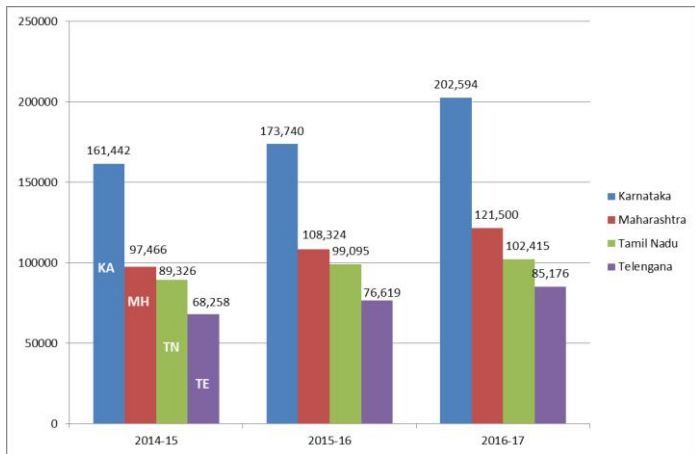


Figure-1 Source:STPI & Ministry of Commerce

Investments made by IT/ITeS companies in ELCOSEZs and Tamil Nadu

(Value in Crores)

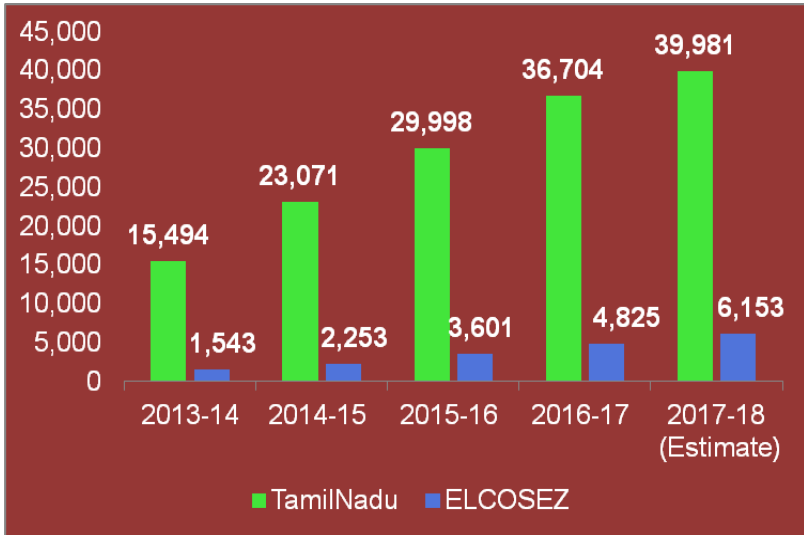


Figure-2 Source:STPI & Ministry of Commerce

Exports made by IT/ITeS companies in ELCOSEZs and Tamil Nadu

(Value in Crores)

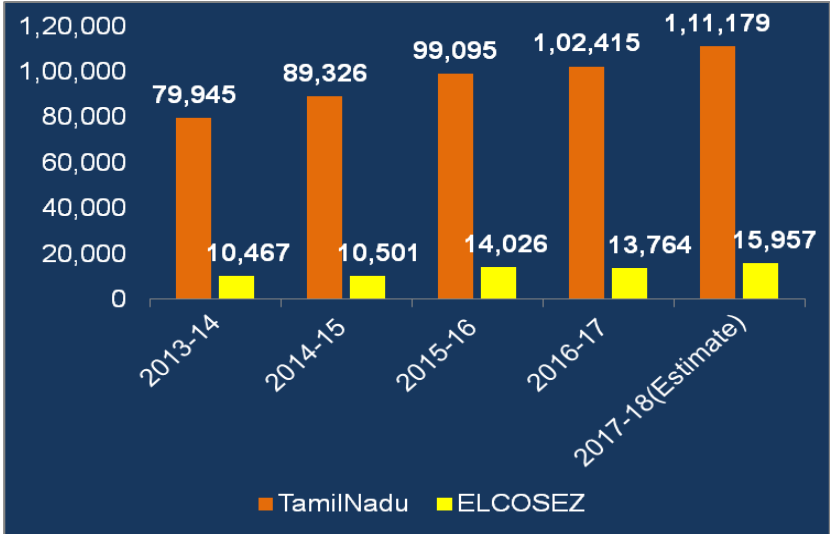


Figure-3 Source :STPI & Ministry of Commerce

Employment by IT/ITeS companies in ELCOSEZs and Tamil Nadu

(Value in Lakhs)

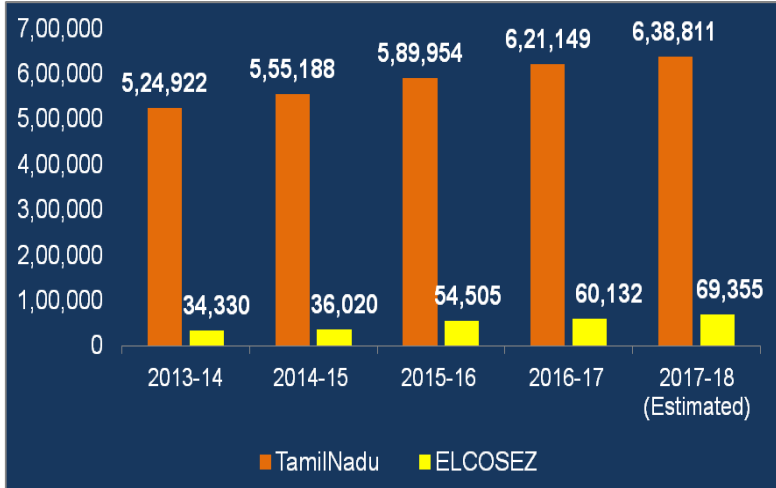


Figure-4 Source: STPI & Ministry of Commerce

2.2 Information Technology ELCOT Special Economic Zones (ELCOSEZs)

ELCOT has created 8 IT/ ITES Special Economic Zones in Chennai, Coimbatore, Madurai (2 places), Tiruchy, Salem, Tirunelveli

and Hosur as per the initiatives of the Government of Tamil Nadu.

The then Hon'ble Chief Minister of Tamil Nadu christened the IT / ITES Special Economic Zones created by ELCOT as 'ELCOSEZ'. These ELCOSEZs act as the Destinations of Choice for attracting IT / ITES investments in Tamil Nadu.

2.2.1 ELCOSEZ – Sholinganallur, Chennai

In Sholinganallur, Chennai, an ELCOSEZ has been created by ELCOT in an extent of 377.08 acres. The total investment made by ELCOT in this ELCOSEZ was ₹195.35 crore which includes the creation of infrastructure works and construction of an administrative building.

In this ELCOSEZ 259 acres of land were allotted to 7 companies on lease basis as per details given below:-

S. No.	Company	Land Allotted (in acres)
1	M/s. Wipro Ltd.	80
2	M/s. HCL	50
3	M/s. Satyam	50
4	M/s. Ford Motors Pvt. Ltd.	28
5	M/s. Cognizant Technologies Solutions Pvt. Ltd.	20
6	M/s. Sutherland Global Services Ltd.	15
7	Tamil Nadu Electricity Board	16

These companies have constructed 95.30 lakh sq.ft. IT building and are in operation with 57,125 employees.

M/s Ford Motor Pvt. Ltd. is constructing their Global Technology and Business Center in 26.06 lakh sq.ft. M/s Wipro is expanding their facility by constructing 9.50 lakh sq.ft. IT building.



Figure-5

2.2.2 ELCOSEZ-Vilankurichi, Coimbatore

In Vilankurichi village, Coimbatore, an ELCOSEZ has been created by ELCOT in 62 acres of land. The total investment made by ELCOT is ₹72.50 crore which includes the creation of infrastructure works and construction of an Administrative Building.

In this ELCOSEZ 19 acres of land were allotted to 2 Companies on lease basis as per details given below:-

S. No	Company	Land Allotted (in acres)
1	M/s. WIPRO Ltd.	9.5
2	M/s. Tidel Park Coimbatore Limited	9.5

These companies have constructed 20.50 lakh sq.ft. IT building and are in operation with 13,500 employees.

M/s WIPRO is further expanding their facility by constructing 1.60 lakh sq.ft. IT building in this ELCOSEZ.



Figure-6

2.2.3 ELCOSEZ-Ilandhaikulam, Madurai

In Ilandhaikulam village, Madurai, an ELCOSEZ has been created by ELCOT in an extent of 28.91 acres. The total investment made by ELCOT in this ELCOSEZ was ₹34.41 crore which includes the creation of infrastructure works and construction of 60,205 sq.ft. IT Building

In this ELCOSEZ 20.89 acres of land were allotted to 5 Companies on lease basis as per details given below:-

S.No	Company	Land Allotted (in acres)
1	M/s. Honeywell Technologies Ltd.	11.25
2	M/s. HCL Info systems Ltd.	6.75
3	M/s. Chella Software Pvt. Ltd.	2.25
4	TNEB	0.58
5	M/s. Rebar Design & Detail Pvt. Ltd.	6000 sq.ft

These companies have constructed 2.30 lakh sq.ft. IT building and are in operation with 3,200 employees.

M/s HCL Info systems Ltd. is further expanding their facility by constructing 3.80 lakh sq.ft. IT building in this ELCOSEZ.

In the IT building 60,205 sq.ft. space has been allotted to 5 companies and functioning with 630 employees as per details given below:-

S. No.	Company	Space Allotted (in Sq .ft.)
1	M/s. Galaxy Infotech	2508
2	M/s. AMBC Technologies Pvt. Ltd.	3277
3	M/s. Sai BPO Services Ltd.	15181
4	M/s Neeyamo Enterprises Solutions Private Ltd.	30103
5	M/s CVIAC Consulting	9136

In this ELCOSEZ 100% of land and building have been allotted by ELCOT.



Figure-7

2.2.4 ELCOSEZ – Vadapalanji, Madurai

In Vadapalanji village, Madurai, an ELCOSEZ has been created by ELCOT in an extent of 245.17 acres. The total investment made by ELCOT in this ELCOSEZ was 66.51 crore which includes the creation of infrastructure works, construction of 72,000 sq.ft. Administrative cum IT Building and the formation of Rail Over Bridge across the ELCOSEZ. The Rail Over Bridge and the infrastructure facilities were inaugurated by the Hon'ble Chief Minister on 04.01.2018.

In this ELCOSEZ, ELCOT has made allotment of 144 acres of land to 7 companies and 25 acres of land in Non-SEZ area to 1 company, on lease basis as per details given below:-

a) SEZ

S.No	Company	Land Allotted (in acres)
1	M/s. HCL	60
2	M/s. Sathyam	50
3	M/s, Chain-Sys. Software Exports Pvt. Ltd.	20
4	M/s. Sutherland Global Services Ltd.	5
5	M/s. Caliber Point	5
6	M/s. Health Plan System (India) Pvt. Ltd.	2
7	M/s. Cogzidel Technologies Pvt. Ltd.	2

b) Non SEZ

S.No	Company	Land Allotted (in acres)
1	M/s. Empire Photovoltaic Systems Pvt. Ltd	25



Figure-8

2.2.5 ELCOSEZ-Navalpattu, Tiruchirapalli

In Navalpattu village, Tiruchy an ELCOSEZ has been created by ELCOT in extent of 147.61 acres, out of which 123.23 acres of land has been accorded SEZ approval. The total investment made by ELCOT in this ELCOSEZ was ₹60.08 crore which includes the creation of infrastructure works and construction of 60,000

sq.ft. Administrative cum IT Building and additional facilities.

In this ELCOSEZ, ELCOT has made allotment of 34 acres of land to 8 companies and 2 acres of land in Non-SEZ area to 1 company, on lease basis as per details given below:-

a) SEZ

S. No	Company	Land Allotted (in acres)
1	M/s. Sutherland Global Services Ltd.	10
2	M/s. WNS Global Services (P) Ltd	5
3	M/s, Zylog Systems Ltd	5
4	M/s. Unlimited Innovations India Pvt. Ltd.	5
5	M/s. Assyst International Pvt. Ltd	3
6	M/s. I Link Multitech Solutions Pvt. Ltd	2
7	M/s. Vdart Technologies	2
8	M/s. Health Plan Systems (India) Pvt. Ltd	2

b) Non SEZ

S.No	Company	Land Allotted (in acres)
1	M/s. HCL Infosystems	2

In the IT building 60,000 sq.ft. space has been allotted to 7 companies on lease basis and operating with 1535 employees as per details given below:-

S.No	Company	Space Allotted (in Sq.ft.)
1	M/s. i Link Systems Pvt. Ltd	6668
2	M/s. Scientific Publishing Company	30250
3	M/s. Vuram Technology Solutions Pvt. Ltd	5976
4	M/s. Vdart Technologies	3643
5	Disaster Recovery Centre	5963
6	M/s. GI Tech Gaming Co.India Pvt. Ltd	4919
7	M/s. VR Della IT Services P.Ltd	2541

In this ELCOSEZ, 100% occupancy has been achieved in IT Space allotment.



Figure-9

2.2.6 ELCOSEZ-Gangaikondan, Tirunelveli

In Gangaikondan village, Tirunelveli an ELCOSEZ has been created by ELCOT in an extent of 500 acres, out of which 290 acres has been accorded SEZ approval by Government of India. The total investment made by ELCOT in this ELCOSEZ was ₹ 55.88 crore which includes the creation of infrastructure works and construction of 56,720 sq.ft. Administrative cum IT Building.

In this ELCOSEZ 112 acres of land were allotted to 3 companies and 25 acres of land allotted in the Non-SEZ area to 1 company, on lease basis as per details given below:-

a) SEZ

S.No	Company	Land Allotted (in acres)
1	M/s. Syntel International Pvt. Ltd.	100
2	M/s Sutherland Global Services Ltd.	10
3	M/s. Deccan I Services	2

b) Non SEZ

S.No	Company	Land Allotted (in acres)
1	M/s. A & D Cosmic Power	25



Figure-10

2.2.7 ELCOSEZ-Jagirammalayam, Salem

In Jagirammalayam village, Salem an ELCOSEZ has been created by ELCOT in an extent of 164.26 acres. The infrastructure works has been created for an extent of 53.33 acres. ELCOT has surrendered 110.93 acres of land to Government in view of non-suitability of land for setting of IT Park. The total investment made by ELCOT in this ELCOSEZ was ₹ 37.58 crore which includes the creation of infrastructure works and construction of 62,000 sq.ft. Administrative cum IT Building.

