

**e-Governance in the State****1. ELECTRONICS CORPORATION OF TAMIL NADU LIMITED (ELCOT)****1. Introduction**

Electronics Corporation of Tamil Nadu (ELCOT) Limited, registered under the Companies Act, 1956, is a wholly owned Public Sector Undertaking of the Government of Tamil Nadu. Established on 21.03.1977, ELCOT is the nodal agency for the development of Electronics and Communications, IT/ITeS Products/Services and IT Infrastructure and Promotions for the Government of Tamil Nadu.

ELCOT has four broad areas of work, namely, IT promotion of the State of Tamil Nadu, IT procurement for the Government of Tamil Nadu, development of Electronics and IT/ITeS Sector within Tamil Nadu and providing data hosting services to Government departments.

**2. Activities****IT Promotion and Development**

ELCOT has played a seminal role in making the State a destination of choice for Information Technology (IT) and Information Technology Enabled Services (ITeS) companies.

It has been a pioneer in the creation of 8 IT Special Economic Zones (SEZs) in Chennai and in Tier-II cities of the State viz., Coimbatore, Madurai (2 sites), Tiruchirappalli, Salem, Tirunelveli and Hosur, spread over 1378.16 acres of land (1321.61 acres in SEZ and 56.55 acres in non-SEZ space) at an investment of Rs. 844.57 crore.

The growth strategy of ELCOT is built around the main objectives of creation of IT parks with world-class IT infrastructure and increasing employment opportunities through the generation of additional economic activities, IT investment promotion and skill development. SEZs by ELCOT (ELCOSEZs) have enabled local IT firms to integrate with global value chains and have made significant contribution to the overall growth of exports, investment and employment opportunities in the IT/ITeS sector in the State. The IT/ITeS exports from ELCOSEZs during the year 2021-22 was Rs.22,958 crore and has generated direct employment for approximately 94,000 individuals.

ELCOT has participated/sponsored several promotional activities to project Tamil Nadu as the prime investment destination for IT/ITeS:

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- ▶ Pan IIT event “Global Virtual Technology Summit 2021” conducted on September 17-18, 2021
- ▶ CII CONNECT series held at ITC Grand Chola, Chennai on November 26-27, 2021.
- ▶ Regional CONNECT at Kanyakumari in March 2022 and Salem in April 2022.
- ▶ UMAGINE (a global tech and innovation summit) is proposed to be held at Chennai on September 21-23, 2022.

ELCOT is also the certification authority under the ICT Policy 2018 for availing additional FSI for IT Parks and Nodal Agency for the Tamil Nadu Data Centre Policy.

### 2. (ELCOSEZS)

#### **ELCOT Special Economic Zones (ELCOSEZs)**

##### **ELCOSEZ-Sholinganallur, Chennai**

ELCOT has established an ELCOSEZ spread over 377.08 acres at an investment of Rs.258.56 crore at Sholinganallur, Chennai. It has also created the necessary common infrastructure and an administrative building measuring 6,358 sq.ft.

These companies have established facilities in a built-up space of 109.31 lakh sq.ft. and provided employment to approximately 73,390 individuals. These private companies are in the business of Software Development, Maintenance and Testing, Consulting and Business Process Outsourcing.

To meet the growing demand of quality IT space for export-oriented MSMEs and other IT/ITeS companies in Chennai, the construction of 2.33 lakh sq.ft. Information Technology Tower at an estimated cost of Rs.88.21 crore is in progress at Sholinganallur.

##### **ELCOSEZ-Vilankurichi, Coimbatore**

ELCOT established an ELCOSEZ over an area of 61.59 acres of land investing Rs.217.46 crore at Vilankurichi, Coimbatore.

The necessary common infrastructure and an administrative building measuring 3,524 sq.ft. have also been created.

##### **Upcoming Information Technology Tower:**

To meet the growing demand of quality IT space for IT/ITeS companies in Coimbatore, a 2.66 lakh sq.ft. Information Technology Tower at an estimated cost of Rs.114.16 crore is under construction at Vilankurichi.

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**ELCOSEZ-Ilandhaikulam, Madurai**

ELCOT has established an ELCOSEZ across 28.91 acres of land at an investment of Rs.34 crore at Ilandhaikulam, Madurai and created the necessary common infrastructure along with an administrative-cum-IT building measuring 60,205 sq.ft.

In addition, 6,650 sq.ft. land has been leased to Rebar Design and Detail Pvt. Ltd. These private companies have created the necessary infrastructure by constructing 7.22 lakh sq.ft. IT space in this ELCOSEZ.

**ELCOSEZ–Vadapalanji, Madurai**

ELCOT has established an ELCOSEZ in 245.17 acres of land (213 acres in SEZ and 32.17 acres in non-SEZ space) at an investment of Rs.70 crore at Vadapalanji, Madurai and created the necessary common infrastructure including a road-over-bridge. ELCOT has also constructed an Administrative-cum-IT building measuring 70,139 sq.ft.