In this ELCOSEZ, ELCOT has made allotment of 31.62 acres of land to 8 companies on lease basis as per details given below:-

S. No	Company	Land Allotted (in acres)
1.	M/s. DB Professionals	3
2.	M/s. Mahima Technologies Pvt. Ltd	3
3.	M/s. Vee Technologies	9.49
4.	M/s. GTP Infotech Solutions Ltd	2.5
5.	M/s. Senovate Infotech Pvt.Ltd	1.25
6.	M/s. TANTRNSCO Ltd.	7.88
7.	M/s. eMudhra Ltd.	2.5
8.	M/s. Shasta Tek Solutions Pvt. Ltd.	2

One IT company has constructed around 20,000 sq.ft. IT Building and operating with 300 employees. Out of 62,000 sq.ft. the IT building 17,510 sq.ft. space has been allotted to 3 companies as per details given below:-

S.No	Company	Space Allotted (in Sq. ft)
1	M/s. Sennovate Infotech Pvt. Ltd.	3500
2	M/s. Memsys Technologies Pvt. Ltd.	3448
3	M/s. ERP LOGIC (INDIA) Pvt. Ltd.	10562



Figure-11

2.2.8 ELCOSEZ-Viswanathapuram, Hosur

In Viswanathapuram village, Hosur, an ELCOSEZ has been created by ELCOT in an extent of 174.47 acres. The total investment made by ELCOT in this ELCOSEZ was ₹41.75 crore which includes the creation of common

infrastructure facility works and construction of 62,000 sq.ft. IT Building.

In this ELCOSEZ, ELCOT has made allotment of 15 acres of land to 3 companies on lease basis as per details given below:-

S. No.	Company	Land Allotted (in acres)
1	M/s. Okaya Infocom Pvt. Ltd	10
2	M/s. CRM IT Solutions Pvt. Ltd	3
3	M/s. CRM Infotech India Pvt. Ltd	2



Figure-12

2.3 START-UP WAREHOUSE, CHENNAI & COIMBATORE

ELCOT has established a 90 seater Start-up Warehouse at Tidel Park Limited, Chennai to showcase the IT/ITES presence to leverage the Human Resource potential of our State.

Now, 17 companies are in operation and 13 companies have incubated successfully from this Warehouse.



Figure-13

As announced by the Hon'ble Chief Minister, a 50 Seater Capacity "Warehouse for Startups" will be established in Tidel Park Coimbatore Ltd. in a rental space with an investment of

₹2.07 crore. In this “Warehouse for Startups”, NASSCOM will be the Knowledge Partner.

2.4 IT TOWER at ELCOSEZ–Sholinganallur

Based on the announcement of the Hon’ble Chief Minister of Tamil Nadu, Government in G.O. No.18, Information Technology Department dated 9.10.2017 issued administrative sanction order for the construction of an IT Building measuring 2.33 lakh sq.ft. located at ELCOSEZ, Sholinganallur at an estimated cost of ₹ 84.42 crore. In this regard, a detailed estimate and tender document are under preparation and tender will be floated shortly.

2.5 RURAL BUSINESS PROCESS OUT SOURCING (RBPO) CENTRES IN TAMIL NADU

Enhanced Rural BPO Policy 2012 was announced on 01.06.2012. The policy aims to

attract more number of entrepreneurs to setup their BPO operations in rural areas and empowerment of villages in Tamil Nadu. It gives an opportunity to provide innovative linkages between urban and rural growth and to boost the rural economy.

One of the key aspects is harnessing the untapped potential of educated youth in rural areas, so as to prevent migration of rural youth to bigger cities and provide rural poor with opportunities. This policy stimulates an ecosystem in rural Tamil Nadu to uplift the rural population.

This policy is location specific and encourages BPO Companies/ entrepreneurs to setup their Rural BPO units in their own/rented premises in Village Panchayat(s). They may also setup their facility in Education institutions which situated in village Panchayat areas.

The financial assistance such as capital subsidy of 20% would be provided on capital investments such as cost of hardware, equipment etc., subject to a maximum amount of ₹ 5.00 lakhs and training subsidy of maximum amount of ₹ 2.25 lakhs to Each Rural BPO centre engaging minimum 50 persons of employment.

M/s Sutherland Global Services has setup their Rural BPO facility in the Shivani College Of Engineering & Technology Campus, Tiruchy based on the facilitation and coordination by ELCOT. The Rural BPO Centre was opened by the Hon'ble Chief Minister of Tamil Nadu on 03.06.2013 at Navalur – Kuttapattu Village, Srirangam in Tiruchirappalli District.

2.6 Procurement

ELCOT is the optional Procurement Agency for the Government Departments to procure IT products and services. ELCOT provides

procurement services in IT hardware viz servers, desktop computers, laptop computers, printers, scanners, UPS, projectors, smart phones, IT consumables and all the network devices as cost effective solution to various departments.

ELCOT is also into latest technological solutions such as Internet Protocol (IP) camera surveillance system, vehicle monitoring system, telemedicine equipments, etc.,

ELCOT services are offered to the major Departments of Revenue & Disaster Management, Survey & Settlement, Economics & Statistics, Transport, Rural Development & Panchayat Raj, Forest, Health & Family Welfare, Agriculture, School Education, Higher Education, Commercial Tax & Registration, Pollution Control Board, Greater Chennai Corporation, Tamil Nadu Arasu Cable TV Corporation Ltd. (TACTV), Madras High Court and all other Courts in Tamil Nadu, TNeGA, etc.

ELCOT also procures equipments (such as Aadhar enabled electronic attendance system and Bio-metric devices) for the e-Governance Schemes of Government through Rate Contract tenders.

2.7 SCHEME FOR DISTRIBUTION OF LAPTOPS

To enable the students studying in Government and Government-aided Schools and Colleges in the State to acquire better skills, the Government of Tamil Nadu is implementing the scheme of distribution of laptop computers to the students. Hon'ble Chief Minister of Tamil Nadu had inaugurated the Scheme on 15.09.2011.

S. No	Academic Year	Number of laptop Computers Supplied
1.	2011-12	8,98,866
2.	2012-13	7,56,000

3.	2013-14	5,65,000
4.	2014-15	4,96,999
5.	2015-16	5,19,029
6.	2016-17	5,58,238

G.O was issued for the Academic year 2017-2018 of Phase VII, and including the students registered for Competitive examinations, 42,473 numbers of laptop computers were procured and supplied. For the procurement of 4,73,000 Numbers of laptop computers, ICB Tender would be floated in June 2018 and expected that supplies would commence from September 2018 onwards.

2.8 e-Governance

e-Governance is a key catalyst in narrowing the digital divide and augmenting IT adoption in Government. ELCOT provides total IT solution and support to the Government Departments for

improving their intra/inter departmental workflow, thus effecting significant reduction in processing time to give better services to the citizens. In order to enable seamless service delivery by the department, ELCOT co-ordinates from the inception of the project and finalizing the System Requirement Study (SRS) till the successful implementation of the projects. Facility Management Services (FMS) are also offered to the departments.

2.8.1 e-Governance Projects

S. No	Project Name & Department Name	Project Cost (In Rupees) & Purpose
1	Online Lift License Management System and Tax Collection System for power utilized through Generator Tamil Nadu Electrical Inspectorate	₹13,87,000 This portal enables Online License for erection of Lift and Online Tax processing.
2	Integrated Online Portal (Seed & Organic	₹11,40,000 This portal enables

	Certification) Department of Seed Certification & Organic Certification Coimbatore	to track the Seed production of various crops (sowing report details including type of crop, area cultivated, when sowed and source of seed), Inspection of fields and seeds produced, classifying and certifying the seeds produced
3	Online Farm Management System Directorate of Horticulture	₹ 7,47,000 This system enables tracking of various farms activities such as production of seedlings and sales of produced product across 50 farms and 18 parks in the state.
4	Web Portal Directorate of Industrial Safety and Health (DISH)	₹ 27,88,075 Plan approval & Issuing of License for new factories and Renewal of license of the existing factories.
5	Electronic Solution for "Automated Building Plan Scrutiny and Approval System"	₹49,20,016 e-Development Control Regulations (e-DCR) is a unique

	Directorate of Town and Country Planning (DTCP)	and innovative solution for Automation of Building Plan Scrutiny System and approval of Building Plan.
6	Web Based Virtual Tour integrated with GIS Archaeology Department	₹24,44,024 Virtual Tour of 75 Monuments such as Temples, Places, Forts, Inscription, Paintings and Tombs across TamilNadu integrated with GIS facilities and with Archaeology website.

2.8.2 Websites Created for the Government Departments

- Conservation Authority of Pallikaranai Marshland
- Tamil Nadu Forest Department
- Tamil Nadu Horticulture Department
- Finance (BC) Department
- Tamil Nadu Infrastructure Development Board

- Adi-Draavidar Welfare Board
- Archaeology Department
- Government Museum

2.8.3 Permanent Enrolment Centres:

ELCOT is one of the empanelled Agency by Unique Identification of Authority of India (UIDAI) to execute Aadhaar Enrolment activities. ELCOT currently has 217 Permanent Enrolment centres as follows:

- District Collectorates – 32
- Municipal Corporation Headquarters – 11
- Municipal Zonal offices – 45
- Municipalities – 124
- Town Panchayats – 3
- Revenue Divisional Office – 2

The centres are operational w.e.f 03.10.2016 and presently providing the following services to the citizens:

- Aadhaar Enrolment
- Mandatory Biometric Update for children attaining the age of 5 years and 15 years
- Other Biometric Update
- Demographic Update (Any Type / Any Channel)
- Aadhaar search using eKYC / Find Aadhaar / any other tool and B/W print out on A4 sheet
- Lost Enrolment Identity (EID)

About 6000 to 8000 citizens benefit from these centres everyday through Enrolment Client Multi Protocol (ECMP) and Update Client Lite (UCL) software.

The Transaction count as on 31.03.2018 is as follows:

S.No	Description	Transaction Count (In Nos.)
1	Aadhaar Enrolment (Online & Offline)	12,11,793
2	Aadhaar Demographic Updation	9,61,033
	TOTAL	21,72,826

2.8.4 Open Government Data

Hon'ble Minister for Information Technology has made an Announcement on the floor of Legislative Assembly during the Budget Session 2017-18 that 'Open Government Data' (OGD) will be implemented in Government Departments for sharing data pertaining to Government Welfare Schemes and Conducting Hackathons using this data.

The Government has accorded Administrative sanction of ₹2.12 crore for a period of two years

vide G.O.(Ms).No.21,Information Technology Department, dated 24.11.2017 and sanctioned a sum of ₹ 1.06 crore for first year operations.

The OGD portal is intended for publishing of datasets, documents, services, tools and applications for public use. The State instance of OGD portal has been created and operational at the URL <https://tn.data.gov.in/>.

A Sensitization Workshop was conducted on 11.10.2017 for 118 Departments and 240 Government officials attended the workshop at Chennai. As on 20.03.2018, 64 Chief Data Officers (CDOs) from 64 departments have registered. 486 different datasets have been ported into the TN OGD portal by 17 State Departments. Regular meetings are conducted with the Government departments to collect the readily available sharable data.

2.8.5 Cloud and Web Hosting Services for Students and Young entrepreneurs

Government of Tamil Nadu has implemented the Scheme to offer Cloud based services such as web hosting on a self-service mode.

The Cloud Computing promises resource sharing in a “pure plug and play” model. The two key advantages of this model are:

1. Ease of use
 2. Cost effectiveness
- This Project offers Infrastructure as a Service (IaaS) which includes Server and Storage for computational needs.
 - The Open Source Operating System platform like BOSS, Ubuntu and CentOS are provided.
 - This Cloud environment has been created using open source cloud suite Meghdoot

Openstack. The students would deploy their own software in the cloud space.

- The services are accessible through the URL: www.tnstudentcloud.elcot.in. So far 100 Students have registered and utilising the services from 01.03.2018.

2.8.6 eSmart Class room

eSmart Class Room aims to introduce a paradigm shift in the current teaching / training / learning environment in schools. This enables the teachers to teach through advanced teaching aids with Multimedia content (Tamil & English) for effective learning.

eSmart Class Room (e-SCR) project involves supply, installation and commissioning of Interactive White Board, Hardware, Software, Multimedia content, Training the Teachers and Maintenance of the Hardware for 3 Years and more in various High Schools/Higher Secondary

Schools/Residential School and upgradation/ modification of Multimedia Content as per the syllabus prescribed by the Government from time to time. ELCOT has so far implemented e-SCR project in 231 schools in Tamil Nadu for standards VI to XII. This project has successfully bridged the digital divide.

Advantages to the Students

- New and Innovative learning environment.
- Working with latest technologies in Information Technology (touch screen and touch board).
- Work at their own pace.
- Improve their subject knowledge in depth.
- Easily understand the syllabus with the help of 3D animated pictures and images.

- Improve the performance and the IT Skills of the students.

Advantages to the Teachers

- Adapting to different teaching styles, problem solving skills and familiarization on modern technology.
- Spontaneous conducting of quiz and planned tests with images and multimedia content.
- Helping the students to learn at their own pace.
- Teachers can share lesson plan, various content that are appropriate, assign lessons, tests and instantly prepare reports.

2.8.7 Training

ELCOT plays an important role in supporting the training needs of the Government since June 2007. Also, established adequate infrastructure facilities at ELCOT, Perungudi, Chennai with 75 seats and 15 seats at District level.

Comprehensive Training on various Operating Systems such as Windows, Linux (Suse Linux, BOSS etc.,) and Application Software Training through the "Train the Trainer programme". On successful completion of the training, certificate is issued to the participants. Training Infrastructure facilities are also provided to the departments for specific Application Software training. So far 1,17,726 participants have benefited from various Government departments across the State.



Training to Town and Country Planning
Department at ELCOT Training Centre, Madurai
District

(Figure-16)

2.9 Information Technology Infrastructure

Information Technology Infrastructure is the foundation/framework to support and maintain the IT services. It is the combination of all hardware, software, network, applications and database. In the increasingly IT enabled scenario, most of the Government Departments

are maintaining and offering their services through IT enabled processes.

To meet the requirement of various Government Departments' operations on a digital platform, Government of Tamil Nadu has well established the connectivity to ensure seamless online services.

The following IT Infrastructure have been established and maintained by ELCOT.

Name of the Project	O&M commencement date	Project Value
Tamil Nadu State Wide Area Network (TNSWAN) <ul style="list-style-type: none">• TNSWAN – Vertical• TNSWAN – Horizontal Connectivity• TNSWAN - Redundant Connectivity	01.12.2007	As per table in section 2.9.1.1

<p>Tamil Nadu State Data Centre (TNSDC)</p> <ul style="list-style-type: none"> • TNSDC- 1 (40 racks facility @ 1300 Sq.ft.) • TNSDC - 1 Extension at BSNL Data Centre (25 racks) • TNSDC - 1 Expansion at Ground Floor (23 racks facility @ 700 sq.ft.) • TNSDC - 2 (195 racks proposed @ new building) (a progressive model) 	<p>01.08.2011</p> <p>09.07.2015</p> <p>01.03.2016</p> <p>In progress</p>	<p>Term I (2011-2017) ₹ 60.80 Cr.</p> <p>Term II (2017-2022) ₹ 77.23 Cr.</p> <p>₹ 40 Cr.</p>
<p>Disaster Recovery Centre (DRC) – Trichy</p> <ul style="list-style-type: none"> • Full-fledged Disaster Recovery Centre (50 racks scalable to 100 racks facility @ 2750 sq.ft.) 	<p>09.02.2018</p>	<p>₹ 59.85 Cr.</p>
<p>TNSDC allied projects</p> <ul style="list-style-type: none"> • DR enablement at NDC, Pune (10 racks) • Cloud set up at TNSDC (22 servers) • Near Line Disaster Recovery Centre at BSNL DC, Chennai • e-Mail Solution to TN Government Departments 	<p>12.05.2015</p> <p>01.03.2016</p> <p>20.06.2016</p> <p>15.09.2015</p>	<p>--</p> <p>₹11.39 Cr.</p> <p>₹ 5.0 Cr.</p> <p>₹78.25 lakhs</p>

2.9.1 TAMIL NADU STATE WIDE AREA NETWORK (TNSWAN)

2.9.1.1 Background

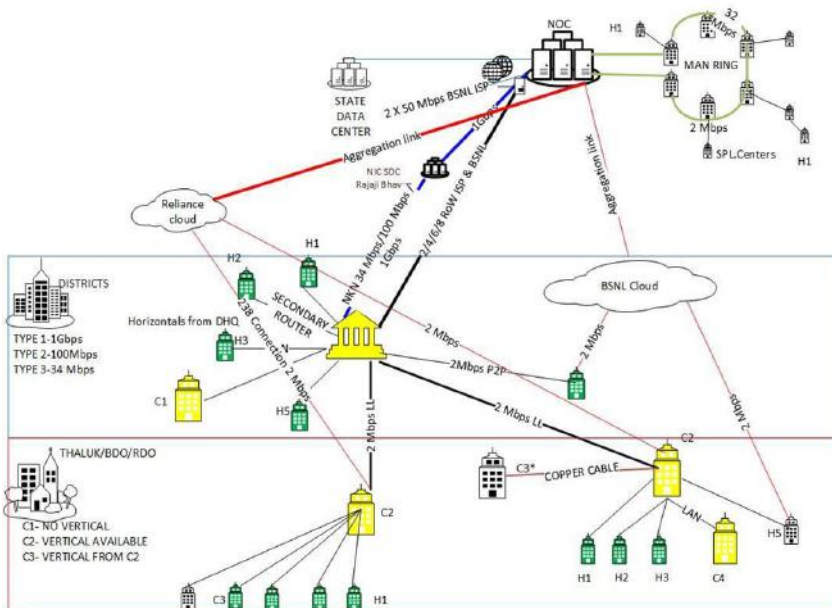
The Government of India approved the Scheme for establishing Tamil Nadu State Wide Area Network (TNSWAN) on 31.03.2005. Under this Scheme, technical and financial assistance were provided to the States/Union Territories (UTs) for establishing SWANs to connect all the State/UT Headquarters up to the Block level via District, in a vertical hierarchical structure. Tamil Nadu State Wide Area Network (TNSWAN) is one among the e-Governance infrastructure created under National e-Governance Action Plan (NeGAP). TNSWAN is a shared scheme between the State and the Central Governments.

TNSWAN commenced its operations on 01.12.2007. TNSWAN has successfully entered into the 11th year operations.

Description	Period	Budget outlay (in crore)	
Phase - I (5 years)	01.12.2007 to 30.11.2012	₹ 140.25	GoI - ₹ 55.73 State- ₹ 84.52
Interim period (9 months)	01.12.2012 to 08.09.2013	₹ 16.42	GoI - ₹ 7.51 State - ₹ 8.91
Phase-II (3 years)	09.09.2013 to 08.09.2016	₹ 74.69	State- ₹ 74.69
Interim period	From 09.09.2016		In progress

2.9.1.2 TNSWAN Phase-III

A Detailed Project Report on TNSWAN Phase-3 operations with a complete revamp on both IT and non-IT components at a revised value of ₹ 443.64 Crore has been prepared and submitted to the Government for Administrative approval and sanction of fund.



Architecture of TNSWAN (Figure-17)

2.9.1.3 Purpose of TNSWAN

- To provide a reliable and secure connectivity to Government departments up to the Block Office / Taluk level for accessing the various e-Governance applications hosted at TNSDC.

- To facilitate sharing of information between various Government Departments for prompt delivery of Government services.
- To provide voice connectivity to all offices through Voice over Internet Protocol (VoIP) phone.
- To enable Video Conferencing facility across the District Headquarters, Secretariat and other important centres, thereby reducing the travel time and expenditure involved in face-to-face meetings.
- To provide internet access to the users of the Network.

2.9.1.4 Services provided through TNSWAN

- Secured Intranet / Internet Access
- Closed User Group Voice Services
- Video Conferencing / Streaming Services

2.9.1.5 TNSWAN Vertical Connectivity

The core network of TNSWAN comprises of 821 PoPs (Points of Presence). State Head Quarters PoP is the hub for the other PoPs in the Network. The Network Operation Centre (NOC) is located at the SHQ PoP. The other PoPs are located at the Secretariat, Raj Bhavan, Office of Director General of Police, Office of Commissioner of Police, Corporation of Greater Chennai, Government Complexes at Chennai such as DPI, DMS, Ezhilagam, Panagal Building and Kuralagam, District Collectorates, Revenue Divisional Offices, Taluk Offices and Block Development Offices.



Network Operation Centre of TNSWAN

(Figure-18)



Network Room of TNSWAN (Figure-19)

2.9.1.6 Integration of TNSWAN and NKN (National Knowledge Network) at DHQ level

As per the guidelines of Ministry of Electronics and Information Technology (MeitY, GoI) TNSWAN and NKN have been integrated at DHQ level. Due to this integration, bandwidth at the DHQ has increased to 34 Mbps /100 Mbps /1 Gbps based on the requirement.

2.9.1.7 Horizontal Connectivity

Provisioning of connectivity from TNSWAN PoPs to various Government Departments is referred to as Horizontal connectivity. Intranet facility to roll out departmental applications that are hosted at TNSDC and other services like voice, data, internet and video conferencing can be availed through this connectivity. Currently, more than 5000 offices of various Government Departments have been connected to this network through Leased Line (LL) / Local Area Network (LAN).

Some of the departments connected to TNSWAN are Commercial Taxes Department, Registration Department, Tamil Nadu Health System Project (TNHSP), Treasuries and Accounts Department, Tamil Nadu Water Supply and Drainage Board (TWAD), Public Works Department (PWD), Commissionerate of Employment and Training etc.,

2.9.1.8 Redundant connectivity to TNSWAN (Vertical)

At District Headquarters (Tier-1 PoP) bandwidth is being provided by NKN and BSNL. Taking into account the necessity of providing uninterrupted connectivity to the end users of TNSWAN at Tier-2 PoPs (Taluk/RDO/BDO), a redundant connectivity of 2 Mbps MPLS-VPN (1:1) has been provided at 210 locations where there are more number of horizontal connections.

2.9.2 National Knowledge Network (NKN)

National Knowledge Network (NKN) is a State of the Art, Multi Giga Bit Network aimed at connecting all universities, colleges and research establishments across the country. Both TNSWAN and TNSDC have been provided with 1 Gbps speed NKN connectivity enabling the user

Departments to access the applications hosted at the national level.

2.9.3 Other bandwidth services

Internet Leased line connectivity, MPLS and VPNoBB are being provided to various Government Departments

2.9.4 TAMIL NADU STATE DATA CENTRE (TNSDC)

Tamil Nadu State Data Centre (TNSDC) facilitates consolidated hosting of departmental applications to provide efficient delivery of e-Governance services of the State. These services are extended to Government agencies, Citizens and Business through connectivity infrastructure such as Tamil Nadu State Wide Area Network (TNSWAN).

TNSDC enables the State Government Departments to host their applications, services and servers on a common, redundant, secured

and controlled infrastructure aiming at ease of integration and efficient management.

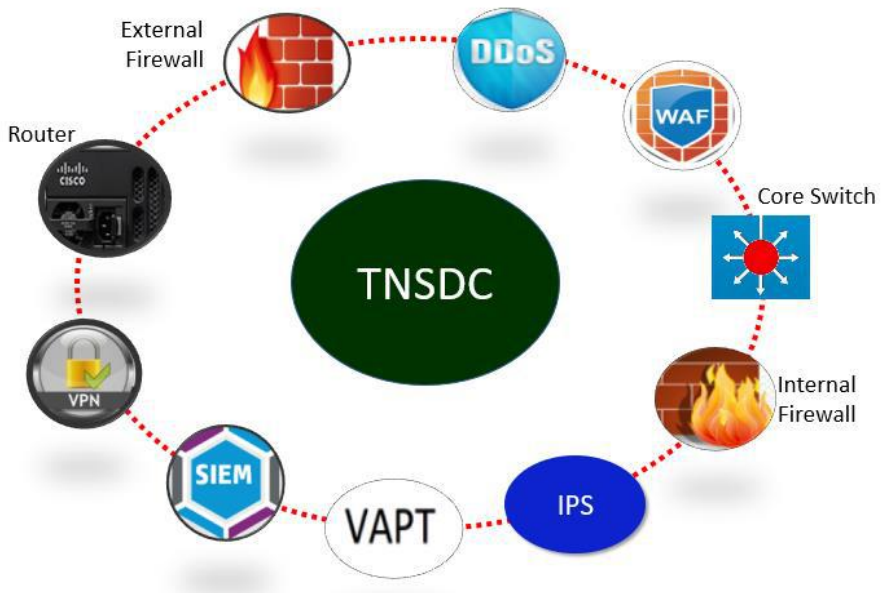
2.9.4.1 Tamil Nadu State Data Centre – I

Tamil Nadu State Data Centre – I is a shared scheme established under National e-Governance Action Plan (NeGAP). TNSDC commenced its operations on 01.08.2011. TNSDC is the first ISO certified State Data Centre in the country (First Certification on 21.02.2012). Further it has been re-certified in February 2018.

The 'Term 1' operations of TNSDC was successfully completed on 31.07.2016. On completion of the Interim period operations (01.08.2016 to 31.10.2017), the 'Term 2' operations commenced on 01.11.2017. The TNSDC is now in its 7th successful year of operations.

2.9.4.2 Security Architecture of TNSDC

High level of Security Architecture Framework has been implemented at TNSDC to ensure that all the government applications and data are well protected.



Security Tools at TNSDC (Figure-20)

As on date, 124 applications of more than 50 departments have been hosted at TNSDC on Co-location/ Co-hosting/ Cloud hosting model.

Period	Total Applications	Cloud Hosted
2011	4	
2012	10	
2013	14	1
2014	30	2
2015	75	5
2016	98	16
2017	112	25
2018	124	28

2.9.4.3 Salient Features of TNSDC

- TNSDC architecture design conforms to Tier – II standard and has been established at ELCOT, Perungudi Complex.

- State owned full-fledged Disaster Recovery facility through Disaster Recovery Centre at Tiruchirapalli. This facility can also be utilised for co-location Data Centre services.
- Multi-tier security implementation with Firewall and Intrusion Prevention System.
- TNSDC is secured with **SIEM** (Security Information and Event Management) tools, Vulnerability Assessment (VA) and Penetration Testing (PT) Tools.
- Enhanced Security features like Web Application Firewall (WAF), Distributed Denial of Services (DDoS)

2.9.4.4 Tamil Nadu State Data Centre – II

The TNSDC-1 is serving the facilitating prerequisites of different Government Departments and has achieved 100% of its most extreme limit in respect of its infrastructure.

Subsequently, the TNSDC - 2 is being executed at a project outlay of ₹ 40 crore. Construction of building has been completed. Selection of Data Centre Operator for supply, commissioning, operation and management of the Data Centre is in progress.



TNSDC-II (Figure-21)

2.9.5 TAMIL NADU DISASTER RECOVERY CENTRE (TNDRC)

2.9.5.1 National Data Centre (NDC) - PUNE

National Data Centre (NDC)-Pune has been enabled as the Disaster Recovery (DR) facility for TNSDC and is now operational. TNSDC is mapped with NDC-Pune through NKN connectivity under the National Disaster Recovery Scheme. DR facilities for Crime and Criminal Tracking Network & Systems (CCTNS), State Health Data Resource Centre (SHDRC) of Health and Family Welfare Department, Inspector General of Registrations - TNREGINET, State Residents Data Hub (SRDH) and e-District of TNeGA have been implemented at NDC - Pune.

2.9.5.2 Tamil Nadu Disaster Recovery Centre (TNDRC)

In order to have a Data Disaster Recovery Centre of its own in a different seismic zone,

Tamil Nadu Disaster Recovery has been established at Tiruchirapalli to ensure business continuity of various critical e-Governance applications hosted at Tamil Nadu State Data Centre. This centre ensures continuity of services during risks pertaining to natural disasters.

Tamil Nadu is the first State to build its own exclusive full-fledged Disaster Recovery Centre. TNDRC was inaugurated by the Hon'ble Chief Minister of Tamil Nadu on 11.10.2017 at an estimated cost of ₹ 59.85 crore with funding assistance from State Government.

2.9.5.2.1 Salient Features of TNDRC

- Envisages to have a mirror image of the applications / data hosted in TNSDC.
- Designed, built and maintained as per Tier III standards.

- Reliable, robust and secured infrastructure for e-Delivery of services on a 24 X 7 basis in the event of disaster at TNSDC.
- Established in a different seismic zone to protect critical data of TNSDC by storing the data at a remote site.



Inauguration of TNDRC by Hon'ble CM

(Figure-22)

2.9.5.3 Near Line Disaster Recovery Centre (NLDRC)

The synchronous replication requirements of the Departments for Near Line Disaster Recovery is addressed by utilizing the IT resources at

BSNL Data Centre through a Memorandum of Understanding (MoU) entered with BSNL. Common IT Infrastructure including connectivity from TNSDC for providing NLDRC services have been created by ELCOT and the requirements of the Departments are being addressed on case to case basis on receipt of demands from the Departments.

2.9.6 Cloud at TNSDC (TN CLOUD)

Cloud Computing, an Information Technology paradigm that enables ubiquitous access to shared pools of configurable system resources and higher-level services for rapidly provisioning e-Governance applications with minimal management has been established at Tamil Nadu State Data Centre at a project value of ₹ 11.39 crore. The Cloud service is operational w.e.f. 09.09.2016. As on date, 28 applications are hosted in this cloud environment.

2.9.7 Server Farm

Server Farm, a testing environment with common testing facilities like Load Balancer, Antivirus, Firewall, VAPT tools etc., has been established at TNSDC to facilitate the Departments for hosting their applications at TNSDC.

2.9.8 e-Mail Solution

e-Mail Solution, an essential component of e-Enabling the Government functioning has been established under the control of the State Government and is in operation with effect from 18.09.2015 under the domain "tn.gov.in".

2.10 Financial Performance

The land Lease Deposits received from IT Companies for 99 years' lease of lands in the Special Economic Zones developed by Electronics Corporation of Tamil Nadu Limited

are treated as annual income at the following rates:

1. First Year - 15%
2. Second Year - Nil
3. Third Year - Nil
4. Fourth Year to 17th Year - 5%
5. Balance 15% is refunded to the IT Companies upon completion of the Lease Period.

The Financial Performance of ELCOT from the year 2012-13 to 2016-17 and 2017-18 (unaudited) is tabulated below:-

(Rupees in Lakh)						
	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18 (Un-audited)
Income						
Sales	837.43	853.17	891.51	930.82	863.16	984.41
Services	621.49	907.22	1432.75	842.52	549.71	1209.19
Others	2897.36	3400.54	4155.64	10157.63	5858.25	5712.34

Total Income	4356.28	5160.93	6479.90	11930.97	7271.12	7905.94
Expenditure						
Administration	1326.47	1508.90	1686.75	1712.48	1713.59	1934.98
Depreciation	241.86	326.68	409.92	552.27	553.30	553.30
Finance Cost (Interest on Govt. Advances)	809.45	1111.16	1134.52	1034.55	953.44	853.44
Others	919.58	550.28	625.65	1107.69	1075.44	1321.98
Total Expenditure	3297.36	3497.02	3856.84	4406.99	4295.77	4663.70
Net Profit	1058.92	1663.91	2623.06	7523.98	2975.35	3242.24
Income Tax	294.04	468.79	701.72	1616.49	923.66	869.87
Amounts paid to Govt.						
Interest/Nomi nation Charges	796.91	1109.29	1132.65	1032.69	951.58	*
Dividend	0.00	777.92	777.92	1772.24	777.92	**
Total Amount paid to Govt.	796.91	1887.21	1910.57	2804.93	1729.50	-
<p>* Interest on Government advances will be remitted on receipt of Government orders fixing the quantum of interest. ** Dividend will be declared after the finalization of Accounts at the Annual General Meeting.</p>						

CHAPTER-III

COMMISSIONERATE OF e-GOVERNANCE AND TAMIL NADU e-GOVERNANCE AGENCY

3.1 Introduction

The Commissionerate of e-Governance has been established for promoting e-Governance initiatives across the State, reaching down to the remotest villages with reliable access over the internet and other facilities through ICT tools. The objective is to deliver the public services at the doorsteps of the citizens, as articulated in the Vision Statement 2023. It also functions along with Tamil Nadu e-Governance Agency (TNeGA) with the objective of playing an advisory role to State Government in e-Governance initiatives and implementing ICT projects across the State.

Tamil Nadu e-Governance Agency (TNeGA) is implementing various e-Governance projects with the objective of providing an efficient and transparent Governance system to the common man, wherein, his day to day life is made easier with easy access to services rendered by Government Departments.

3.2 Institutional Framework

3.2.1 State Apex Committee

In order to promote e-Governance initiatives in the State in a holistic manner, various policy initiatives and Mission Mode Projects of National e-Governance Plan (NeGP) have taken up to provide e-Governance.

An **Apex committee** headed by the Chief Secretary has been formed to oversee the implementation of e-Governance projects in the State and to provide policy directions to Government Departments and to ensure Intra

and Inter Departmental co-ordination. It is supported by **State e-Governance Group (SEG)** for providing standardization and consistency through Programme Management.

3.2.2 Tamil Nadu e-Governance Agency (TNeGA)

The Tamil Nadu e-Governance Agency is an autonomous Society registered under the Tamil Nadu Societies Registration Act 1975. The Governing Board of Tamil Nadu e-Governance Agency (TNeGA) under the Chairmanship of Secretary to Government, Information Technology Department includes Secretaries of 11 Mission Mode Departments as members, the Chief Executive Officer, TNeGA as Member Secretary and the State Informatics Officer, National Informatics Centre (NIC), Chennai as Chief Technical Officer.

3.3 Organizational structure and Information Technology (IT) Cadre

In order to provide citizen centric services through digital mode, Government Departments are implementing various e-Governance projects by using Information and Communication Technology (ICT). Hence, it is essential to strengthen the organization to guide, standardize and implement e-Governance projects in an integrated secured IT environment. Accordingly, an IT Cadre has been formed with 98 posts. Action is being taken to fill up the posts of 60 Asst System Analysts / Asst. System Engineers, through Tamil Nadu Public Service Commission (TNPSC)

The following charts depicts the Organizational structure of the Commissionerate of e-Governance / Tamil Nadu e-Governance Agency:

Commissionerate of e-Governance

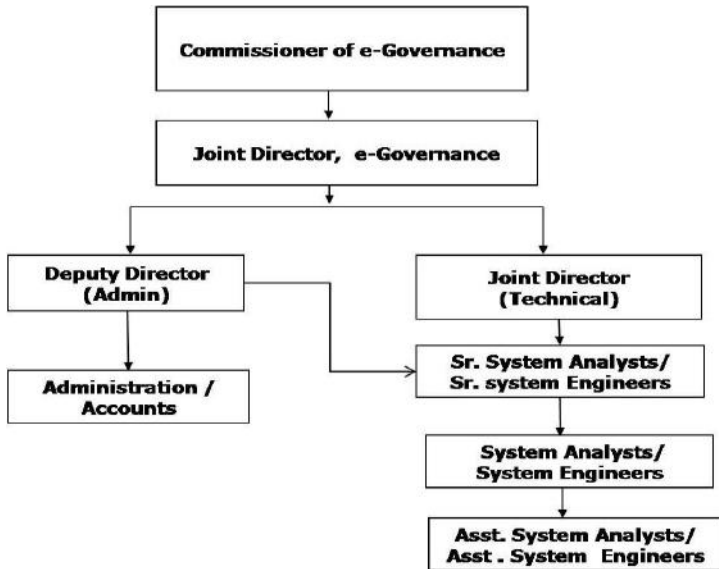


Figure-23

Tamil Nadu e-Governance Agency (TNeGA)

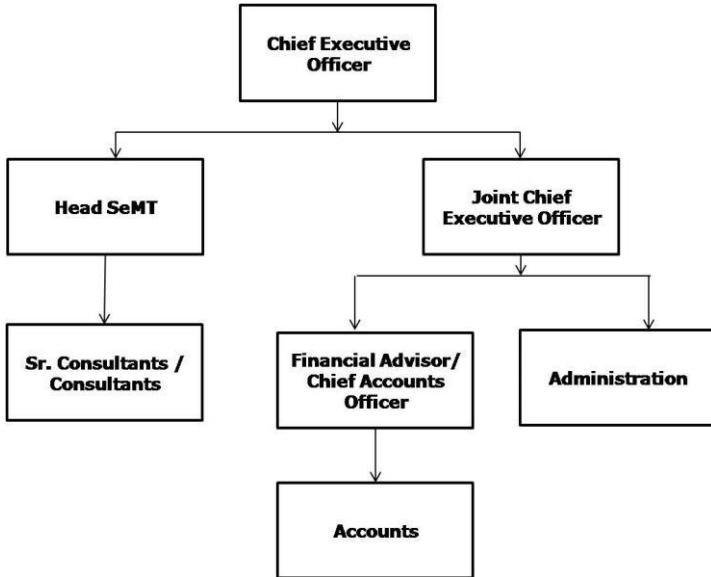


Figure-24

3.4 State e- Mission Team (SeMT)

State e-Mission Team (SeMT) has been established as part of Capacity Building initiative of National e-Governance Plan (NeGP) to provide e-Governance expertise to State Governments. The SeMT team is a group of IT Consultants in

the areas of Programme Management, Technology Management, Financial Management and Change Management. The team would be responsible for providing directions, standardization and consistency through Programme Management for the e-Governance initiatives in the State. The SeMT Consultants provide advice to the State Government Departments and help them in creation of a Department level ICT Roadmap and awareness.

3.5 District e-Governance Society (DeGS)

District e-Governance Societies have been formed in all Districts headed by the District Collector, except in Chennai, where the Commissioner, Corporation of Chennai is the Head. The DeGs facilitates the implementation and augmentation of the State e-Governance initiatives at the District level. The District level officials of all service delivery Departments are the members of this Society. Initially, a sum of

₹10 lakh was provided by the Government as seed money assistance to each DeGS and to ensure the self sustenance of the DeGS, a revenue sharing model has been designed and implemented.

3.6 Projects, Programmes and Schemes

3.6.1 e-District Programme

e-District project has been implemented in our State under National e-Governance Plan (NeGP). It is one of the Mission Mode Projects (MMP) in the State. The main objective of the e-District project is to provide the Citizen Centric Services online through e-Sevai Centres.

Government of India, identified Tamil Nadu as one of the Pilot State for the implementation of e-District project. Initially, this project was implemented in Scholarship schemes of BC/MBC/DNC Welfare Department and AD & TW

Department, where the software application was already developed.

Presently 209 services are being delivered through e-District, e-Sevai and APNA CSC Portals to the citizen.

List of services offered:

Department	Services Name
Revenue and Disaster Management Department (No. of services -34)	Income Certificate
	Nativity Certificate/Residence Certificate
	Community Certificate
	No Graduate Certificate
	Deserted Woman Certificate
	Print out of Birth Certificate for Revenue Villages
	Print out of Death Certificate for Revenue Villages
	Family Migration Certificate
	Unemployment Certificate
	Widow Certificate
	Agricultural Income Certificate

	Certificate for Loss of School Records
	Two Female Child Certificate or no Male Child Certificate
	Unmarried Certificate
	Inter-caste Marriage Certificate
	Legal Heir Certificate
	Solvency Certificate
	License under Pawn Broker's Act
	Money Lender's License
	Other Backward Class (OBC) Certificate
	Small / Marginal Farmer Certificate
	Indira Gandhi National Old Age Pension Scheme
	Indira Gandhi National Widow Pension Scheme
	Indira Gandhi National Disability Pension Scheme
	Physically Handicapped Pension Scheme
	Destitute Deserted Wives Pension Scheme
	Unmarried Women Pension Scheme
	Destitute Widow Pension Scheme
	Tamil Nilam - Full Field Patta Transfer

	Tamil Nilam – Joint Patta Transfer
	Tamil Nilam – Subdivision
	Grievance Day Petition
	Tamil Nilam - Extract of A-Register
	Tamil Nilam – Extract of Chitta
Social Welfare and Nutritious Meal Programme Department (No. of services -7)	Annai Terasa Ammaiya Ninaivu Orphan Girl Marriage Assistance Scheme
	Chief Minister's Girl Child Protection Scheme- I
	Chief Minister's Girl Child Protection Scheme-II
	Dharmambal Ammaiya Ninaivu Widow Re-marriage Assistance Scheme
	Dr.Muthulakshmi Reddy Ninaivu Intercaste Marriage Assistance Scheme
	EVR Maniammaiya Ninaivu Widow Daughter Marriage Assistance Scheme
	Moovalur Ramamirtham Ammaiya Ninaivu Marriage Assistance Scheme

Civil Supplies Department (No. of services - 8)	Consumer complaint other than PDS
	Consumer complaint related to PDS
	Apply for New Card
	Alterations to the Card- Addition of New Family Members, Change of Address / Card Type / Cylinder count / Family Head Member, Modify / Remove Family Member details, Beneficiary change of Photo
	Card Surrender / Cancellation
	New User Registration
	Family Card Blocking/ Unblocking
	Printing of Smart card
Police Department (No. of services - 8)	CSR Status
	FIR Status
	Online Complaint Registration
	Status Viewing
	Vehicle Status
	View FIR
	Download Accident Case Document
	Lost Document Report

Transport Department (No. of services - 3)	Booking Appointment for Driving License
	Learner's Licence Online application
	Reprint Learner's Licence Online application
Registration Department (No. of services - 4)	Application through offline Payment
	Print Challan for offline Payment
	Online appointment for Marriage/Document registration
	Printing Acknowledgement for Appointment
Adi-Dravidar & Tribal Welfare Department (No. of services - 4)	GoI Post Matric Scholarship for SC Students
	GoI Post Matric Scholarship for ST Students
	State Special Scholarship for Post Matric Students
	Higher Education Special Scholarship Scheme
Backward Classes, Most Backward Classes & Minorities Welfare Department (No. of services - 4)	Issuance of Post Matric Scholarship for BC Students
	Educational Assistance to BC students in Professional Courses
	Educational Assistance to BC Graduates
	Educational Assistance to BC Polytechnic Students
Health Department (No. of service - 1)	Pre-Registration of Pregnancies (PICME)

Directorate of Boilers (No. of services - 4)	Registration of License under Boilers Act
	Renewal of Licence under Boilers Act
	Application for Approval of Manufacture and renewal thereof
	Application for approval of Erector and renewal thereof
Commissionerate of Municipal Administration (No. of services - 5)	Collection of Non Tax
	Collection of Professional Tax
	Collection of Property tax
	Collection of Underground Drainage Charge
	Collection of Water Charges
CMWSSB (No. of service - 1)	Water and Sewerage Tax
Greater Chennai Corporation (No. of services - 6)	Printing of Birth Certificate
	Printing of Death Certificate
	Renewal of Trade License
	Collection of Company Tax
	Collection of Professional Tax
	Collection of Property Tax
Directorate of Fire & Rescue Services (No. of services - 5)	NOC for MSB compliance
	NOC for MSB Planning Permission
	NOC for Non-MSB Planning Permission

	MSB Fire Licence Registration and Renewal
	Non-MSB Fire Licence Registration and Renewal
TANGEDCO (No. of services - 3)	Electricity Bill Payment
	Registration of New LT Connection
	Payment for New LT Connection
Anna University (No. of service - 1)	TN Engineering Admission B.E/ B.Tech Online Registration
Directorate of Employment & Training (No. of services - 4)	Printing of Registration ID
	Application for Renewal
	Application for Profile Updation
	Application for Registration
Directorate of Drug Control Administration (No. of services - 5)	Application for Licence to grant or renewal allopathic drugs
	Application for Licence to grant or renewal homeopathic medicines
	Application for Licence to grant or renewal restricted Licence (allopathic drugs)
	Application for Licence to grant or renewal specified in Schedule X drugs
	Application to obtain duplicate License
TNeGA (No. of service - 1)	PDS AADHAAR Integration

Apart from the above, Citizen Centric Utility Services are provided through APNA CSC Portal.

3.7 Arasu e-Sevai Centres

Government fulfil its vision to render all services at the doorstep of the public even at the remotest village through e-Sevai centres in electronic mode. As of now, the Arasu e-Sevai Centres are delivering e-District services as well as other utility services to the citizen. Considering the usefulness of the Rural CSCs, the Scheme has been extended to urban areas. Arasu e-Sevai Centres are functioning in urban areas with the objective of providing unified access to e-services of different Government Departments at a common point in the urban and semi-urban areas of the State.

The Arasu e-Sevai centres are run by Service Centre Agencies like Primary Agricultural Co-operative Credit Societies (PACCS), Village

Poverty Reduction Committee (VPRC) formed under Pudhu Vaazhvu Project, Tamil Nadu Arasu Cable TV Corporation Ltd (TACTV), Village Level Entrepreneur (VLE) and International Fund for Agriculture Development (IFAD).

The Pilot for the Urban Arasu e-Sevai Centres Scheme was launched in Chennai by the Honourable Chief Minister of Tamil Nadu on 24.02.2014

Currently there are 10,423 centres with 10,862 counters functioning across the State.



Figure-25

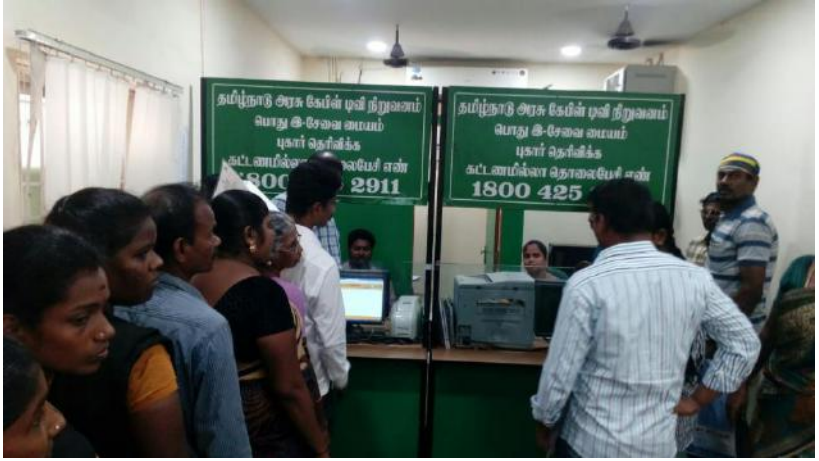


Figure-26

3.8 State Portal

The State Portal was inaugurated by Hon'ble Chief Minister on 24.02.2014 and is a one-stop gateway to Tamil Nadu Government Information and e-Services. The State Portal provides features like integration of e-District services, Content Management System, links to all Department services, mobile compliance, citizen registration etc.

3.9 Capacity Building

Capacity Building is one of the Mission Mode Projects (MMP), it is implemented for creating awareness among the officials and to the citizen.

The objective of Capacity Building scheme is to provide professional resources and training support to political and policy level decision makers. The e-Governance projects are aimed at improving delivery of public services by creating a citizen centric and business-centric environment.

Training and Knowledge Sharing

- Specialized Training Programme
- Application Training
- Localization & Customization of Trainings
- Online Trainings on Governance
- eDMs Oriented Training
- Training for Trainers

Funding is provided for the following Heads

- Strengthening of District Officials Training
- EDMs Training
- Training and Knowledge Sharing Initiatives
- External resources/ Visiting Faculty for Training
- Training of CSC Operators
- Miscellaneous Training

3.9.1 Training Programme:

Totally 303 Government Officials have been trained by Tamil Nadu e-Governance Agency under the following Programme

1. e-Governance
2. Cyber Security
3. e-Sign Awareness programme

3.10 Tamil Nadu Geographical Information System (TNGIS)

A **Geographic Information System (GIS)** is a system designed to capture, store, manipulate, analyze, manage and present spatial or geographical data. In general, the term describes any information system that integrates, stores, edits, analyzes, shares and displays geographic information. GIS applications are tools that allow users to create interactive queries (user-created searches), analyze spatial information, edit data in maps and present the results of all these operations for policy decisions.

3.10.1 Implementation of Tamil Nadu Geographical Information System

The Government has taken a decision to integrate all spatial data sets developed / generated in various Departments of the State in to one single platform, (viz) Tamil Nadu State Spatial Data Infrastructure (TNSSDI) in TNGIS

to avoid duplication of the activity. The establishment of TNGIS facilitates the stakeholders to access all spatial layers through a common url www.tngis.tn.gov.in.

Prior to integration of all spatial data, the following key issues were taken into consideration

1. Developing application: The application was designed to handle diverse set of spatial data, multiple users and hierarchy based privileges to access the data for viewing / editing

2. Designing for Meta Data

3. Design data model

4. Different Scales of Maps and multiple layers

So far 29 Departments/Organizations have shared their respective layers.

1. In TNGIS URL, 348 layers are now hosted.
2. 473 user credentials have been issued to officials of Government Agencies
3. Digitalising of 31 SIPCOT layouts and hosting them in TNGIS server



Figure-27

4. Online modules have been developed and integrated in www.tngis.tn.gov.in url - GRID / Cluster / Buffer analysis

5. Plotting of the Geographical locations of ICDS (Anganwadis), CSCs. Hosted belonging to the Departments of Backward classes, Most Backward and Minority Welfare and Adi Dravidar Welfare have been mapped in TNGIS url.

6. Assisted in hosting of SIDCO, SIPCOT & TIDCO projects in the NCoG website (Government of India)

7. Revenue / Panchayat level village maps corrected by respective Departments with the assistance of AD Survey and EDMs and hosted.

8. Out of 17,652 revenue villages 16,721 revenue village maps have been integrated with TNGIS.

9. Mapping of Stadiums located in Chennai under Youth Welfare and Sports Development Department have been completed and hosted.

Work in progress

1. Mapping of Police Housing Layouts
2. Health Department: Mapping of the mobility of pregnant women / mothers to health centers.

3.11 Creation of Standardised Digital Address Number (SDAN)

The Standard Digital Address Number (SDAN) is one of the announcements made by the Hon'ble Minister of Information Technology in the Legislative Assembly during the year 2016-17. The project aims to generate alpha-numeric codes for the entire State of Tamil Nadu to identify the location of properties, wherein, even if there is no street name or address. The project is proposed to be implemented at a tentative cost of ₹6.34 crore from the State fund.

3.12 State Resident Data Hub (SRDH)

State Resident Data Hub (SRDH) is a centralized data repository which contains demographic details of the residents of Tamil Nadu. The repository is built over a period of time with the integration of data from different Government Departments. It helps the Government in targeted, effective service delivery and more efficient monitoring of schemes. An amount of ₹25.93 crore has been sanctioned by the Government for implementing this project.

3.12.1 Objectives of State Resident Data Hub (SRDH)

- Create and manage complete State Level Resident Data in a digitized, centralized and secured manner.
- Identify the targeted beneficiaries of different welfare schemes of Government

Departments by utilizing AADHAAR number as an unique identifier of citizens.

- Integrate AADHAAR enabled National Population Register (NPR) data with Departmental utility Databases on a real time basis.
- Incorporate AADHAAR authentication into various applications.

So far, Chief Minister's Uzhavar Pathukappu Thittam (CMUPT), Chief Minister's Comprehensive Health Insurance Scheme (CMCHIS), Treasury e-Pension and Land records were seeded with SRDH Portal.

3.13 e-Office

The objective of the e-Office Application is to transform the Government environment into paperless office which yields to enhanced

transparency, accountability and smooth file flow between and within Government Departments.

e-Office application has been piloted in Information Technology Department and Tamil Nadu e-Governance Agency (TNeGA). Steps are being taken to implement this application in Government Departments/Agencies in a phased manner.

3.14 Activities of TNeGA during the year 2017-18

3.14.1 Hon'ble Chief Minister's Award for Excellence in e-Governance for Government Departments

Government of Tamil Nadu announced that as a mark of recognition and encouragement, the Departments which strive towards e-Governance successfully will be awarded the "Chief Minister's award for Excellence in e-Governance" every year.

For the year 2013-14, 2014-15 the nominations were invited from Government Departments and Districts for all the 3 categories, i.e.

1. Excellence in Government Process Re-Engineering.
2. Outstanding Performance in Citizen-Centric Services Delivery through Innovative Use of Technology.
3. District Level e-Governance Initiative from Government Departments & Districts

Scrutinizing committee's final report is under consideration of Government.

3.14.2 Hon'ble Chief Minister's Award for Excellence in e-Governance for Students

Government of Tamil Nadu has announced Chief Minister's Award for Excellence in e-Governance" to encourage and create an

awareness on e-Governance among the youth, Students and e-Governance enthusiasts.

For the year 2015-16, nominations have been invited by revising the norms and the awards were conducted in II tier (i) District Level (ii) State Level. District level awards have been finalised for the following categories:

1. Development of application using Mobile Technology
2. Development of Innovative application for Physically Challenged persons
3. Development of application using Neural Network.

3.14.3 Tamil Nadu e-Governance Award for Micro, Small and Medium Enterprises (MSME)

In order to recognize and promote the outstanding e-Governance (ICT) Solutions and applications among Tamil Nadu ICT Talents and

enterprises in their constant pursuit for creative and better solutions to meet social needs, the Government of Tamil Nadu has announced the e-Governance Award for Micro Small and Medium Enterprises (MSME).

For the year 2015-16, nominations have been invited to participate in all the 3 categories viz.,

1. Best e-Governance application in different sectors
2. Best e-Governance application for Mobile / Citizen Centric Services
3. e-Governance award for best Technological Innovation.

Selection Committee has reviewed the nominations and have sent the nominations for recommendation from concerned Departments before proceeding ahead. The recommended

nominations are under consideration of Government.

3.15 IT Security Audit

Cyber attacks have increased throughout the world. In pursuant to protect the Government websites and IT applications from cyber attacks, a sum of ₹1.76 crore have been sanctioned for carrying out the IT Security Auditing of websites and IT applications for first time.

The IT security Audit of the Government websites / Applications are being carried out by the CERT-IN approved empanelled vendors of TNeGA.

Till date Security Audit request for 212 websites/URLs from various departments have been received, out of which 120 websites/URLs have been completed. The Security Audit is in progress for the remaining.

3.16 SMS based Service Tracking Facility

For providing information and getting information from the people, two way communication facility is introduced called as SMS based Service Tracking System. After submitting the application at the e-Sevai centre's the application number will be sent to applicant immediately. After some days, the status of the application such as approved/rejected/returned also informed to the applicant through SMS. Short Code facility (155250) was introduced by Tamil Nadu e-Governance Agency (TNeGA) to the Citizens in Tamil Nadu. By using short code, the applicant's can know the present status of the application. As on 20.05.2018, 6.68 lakh people have been benefited by using Short Code facility.

3.17 Centre of Excellence (CoE) for Capacity Building

During the Budget Session for the year 2013–2014, the Hon'ble Minister for Information Technology made an announcement for establishing "Centre of Excellence for Capacity Building" in order to help the Government employees to develop their Information and Communication Technology (ICT) skills. An amount of ₹94.15 lakh has been sanctioned for this scheme.

Infrastructure has been created at 7th floor, P.T.Lee Chengalvarayan Maaligai, Anna Salai, Chennai for imparting training.

3.18 e-Governance Standard Manual

Tamil Nadu e-Governance Agency has developed the "e-Governance Standard Manual" in accordance with National standard guidelines along with various other Government entities

such as National Informatics Centre (NIC), Tamil Virtual Academy (TVA), Electronics Corporation of Tamil Nadu (ELCOT), Centre for Development of Advanced Computing (CDAC) & Standardisation, Testing Quality Certification (STQC) and the preparation of Standard Manual was completed.

3.19 e-Sign Facility

e-Sign is an online electronic signature service to facilitate an Aadhaar holder to digitally sign a document. The signature service is facilitated by authenticating the Aadhaar holder via the Aadhaar based e-KYC service. To e-Sign a document, one has to have an Aadhaar number and a mobile number registered with Aadhaar or Biometric scanner for fingerprint or IRIS. Security and Authenticity are the major advantages for e-Sign facility. This will replace the Digital Signature Certificate (DSC) tokens

which is a hardware token contains digital signature of the user.

Action is being taken to provide e-Sign facility to Registration Department, Sarva Shiksha Abhiyan, State Health Mission and Labour Department.

3.20 Achievements for the year 2017-18

3.20.1 e-Taal (Electronics Transaction Aggregation and Analysis Layer)

e-Taal is a web portal for showing information regarding Central and State Government Projects in the format of e-transaction statistics.

In respect of our State, 14 Crore transactions have been registered in e-Taal Portal during last year and now total transactions have been increased to 38 Crore for the current year. Tamil Nadu stands 4th place at National level.

3.20.2 e-District

The business transactions made under the e-District Programme for the 59 services are given below:-

Year	Applications received through Arasu e-Sevai Centres (in lakh)	Apna CSC (in lakh)	EPIC (in lakh)	Total (in lakh)
2011-12	0.83	--	--	0.83
2012-13	1.98	--	--	1.98
2013-14	9.85	--	--	9.85
2014-15	24.75	--	--	24.75
2015-16	110.10	20.27	--	130.37
2016-17	116.33	41.79	11.31	169.44
2017 -18	117.34	49.02	16.40	182.77
Grand Total	381.20	111.09	27.71	520.01

3.20.3 Aadhaar Permanent Enrolment Center (PEC)

The Permanent Enrolment Centres were set up throughout Tamil Nadu, with respect to the pursuance of the announcement of Hon'ble Chief Minister of Tamil Nadu on 23.09.16. In this

regard, Directorate of e-Governance (DeG)/ Tamil Nadu e-Governance Agency (TNeGA) was appointed as Registrar, Tamil Nadu Arasu Cable TV Corporation Ltd (TACTV) and Electronics Corporation of TamilNadu (ELCOT) were appointed as Enrolment Agencies under Tamil Nadu e-Governance Agency (TNeGA) by UIDAI to operate the Permanent Enrolment Centre in Tamil Nadu.

Now Permanent Enrolment Centres are operated in all Taluk Offices, Head Quarters and Zonal offices of Corporation of Chennai by TACTV whereas, in all Collectorates, Municipalities, Corporation Head offices (other than Chennai), the Permanent Enrolment Centres are operated by ELCOT across Tamil Nadu. The demographic changes and updation of citizen can be done at all Permanent Enrolment Centres run by TACTV and ELCOT.

3.20.3.1 Aadhaar Enrolment & Aadhaar Generated Details:

Enrolment Agency	Total no. of Enrolments (01.10.2016–31.03.2018) In lakh	Aadhaar Generated (01.10.2016–31.01.2018) from UIDAI portal in lakh
TACTV	22.36	17.99
ELCOT	12.15	9.27
Total	34.51	27.27

3.21 Ullangaiyil Sanridhazh Scheme

“TINY URL” scheme was inaugurated by the Hon’ble Chief Minister of Tamil Nadu on 23.05.2017. This feature developed with the help of M/s CDAC. Once the certificate approved by the concerned officials, the tiny url will be sent to the concerned applicant’s registered mobile. By using internet facility, the applicant will download the applied certificate, without going to the e-Sevai centre.

3.22 Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA)

'Pradhan Mantri Gramin Digital Saksharta Abhiyan' (PMGDISHA) aims to make six crore persons in rural areas across States/UTs digitally literate, aiming to reach around 40% of rural households by covering at least one member from every eligible household within 31st March 2019.

The Scheme would empower the citizens in rural areas to operate computer or digital access devices (like tablets, smart phones etc.), send and receive e-mails, access Government services, undertake cashless transactions, etc. The Scheme aims to bridge the digital divide, specifically targeting the rural population including the marginalised sections of society like Scheduled Castes (SC) / Scheduled Tribes (ST), Minorities, Below Poverty Line (BPL), women and differently-abled persons.

3.22.1 Target for the State (Tamil Nadu)

The target for Digital Literacy in Tamil Nadu is 26.79 lakh excluding Corporations of Chennai, Madurai and Coimbatore. On an average a target of 200-300 beneficiaries per Gram Panchayat would be benefited. Actual target for the Gram Panchayat would be decided by the District e-Governance Society (DeGS) chaired by the District Magistrate, keeping in view the size of district, population, local requirements, etc. One person in every family who is digitally illiterate and between the age group of 14-60 years would be considered eligible for training under the scheme.

In rural and urban areas of Tamil Nadu action is being taken to conduct the training classes for this scheme.

3.23 AMMA e-Gramam

The Hon'ble Chief Minister had announced the scheme "Amma e-Gramam" on the floor of the Tamil Nadu Legislative Assembly under the rule 110. Government of Tamil Nadu (GoTN) has envisaged the Pilot of Amma e-Gramam by taking up a village in each district. It intends to provide a platform for availability of services such as tele-medicine, tele-education, LED lighting, WiFi hotspot, Skill Development, Digital knowledge centre and Common service centres to the rural citizens at the selected villages.

This Project will be implemented through Corporate Social Responsibility funds of Government and private companies. Till date ₹1.62 crore has been received. In Phase-I this scheme will be implemented in 6 villages.

3.24 AMMA-Assured Multi Model Access to e-Services

Government have accorded administrative approval for taking up Assured Multi Model Access (AMMA) Mobile Application development for 25 e-Sevai citizen centric services. The major objective is to “enable the delivery of citizen centric services of Tamil Nadu e-District suite through mobile application”. Citizens will be able to avail services “anytime” “anywhere” through the mobile application.

In the 1st phase, the 11 utility bill payment services of Government of Tamil Nadu provided under the e-District/e-Sevai project is to be integrated in the AMMA mobile application, which will be beneficial for the citizen in which they can pay the utility payments using smart phones. Through this App, the CMWSSB utility bill payment service will be launched shortly.

3.25 UMANG-Unified Mobile Application for New Age Governance

UMANG is developed by Ministry of Electronics and Information Technology and National e-Governance to drive Mobile Governance in India. It provides a single platform for all India Citizens to access pan India e-Gov services ranging from Central to Local Government and other citizen centric services. It provides major services offered by Central and State Government Departments. It provides a unified approach where citizen can install one application to avail multiple Government services.

In the 1st phase 3 high volume services (3 Revenue Department Services) of e-District project is taken to be integrated with the UMANG application, which will be beneficial for the citizen in which they can apply for these

certificates at their door steps using their smart phones.

3.26 Namadhu Arasu (My Gov)

Hon'ble Minister for information Technology announced Namadhu Arasu Scheme during the Assembly session 2017-18.

My Gov (namadhuarasu.in), aims to promote active citizen participation in governance and policy-making. Government have accorded Administrative sanction for implementation of the scheme at an estimated cost of ₹91.80 lakh.

3.27 e-Madal (e-Newsletter)

Hon'ble Chief Minister of Tamil Nadu has launched "e-Madal" on **11.10.2017**. The e-Madal is a technological e-newsletter being published bilingually (Tamil & English). So far 10 issues of e-Madal has been published. The e-madal disseminates information on latest

technological trends and various e-services being rendered by Govt. of Tamil Nadu and Govt. of India. It helps the citizens, especially students to easily understand technology in their native language.

3.28 e-Governance Policy

The Hon'ble Chief Minister of Tamil Nadu has launched e-Governance Policy on 02.01.2018.

Objectives

Provide direction to e-Governance implementation in various Departments of the State Government. Ensure common framework, standards and seamless inter-operability and portability between systems, software and data. Promote proactive delivery of online services to citizens.

Further it aims to improve productivity levels within Government. Facilitate sharing and reuse of Information and Communication Technology infrastructure and hardware resources. Increase the level of Penetration of Broadband Connectivity. Promote the use of Tamil language and Tamil Unicode Standard in all e-Governance Applications/Websites/Portals. Establish an integrated environment for delivering seamless Government to Citizen (G2C), Government to Employee (G2E), Government to Government (G2G) and Government to Business (G2B) services in a cost effective manner.

3.29 Financial Status

TNeGA is formed for the development of e-Governance application and driving e-Governance activities in the State. TNeGA is supported by State Government by means of release of grants-in-aid for its administrative expenses. Projects like e-District, Capacity

Building, SSDG, SRDH, etc., are implemented in the State. The funds are received in a phased manner after completion of milestones as per Master Service Agreement (MSA).

Projects like Cloud Based Asset Management, SMS Based Tracking System, Tamil Nadu Geographical Information System, Centre Of Excellence, IT Security Audit are fully funded by State Government. From the year 2015-2016 TNeGA is receiving Revenue share from the e-Sevai (CSC) operations in the State. From December 2016, the share amount received through e-Wallet in e-Sevai portal.

Year	Total Receipt (₹in Cr)
2015-2016	3.04
2016-2017	10.49
2017-2018	14.30

The above receipts includes GST. This revenue share would be utilized for the creation of infrastructure, administrative expenses, conducting awareness campaign/Training workshop, etc.

CHAPTER-IV

TAMIL NADU ARASU CABLE TV CORPORATION LIMITED

4.1 Introduction

“Arasu Cable TV Corporation Ltd”, a company registered under Companies Act 1956, was setup on 4.10.2007 with the objective ‘to provide high quality cable services to the public at an affordable cost’ through the Local Cable TV Operators (LCOs). To fulfill this objective, the Government of Tamil Nadu sanctioned a share capital of ₹25 crores and a loan of ₹36.35 crores. In 2008, MPEG2 Digital cable TV Head Ends were commissioned at 4 places in Tamil Nadu – viz., Coimbatore, Thanjavur, Tirunelveli, and Vellore and the Organization started its commercial operations from July 2008. However, after one year, the Corporation became defunct due to various reasons.

4.2 Revamping of the Corporation

The Hon'ble Chief Minister of Tamil Nadu in May 2011 revamped Arasu Cable TV Corporation to fulfil her commitment to provide livelihood to Local Cable Operators and provide high quality cable TV services to the public by sanctioning a loan of ₹3 crores and also renamed the Corporation as "Tamil Nadu Arasu Cable TV Corporation Ltd" (TACTV).

On 30.08.2011 the Hon'ble Chief Minister of Tamil Nadu announced on the floor of the Assembly that Tamil Nadu Arasu Cable TV Corporation would provide quality services at an affordable cost of ₹70/- being the monthly subscription payable by subscribers to the Cable TV operators of which ₹20/- would be paid to Tamil Nadu Arasu Cable TV Corporation by the Cable TV operators.

Further, to implement the announcement in addition to its own 4 Digital Head Ends, TACTV took on lease the Analog cable TV Head Ends at 27 Districts and the Analog Cable TV services of the Corporation throughout Tamil Nadu (except Chennai) were inaugurated by the Hon'ble Chief Minister of Tamil Nadu on 2.9.2011.

The Cable TV Operation in Chennai City was inaugurated by Hon'ble Chief Minister on 20.10.2012.

4.3 Organization Structure

TACTV is headed by a Chairman and a Managing Director. The corporation has expanded its services by providing e-services and internet services to the public apart from cable TV services.

The following chart depicts the Organization structure of the Corporation.

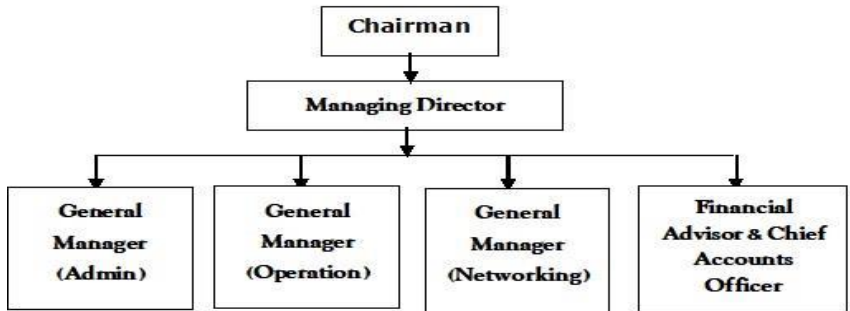


Figure-28

Organization structure at district level

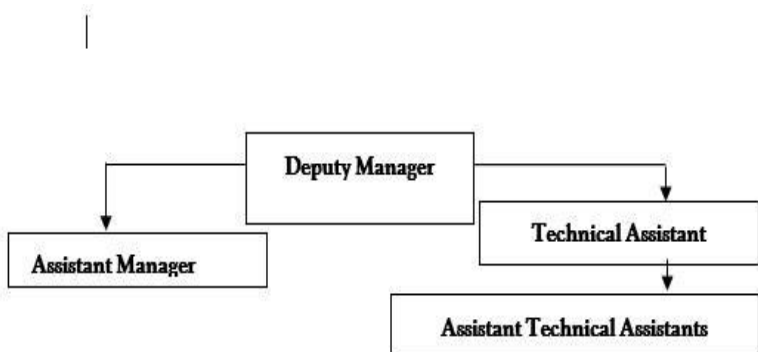


Figure-29

4.4 Cable TV Services

Before the advent of TACTV, the market was dominated by a few private Multi System Operators (MSO) who were charging exorbitant subscriptions ranging from ₹150/- to ₹250/- from the public.

The cable TV service of TACTV with an affordable subscription fee of ₹70/- per month was welcomed by both the Cable TV Operators and the public which is apparent in the rise of subscribers from 4.94 lakhs on 2.9.2011 to 70.52 lakhs connected through 26,474 Local Cable TV operators as on date.

4.4.1 Cable TV Infrastructure

TACTV has been providing Cable TV services through its 5 own Digital Cable TV Head Ends viz., Chennai, Coimbatore, Thanjavur, Tirunelveli, and Vellore and from the Leased

Analog control rooms at 77 places all over Tamil Nadu.

4.4.2 Digital Addressable System (DAS)

As Ministry of Information & Broadcasting, Government of India has mandated that the Cable TV operations have to be digitalized in four phases all over the Country, with the last phase deadline stipulated as 31.3.2017, TACTV as an MSO has applied for DAS license for Chennai Metro Area on 5.7.2012 and for the rest of Tamil Nadu on 23.11.2012.

After continuous efforts taken by the Government of Tamil Nadu, Ministry of Information and Broadcasting, Government of India has granted the provisional DAS License to TACTV on 17.4.2017. TACTV is the first Government Undertaking in the Cable TV industry to get the DAS License in the entire India.

4.4.3 Launch of Digital Cable TV Service

Further to the granting of DAS License to TACTV by Ministry of Information and Broadcasting, Government of India, the Government of Tamil Nadu has issued Administrative sanction for the Digitalization proposal of TACTV.

In the meantime, in order to have the latest Digital Cable TV technology, TACTV also upgraded its existing MPEG2 Digital Head End at Chennai to MPEG4 Digital Head End to ensure best quality pictures with more number of Channel capacity in Digital Transmission.

The upgraded MPEG4 Digital Head End at Chennai and the distribution of Free Set Top Boxes was inaugurated by Hon'ble Chief Minister on 1.9.2017.

4.4.4 Progress of Set-top-Box(STB) Distribution

TACTV has floated a Global Tender on 6.5.2017 for procurement of 60 lakhs Standard Definition Set Top Boxes (SD STB) and 10 lakhs High Definition Set Top Boxes (HD STB). Two successful Bidders were selected and Letter of Acceptance (LoA) issued for procurement of 60 lakhs SD STBs and 10 lakhs HD STBs.

TACTV has a customer base of 70.52 lakhs connected through 26,474 Local Cable operators. So far, Digital Set-top-boxes have been distributed to 23.52 lakhs consumers through 15,280 Local Cable Operators out of which 22.88 lakhs Set Top Boxes have been activated till date.

4.4.5 Subscription Plans for Digital Cable TV Service

In the Digital Cable TV service, as per the market requirement, TACTV has two attractive

packages. Package-1 has a monthly subscription plan of ₹125/- plus GST for 208 Channels and Package-2 has a monthly subscription plan of ₹175/- plus GST for 300 Channels.

4.4.6 High Definition (HD) Cable TV service

TACTV is also determined to provide state of the art High Definition (HD) cable TV service shortly and the Chennai Digital Head End has been suitably upgraded for the same.

4.5 Arasu e-Sevai centres

The Hon'ble Minister for Information and Technology announced on the Floor of the Assembly on 04.08.2014 that "Tamil Nadu Arasu Cable TV Corporation (TACTV) would establish and run Arasu e-Sevai Centres in all the Districts. At present Tamil Nadu Arasu Cable TV Corporation (TACTV) is operating 659 centres across the State.

The Arasu e-Sevai Centres are equipped with sufficient Technology and Broadband Internet connectivity. These centres are providing many services relating to various Government Departments of the State and the Centre.

Within a period of three years from the launching in 2015, about ₹1.52 crores of persons across the State have availed multi varied services provided by TACTV Arasu e-Sevai centres.

4.6 Permanent Enrolment Centres

In G.O.Ms.No.10, Information Technology Department, dated 01.08.2016, the Government of Tamil Nadu have appointed Tamil Nadu e-Governance Agency (TNeGA)/Directorate of e-Governance (DeG) as Registrar for conducting Aadhaar Enrolment in Tamil Nadu. The DeG / TNeGA authorized ELCOT

and TACTV to act as Enrolment Agencies for Aadhaar Enrolment in Tamil Nadu.

The Unique Identification Authority of India (UIDAI) has assigned Enrolment Agency Code 2193 to TACTV for carrying out the Aadhaar Enrolment activities.

TACTV has started Permanent Enrolment Centres with effect from 01.10.2016.

Permanent Enrolment Centres are functioning in all Taluk offices in 32 Districts; Secretariat in Chennai; Greater Chennai Corporation Head office; and its 15 Zonal offices; Office of the Commissioner of Revenue Administration; in addition to above, at present one "Mobile Aadhaar Enrolment Unit" is functioning in the limits of the Greater Chennai Corporation with effect from 27.10.2016 for enabling the Differently-abled Persons, Senior Citizens and Prolonged sick persons for Aadhaar Enrolment.

Through its 309 Permanent Enrolment Centres with 583 counters functioning in 32 Districts of Tamil Nadu, 22.48 lakhs of New Aadhaar enrolments and 16.55 lakhs of Aadhaar Data updation have been done from 01.10.2016 to 31.03.2018.

4.7 Internet Services

Tamil Nadu Arasu Cable TV Corporation has obtained Internet Service Provider (ISP) License from Union Ministry of Communication and IT on 14.9.2015. Based on the announcement of Hon'ble Chief Minister to offer high quality, low cost internet services to the public, Hon'ble Chief Minister has launched "Internet to every household" scheme on 01.03.2016 at District Headquarters across the state. TACTV has extended the scheme to entire Tamil Nadu and as on date 5,135 subscribers are being benefited.

Further, the Government has issued orders for the roll out of IPTV services. Detailed project report (DPR) is under preparation.

4.7.1 Free Public Wi-fi Services

The Hon'ble Chief Minister announced on 23.09.2016 that free public Wi-fi services through AMMA Wi-fi zones will be created in all public gathering places in the State and announced that as first phase, will be implemented in 50 places. The Government has sanctioned a sum of ₹8.50 Crores for setting up of free Wi-fi Zones in 50 places. Initially, the scheme was launched by Hon'ble Chief Minister on 05.04.2018 at the following 5 locations: Chennai-Uzhaipalar silai, Marina Beach; Madurai-M.G.R. Bus stand at Mattuthavani; Salem-Central Bus stand; Trichy-Central Bus stand; and Coimbatore-Gandhi Bus stand.

4.7.2 Free Broadband Internet to Government Schools

The Government have accorded Administrative Sanction for provision of free internet facility to 366 Government Higher Secondary Schools in Educationally Backward Blocks at an estimated cost of ₹9.06 crores and released Financial Sanction of ₹1.23 crores for implementing in 50 Government higher Secondary Schools through TACTV.

4.8 BharatNet

A Memorandum of Understanding has been signed between State Government and Government of India in New Delhi on 26.12.2017 for implementing BharatNet in Tamil Nadu, which connects 12,524 villages in Tamil Nadu with Block Headquarters through optical fiber cable. The project has been approved by Government of India at an estimated cost of ₹1230.90 crores. Preliminary works for implementing the project have been initiated.

4.9 Financial performance of TACTV

TACTV was started with Government's share capital of ₹25 Crores. TACTV also received ₹33 Crores from Government as term loan. TACTV's revenue has increased from ₹2.44 Crore in the year 2008-09 to ₹163.92 Crore in 2013-14, ₹181.91 crore in 2014-15, ₹223.53 crore in 2015-16 and ₹235.9 crore in 2016-17.

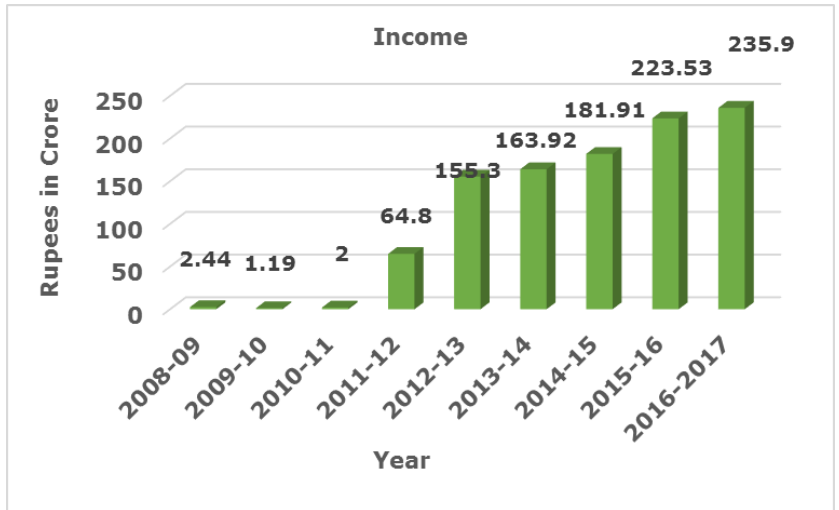


Figure-30

TACTV was incurring loss to the tune of ₹15.03 crores till 2011-12. After revamping of TACTV by the Hon'ble Chief Minister in 2011, TACTV increased its subscriber base and tapped revenues from Private Local Channels resulting in profit for all financial years from 2012-2013 to 2016-2017.

4.9.1 Profit & Loss Status of TACTV

During the financial year 2016-17, TACTV has earned revenue of ₹235.9 crore with net profit of ₹18.22 Crore. TACTV has also paid a dividend of ₹1.25 crore to the Government for the year 2016-17.

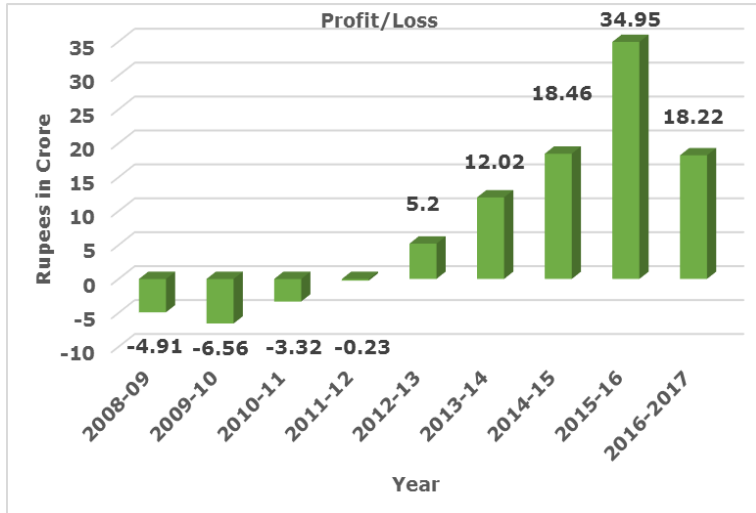


Figure-31

During the financial year 2017-18, TACTV has earned revenue of ₹248.95 crore. Due to procurement of 24 Lakhs Digital Set-Top Boxes for issue to public at free of cost, depreciation have been provided for ₹28 Crore additionally. Hence, the Corporation is expected to earn a net profit of ₹1.68 Crores (unaudited).

CHAPTER-V

TAMIL VIRTUAL ACADEMY

5.1 INTRODUCTION

Tamil Virtual Academy aims to provide internet based Tamil resource access to the Tamil community and others who are interested in Tamil language, literature, arts, culture etc. It was initially started as Tamil Virtual University (TVU) and was renamed as Tamil Virtual Academy (TVA) with effect from 16.07.2010. Tamil Virtual Academy had been established by the Government of Tamil Nadu on 18th May 2000 under Societies Act. The website for Tamil Virtual Academy was launched on February 17, 2001.



Figure-32

5.2 VISION

- Providing internet based resources about Tamil language, literature and culture for diaspora and others who are interested in Tamil.
- Compiling Tamil learning materials with Tamils heritage for diaspora.

- Compiling all the educational content developed by the diaspora and publicizing the same to general public.
- Enabling studies leading to a certificate, diploma and degree on Tamilology through Tamil University, Thanjavur.
- Promoting Tamil Computing.

5.3 Activities

5.3.1 Academic Programmes

Tamil Virtual Academy offers academic programmes from Primary to Graduate level.

5.3.2 Digital Library

The Digital Library is designed to hold digital copies of the material includes rare printed books, newspapers, periodicals, manuscripts, photographs, audio-visual material and to enhance its interface that support for all

researchers, lifelong learners, all popular forms of access devices and differently-abled learners.

5.3.2.1 Documentation and Archiving of Tamil Art & Cultural activities

Archival material, artefacts of our cultural reflections in digital form, Tamil art & cultural activities are documented and made available online, with suitable search links for the benefit of researchers everywhere.

5.3.3 Tamil Computing

Tamil Virtual Academy is compiling a database and related Tamil software tools to promote Tamil Computing research.

5.3.4 Development of Tamil Software

Tamil Virtual Academy is functioning as an agency of Government of Tamil Nadu for providing financial support for development of Tamil Software. It also certifies the Tamil

Software / Tamil computing tools developed by various agencies / persons.

5.4 Academic Programmes

Tamil Virtual Academy offers academic programmes viz., Primary Education, Certificate Course, Diploma, Higher Diploma and Degree (B.A. Tamilology). For joining these courses, there is no upper age limit. The details are as follows:

5.4.1 Primary Course

In order to create interest in learning, Tamil lessons are designed with pictures, picture stories, poems and songs. This programme includes letters, conversation, stories, songs, words currently in usage and animation with audio and video facilities.

5.4.2 Certificate (classes 1 to 6)

Certificate Course is offered at three levels:

- Basic Level (classes 1 & 2)

- Intermediate Level (classes 3 & 4)
- Advanced Level (classes 5 & 6)

5.4.3 Higher Certificate (classes 7 to 12)

Higher Certificate Course is offered at three levels:

- Grade 1 (classes 7 & 8)
- Grade 2 (classes 9 & 10)
- Grade 3 (classes 11 & 12)

5.4.4 B.A. (Tamilology) Degree Programme

B.A. (Tamilology) Degree Programme is modular in its structure comprising of a Diploma, Higher Diploma and the Degree.

For different courses offered by Tamil Virtual Academy, 18,012 candidates have registered their names across the globe.

The cumulative numbers of candidates who obtained certificate, diploma and degree are as follows:

S. No	Country	Certificate	Higher Certificate	Diploma	Higher Diploma	Degree
1	Australia	3	1	0	0	0
2	Canada	0	0	0	0	0
3	Fiji Islands	0	0	0	0	0
4	France	0	75	44	29	21
5	Germany	0	2	1	0	0
6	Hong Kong	91	0	0	0	0
7	India	2857	155	4	2	1
8	Kenya	0	0	0	0	0
9	Malaysia	0	0	0	0	0
10	Mauritius	18	0	0	0	0
11	Newzealand	0	0	0	0	0
12	Myanmar	0	0	0	0	0
13	Reunion	14	0	0	0	0
14	Seychelles	0	0	0	0	0
15	South Africa	1	0	0	0	0
16	Switzerland	0	0	0	0	0
17	Sri Lanka	0	149	674	381	262
18	Sultanate of Oman	1805	84	0	0	0

19	UK	13	1	0	0	0
20	USA	2060	12	11	9	0
	Total	6862	479	734	421	284
Grand Total						8780

The above academic programmes are provided through 90 contact centres from 20 countries.

Tamil Virtual Academy has developed and released Compact Discs for Primary, Basic, Intermediate and Advanced level students under the following captions for the benefit of students and Tamil learners across the globe:

- Learn Tamil
- Tamil Karpom
- Thirukkural
- Technical Glossary

5.5 Tamilar Tagavalaatruppadai

Hon'ble Chief Minister on 11.08.2014 has announced under Rule 110 in the Legislative Assembly to create a comprehensive and collaborative repository containing details of all the achievements of the Tamils and Tamil language and literature. Based on the above announcement, ₹20 lakh have been sanctioned to create a "Tamilar Tagavalaatruppadai". Under this scheme, 627 Archaeological & Historical sites, Monuments, Excavations, Inscriptions, Religious places, Sculptures, Coins, Copper Plates and painting were captured as photograph and these images were uploaded in the web portal with necessary metadata in standard format. This website <http://tagavalaatruppadai.in> was inaugurated by Hon'ble Chief Minister of Tamil Nadu on 11.10.2017. Further, documentation of archaeological & historical sites with images and

updating of these with website are being done regularly.



Figure-33

5.6 Visual Thesaurus for Tamil

Visual Thesaurus means a list of words clustered together according to similarity of meaning and it is contrast to a dictionary. The Government of Tamil Nadu have sanctioned ₹27.42 Lakh to develop the Visual Thesaurus for Tamil. The Visual Thesaurus has been developed in three different presentations. (i.) .Net, (ii.) Open source and (iii.) Mobile app. All of them

are uploaded in Tamil Virtual Academy website and the Mobile app alone has been uploaded in google play store as BETA VERSION.

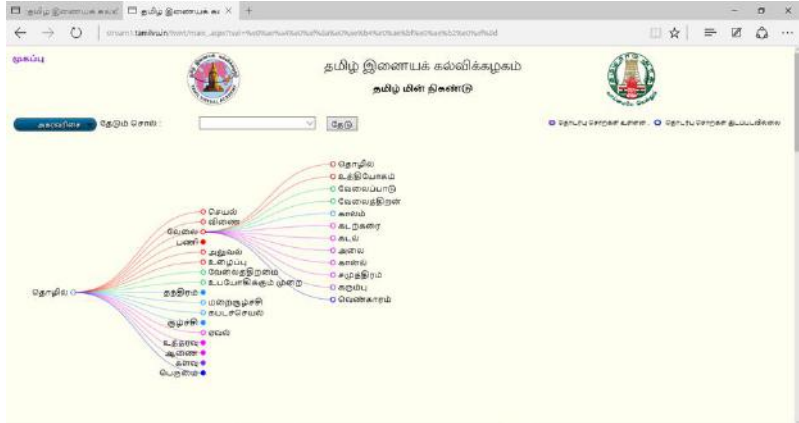


Figure-34

5.7 e-Learning Web Portal for Tamil Virtual Academy

Hon'ble Chief Minister of Tamil Nadu on 11.10.2017 has launched the revamped **e-Learning Web Portal** for Tamil Virtual Academy to promote the Tamil Virtual Academy's activities. This web portal includes student registration, examination portal, study

centre management etc. For this purpose, the Government of Tamil Nadu has sanctioned ₹12.26 lakh to Tamil Virtual Academy.

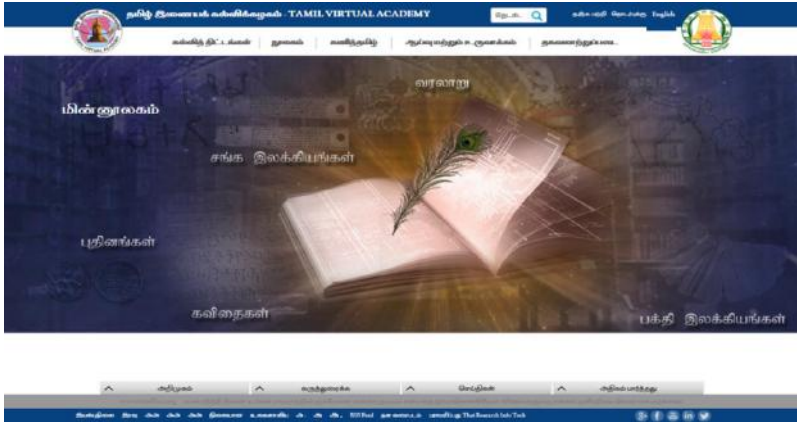


Figure-35

5.8 Creation of Digital Library

Tamil Virtual Academy has created a digital library with the collection of all rare documents, books and periodicals, which manifolds the accessibility and visibility of rare documents to scholars across the Globe. A sum of ₹1.00 crore was sanctioned for the creation of Digital Library

in Tamil Virtual Academy. In this project 53,27,879 pages from 24,656 numbers of rare books, periodicals and documents were scanned. These documents were catalogued. Further 9.12 TB volumes of digitized books, rare manuscripts have been collected from more than 30 institutions across Tamil Nadu. In the first phase 11,283 books and periodicals were uploaded in the website <http://tamildigitallibrary.in>. It was inaugurated by Hon'ble Chief Minister of Tamil Nadu on 11.10.2017. Presently, uploading of these documents in the website with MARC21 format is being done regularly.



Figure-36

5.9 Digitization and Cataloguing of Palm-leaf Manuscripts

The Palm-leaf manuscripts in South India convey the knowledge about the lands, people, education and culture, etc. Digitization of Palm leaf manuscripts, transforms the discoverability and use of rare and special collections to a greater extent than the general library collection, with the aim of preserving, accessing and sharing our culture globally. A sum of ₹105 lakh has been sanctioned to digitize and catalogue of palm leaf manuscripts in Dr. U.V.Swaminatha Iyer library, Directorate of Indian Medicine & Homeopathy and International Institute of Tamil Studies. The works are under progress. Presently, 40,000 leaves have been scanned and catalogued.

5.10 Monthly Lecture Series

In order to promote our Tamil Heritage, Art & Culture, Tamil Virtual Academy is organizing a monthly lecture series by inviting renowned scholars and experts from various field of knowledge relating to our culture and heritage. The lecture is recorded and webcast on the Tamil Virtual Academy website. So far, 36 lectures have been organized in the discipline on sculptures, languages and ancient culture of Tamils, etc.,

5.11 Tamil Virtual Academy's Outreach Initiatives

Tamil Virtual Academy is promoting the Tamil Computing activities regularly by following means:

- a forum for Tamil Computing has been launched in the name of "**Kanitamil Peravai**"

- To develop more Tamil content in websites, a mega encyclopedia scheme for Tamil has been introduced as **“Tamil Perung kalanjiyam”**.
- Action is being pursued to translate **“Khan Academy’s videos”** into Tamil.
- Open source and **Creative Common Initiatives**.

5.11.1 Kanitamil peravai

To create awareness on the necessity of Tamil Computing, “kanitamil peravai” has been started in 100 colleges and universities which include arts and science, engineering, agriculture and medical colleges. Till date, more than 10,000 students from various Colleges / Universities have registered for Kanitamil Peravai. Tamil Virtual Academy has given training to the students to develop Tamil blogs, apps, etc. For this purpose, the Government of

Tamil Nadu have sanctioned ₹25 lakh. An amount of ₹25,000 was disbursed to each college and university to initiate “Kanitamil Peravai” activities in their institutions. After getting the progress report from the institutions, this project will be extended further.

5.11.2 Tamil Perung Kalanjiyam

As far as **Tamil Perung Kalanjiyam** is concerned, more than 84,000 Tamil articles from the field of agriculture, fisheries, chemistry, biology, physics etc. have been uploaded in the website www.tamilkalanjiyam.in. In future, this will be offered in multimedia content.

5.11.3 Khan Academy’s Educational videos

Tamil Virtual Academy have received 8,706 nos. of Khan Academy’s videos from Khan Academy in English. So far, 2,025 videos have been translated into Tamil and 1,721 videos have been uploaded in Tamil Virtual Academy’s

website and youtube.com channel. The works are under progress to translate the remaining educational videos.

5.11.4 Creative Common Initiatives

In G.O. No. 105, Tamil Development and Information (TD2-2) Department, Dated, 01.07.2016 orders have been issued directing that Tamil related works (books, Ph.D. theses, research articles etc.) of Tamil Development Department and Tamil University's publications should be published as per Creative Commons. It aims to share the Tamil knowledge with others legally.

To implement the same, 11,283 books have been uploaded on Tamil Virtual Academy website.

To increase the Tamil language usage, Tamil Virtual Academy and Wikipedia organise

awareness programmes among the school and college students.

5.12 On-going projects

To propagate Tamil Computing among the Tamils around the globe, number of innovative projects have been identified and implemented with the help of Tamil scholars, Linguists, experts from Tamil Computing and the members from various Government Departments.

5.12.1 Tamil Software Development

To create a conducive environment and a vibrant eco system for the benefit of Tamil Scholars, students and general public, Tamil Virtual Academy has undertaken a long term Research and Development Programme on Tamil Language Technology and Natural Language Processing (NLP). It aims to create software tools like word processor, spell checker, Optical Character Recognizer (OCR), Unicode Converter,

text recognizer, text summarization, speech recognizer, speech synthesizer and automatic translator. To aid the on-going Tamil linguistic research a massive corpus bank, e-Dictionary creation are under progress.

Through the TANII (2015-16) Fund, 15 Tamil software projects have been identified by External Expert Committee to achieve the above goal. Currently, 12 Tamilnaiyam projects have been launched for public use by Hon'ble Chief Minister on three occasions' viz., 23.05.2017, 11.10.2017 and 13.03.2018.

The above projects are useful for Tamil Computing researchers, students, teachers and software developers. This will also enhance the usage of Unicode font. The remaining projects are under progress.

5.12.2 Development of New Syllabus

Tamil Virtual Academy has revised its syllabus based on the global scope. Lessons are being framed by the subject experts and the lesson writing process is going on.

5.12.3 New course

Tamil Virtual Academy will introduce Post Graduate Tamil degree course and Diploma Course for Tamil Diaspora across the globe so as to provide higher education for the Tamil learners across the globe.

5.12.4 Mobile Application for Students:

In this Internet era, there is a paradigm shift in the teaching technologies. Now, the computer assisted language learning is shifted to Mobile assisted language learning. So, Tamil Virtual Academy will create Mobile apps for teaching and learning Tamil.

5.12.5 Tamil text and speech computing tools

Under TANII (2017-18), Tamil text and speech computing tools are under development. Text computing tools will highlight the errors in the text and also offers the suggestions. This Grammar Checker will be more useful for the children as well as adults to learn and use more appropriate vocabularies and grammatical rules. Speech processing tool will also be developed as an assistive aid for the visually challenged people to read and write with ease.

5.12.6 Sentence Patterns, Structures and Rules in Tamil for Machine Translation

Under the TANII scheme for the year 2017 – 2018, the Government of Tamil Nadu has sanctioned ₹72.72 lakh for **Sentence Patterns, Structures and Rules in Tamil for Machine Translation**. The main aim of the project is to

identify the sentence patterns, structures and rules in Tamil as classified in English.

5.13 Future Plan of Action

5.13.1 Department of Tamil Computing

To promote Tamil Virtual Academy's activities further, it is desired to develop a separate wing viz. **Department of Tamil Computing**, since all the Tamil Virtual Academy's works are pertaining with Tamil language, literature and computing.

The Department of Tamil Computing will promote the following:

- i. Develop computational grammar for Tamil language and literature
- ii. Develop various types of linguistically annotated electronic corpus for Tamil computing

- iii. Develop various types lexical database (Tamil, English, French)
- iv. Develop e-Learning facilities
- v. Develop application software for mobile phones
- vi. Translate and web enable all Government Tamil websites
- vii. Develop and supply software for students and general public
- viii. Develop Global Search Engine for Tamil.

CHAPTER-VI

ICT ACADEMY OF TAMIL NADU

6.1 Introduction

ICT Academy of Tamil Nadu is an initiative of the Government of India in collaboration with the Government of Tamil Nadu and Industries. ICT Academy of Tamil Nadu is a not-for-profit organization, the first of its kind, a Public-Private-Partnership model that endeavors to train higher education teachers and students. It focuses on developing the next generation teachers and industry ready students.

ICT Academy of Tamil Nadu consists of following representatives from Government of Tamil Nadu as part of the Governing and advisory board.

Board of Governors

- Secretary- Information Technology Department, Government of Tamil Nadu
- Managing Director, Electronics Corporation of Tamil Nadu
- Commissioner of e-Governance & Chief executive officer, Tamil Nadu e-Governance Agency

Members of the Advisory Board

- Additional Chief Secretary – Industries Department, Government of Tamil Nadu
- Principal Secretary - Labour & Employment Department, Government of Tamil Nadu
- Principal Secretary - Higher Education Department, Government of Tamil Nadu.

6.2 Activities

ICT ACADEMY OF TAMIL NADU's activities cover the seven major areas as listed below:-

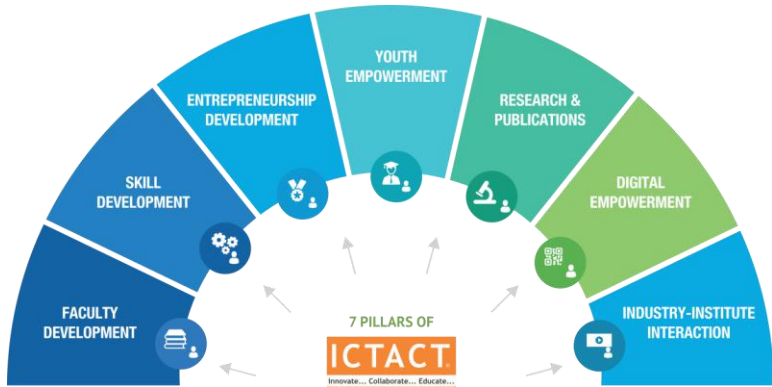


Figure-37

6.3 Faculty Development Programme (2017 – 18)

ICT ACADEMY OF TAMIL NADU has been implementing a range of Faculty Development Programme in the ICT domain across the State. The details are as follows:

Details

Faculty Members Trained	6,303
Students Benefitted	2,52,120
Institutions Benefitted	591
Faculty Development Programmes Conducted	258

6.4 Skill Development Training Programme (2017 – 18)

In order to develop the talent of Indian youth and to develop their technical expertise, ICT ACADEMY OF TAMIL NADU focuses on Youth Skill Development as one of its pillars.

Details

Students Trained	17,185
Students Certified	17,185

6.5 Entrepreneurship Development Programme (2017 – 18)

Entrepreneurs play an important role in the economic development of a country. Successful entrepreneurs innovate, bring new products and concepts to the market, improve market efficiency, build wealth, create jobs, and enhance economic growth. Entrepreneurs convert ideas into economic opportunities through innovations which are considered to be major source of competitiveness in an increasingly globalizing world economy.

Details

Entrepreneurship Awareness Programme	11,281
EDP Trained	250

6.6 Youth Empowerment (2017 – 18)

ICT ACADEMY OF TAMIL NADU has realized that helping Youth to shape the future direction of their careers is a crucial and critical aspect for their talent development. It has therefore started implementing Youth empowerment Programme.

Details

Youth Summits	3
Youth Summit Participants	8,469
Power Seminars	44
Youth Contest	22,862
Youth Recognitions	31

6.7 Research and Publications (2017 – 18)

Digital Object Identifier

All published articles in ICT ACADEMY OF TAMIL NADU Journals will receive a unique

Digital Object Identifier (DOI). A digital object identifier (DOI) is a unique alphanumeric string assigned by a registration agency (the International DOI Foundation) to identify content and provide a persistent link to its location on the Internet. A DOI will help the reader easily locate the article from its location.

Index Copernicus

ICT ACADEMY OF TAMIL NADU Journals has been indexed by Index Copernicus TM. Index Copernicus TM (IC) is an online database of user-contributed information, set up by members of the scientific community from the European Region, Poland. Index Copernicus performs a multi-parameter analysis of scientific output and research potential, established in Poland. The database is operated by Index Copernicus International.

International Journals	5
Research Work published	157
Editorial and Review Board	45
Global Indexing Sources	6

6.8 Digital Empowerment (2017 – 18)

ICT ACADEMY OF TAMIL NADU focuses on digital literacy mission in order to develop the capabilities of the students which fit them for living, learning and working in a digital society.

Details

Teachers Trained	120
Assessed & Certified	300
NDLM Certification	6,847

6.9 Industry - Institute Interaction (2017-2018)

ICT Academy of Tamil Nadu has taken steps to bridge the gap between Industries and Institutes.

ICT Academy of Tamil Nadu has conducted 2 Industry Institute Interaction Conferences (Bridge) in 2 cities viz. Chennai and Coimbatore.

S. No	Conference	Theme	No.of Participants
1.	Bridge Coimbatore 2017	The Future of Work	328
2.	Bridge Chennai 2018	The Future of Work	1,825

6.10 ICT ACADEMY OF TAMIL NADU MoU Signed (2017-18)

1	Sales force	Specifically designed for Academic institutions to offer a richer learning experience thereby creating a more employable and industry-ready force.	Member Institute - Faculty & Students
2	Amazon Web Services	Training for students and of colleges that are affiliated to ICT Academy on cloud services.	Member Institute - Faculty & Students
3	NVIDIA	Qualified academics conduct workshops on their university campus to faculty, students, and researchers.	Member Institute - Faculty, Researchers & Students
4	STEP – The Hindu Group	MoU with the Hindu Group for English language	Member Institute - Students

		<p>training and Assessment solutions for employability has been made. The organizations will jointly organize "English Skills Assessment Day", seminars, workshops and conferences that will improve the English language skills of students.</p>	
5	CADD Centre	<p>CADD Centre will work at driving adoption of "Plan CADD Next" program to the first year engineering students of ICT Academy affiliated institutions and offer advanced Faculty Development.</p>	<p>Member Institute - Faculty & Students</p>

6.11 Projects completed (2017-18)

ICT Academy having developed its training capabilities, has been serving Government Departments on providing training to its employees in the areas of ICT and e-Governance.

Some of the projects undertaken for the Year 2017-2018 are as follows.

S. No	Name of the Project	Department
1	Basic Computer Operation Training Program for 30 staff members of Tamil Nadu House, Delhi	Commissionerate of e-Governance & Tamil Nadu e-Governance Agency
2	Hon'ble Minister for Information Technology - Announcement - 2016-2017 Training for 1000 graduating College Students on IT and Soft Skills by ICT Academy of Tamil Nadu	Tamil Nadu Skill Development Corporation (TNSDC)
3	Soft Skills and Industry Awareness Program for 62 Government Arts and Science colleges for 31,000 Graduating students	Tamil Nadu State Council of Higher Education (TANSCHÉ)

6.12 Tamil Nadu Government Projects being implemented in 2018-2019

S.No	Name of the Project	Department
1	Employability Skill Training Programme for 1200 graduating College Students	Tamil Nadu Adi Dravidar Housing and Development Corporation Limited (TAHDSCO)
2	Employability Skill Training for 80 Students in Social Welfare Homes	Department of Social Welfare and Nutritious Meal Program

6.13 Proposed Trainings for the year 2018-2019

S.No	Name of the Project	Department
1	Hon'ble Minister for Information Technology - Announcement - 2016-2017 Training for 9000 graduating College Students on IT and Soft Skills.	Tamil Nadu Skill Development Corporation (TNSDC)
2	Training for 700 graduating College Students on Advanced IT/ITeS.	Tamil Nadu Skill Development Corporation (TNSDC)
3	Basic Computer Course Training for 40,000 staff of Hindu Religious and Charitable Endowment Department.	Hindu Religious & Charitable Endowments Department.

CHAPTER-VII

TAMIL NADU FIBRENET CORPORATION LIMITED (TANFINET)

Hon'ble Chief Minister made an Announcement on the floor of Legislative Assembly under Rule 110 on 14.09.2015, that BharatNet Scheme of Government of India will be implemented in Tamil Nadu through State Led Model and a Special Purpose Vehicle (SPV) named "Tamil Nadu Fibrenet Corporation Limited" will be set up for the purpose. Accordingly, Government of Tamil Nadu have issued orders on 01.02.2016 for the formation of Tamil Nadu Fibrenet Corporation Limited (TANFINET) to develop, execute, own, operate and maintain Optical Fibre Network to be established in Tamil Nadu.

Hon'ble Chief Minister has announced on the floor of the Legislative Assembly under Rule 110

on 14.7.2017, that “It has been proposed to connect all the Corporations, Municipalities and Town Panchayats through Optic fibre enabling the urban citizens to reap the benefits of Digital Revolution and avail the services of Government Departments at their doorsteps. This scheme will be called as TamilNet. TamilNet will be implemented in Public Private Partnership (PPP) mode with funding assistance from State Undertakings like ELCOT and TACTV”. It has been decided to utilize the existing and proposed fibre networks of TANTRANSCO for building the networks for TamilNet. Detailed Project Report for TamilNet will be prepared.

Draft Memorandum of Association (MoA) and draft Articles of Association (AoA) of the TANFINET Corporation were approved by Government on 14.05.2018 and the registration works are under progress. After registration, TANFINET will undertake the works related to

the implementation of fibre infrastructure in Tamil Nadu to be established through BharatNet and TamilNet.

Dr.M. MANIKANDAN
Minister for Information
Technology