**ELCOSEZ-Navalpattu, Tiruchirappalli**

ELCOT has established an ELCOSEZ in 147.61 acres with SEZ area of 123.23 acres of land at an investment of Rs.80.55 crore in Navalpattu, Tiruchirappalli. It has created necessary common infrastructure and constructed an administrative-cum-IT building measuring 59,960 sq.ft.

**Upcoming Information Technology Tower:**

To meet the growing demand of quality IT space for IT/ITeS companies at Tiruchirappalli, 1.16 lakh sq.ft. Information Technology Tower at an estimated cost of Rs.48.10 crore is under construction at Navalpattu.

**ELCOSEZ-Gangaikondan,**

**Tirunelveli**

ELCOT has established an ELCOSEZ in 290 acres of land at an investment of Rs.55 crore at Gangaikondan, Tirunelveli and created the necessary common infrastructure and constructed an Administrative-cum-IT building measuring 56,720 sq.ft. In the IT building, 5,994 sq.ft. Space is allotted to Caliber Interconnect Solutions Pvt. Ltd.

In this ELCOSEZ, Syntel International Pvt. Ltd. has constructed 2.60 lakh sq.ft. IT building. It is operating with around 80 employees and providing software services.

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#### **ELCOSEZ-Jagirammalayam, Salem**

ELCOT has established an ELCOSEZ in 53.33 acres of land at an investment of

Rs.44 crore at Jagirammalayam, Salem, created the necessary common infrastructure and constructed an Administrative-cum-IT building measuring 62,174 sq.ft.

#### **ELCOSEZ-Viswanathapuram, Hosur**

ELCOT has established an ELCOSEZ in 174.47 acres of land at an investment of Rs.85 crore at Viswanathapuram, Hosur, Krishnagiri, created the necessary common infrastructure and constructed an Administrative-cum-IT Building measuring 62,100 sq.ft. In this ELCOSEZ, 12 acres of land has been earmarked for TNEB.

#### **3. FINBLUE–CENTRE OF EXCELLENCE (COE) IN FINTECH**

A Centre of Excellence (CoE) in FinTech, called 'FinBlue', has been set up at Software Technology Parks of India (STPI), Chennai, with State Government contribution of Rs.5.75 crore. FinBlue will provide the necessary support, mentoring and guidance to Start-ups. It will act as the nucleus of FinTech activity in Tamil Nadu by collaborating with National and International FinTech regulatory organizations. Through its various initiatives, it will attract investments into the State.

#### **4. TAMIL NADU STATE WIDE AREA NETWORK (TNSWAN)**

It is a scheme jointly started by the Central and State Governments under the National e-Governance Plan (NeGP). TNSWAN commenced its operations with 708 Points of Presence (PoPs) that have now increased to 829 PoPs. TNSWAN enables State Government departments to access their applications, services and servers hosted in Tamil Nadu State Data Centre (TNSDC) in a secured manner. It is being used by 3000+ offices of various departments of the Government of Tamil Nadu.

TNSWAN provides voice, data and video connectivity to all Government departments, enables efficient workflow in the Government and facilitates delivery of services to the citizens.

The National Knowledge Network (NKN) has been integrated with TNSWAN at district PoPs as per the guidelines of the Ministry of Electronics and Information Technology (MeitY), Government of India.

**TNSWAN Phase-2 Extension**

The Government of Tamil Nadu had approved the extension of TNSWAN Phase-2 operations for a period of 3 years up to February 2022. It will be extended upto 13.08.2022.

**5. TAMIL NADU STATE DATA CENTRE (TNSDC)****Tamil Nadu State Data Centre-1 (TNSDC-I)**

The Government of Tamil Nadu implemented the first ISO certified State Data Centre (TNSDC-1) in the country in 2011. It was operationalized with a capacity of about 65 racks at a budget of Rs.138 crore for a period of 12 years.

**Tamil Nadu State Data Centre-2 (TNSDC-II)**

As TNSDC-I has been almost completely utilised, TNSDC-II, the second phase of TNSDC, was established and operationalised from the year 2020 at a budget of Rs.74.7 crore. The Data Centre can accommodate 195 racks. Its modular design supports seamless scale up.

More than 253 applications/services are currently hosted in TNSDC-I, TNSDC-II and Cloud ‘Thamizh Megam’. The e-Office application of the State’s initiative for paperless office has been deployed at TNSDC and State level roll out is in progress.

**6. Thamizh Megam-TN Cloud Computing Services**

The State cloud infrastructure, trademarked as ‘Thamizh Megam’, enables optimal sharing of system resources with minimal management. It is operational since 2016 at a cost of Rs.13.88 crore. At Thamizh Megam, Infrastructure-as-a-Service (IaaS) and Platform-as-a-Service (PaaS) are being offered and 128 applications/services are being hosted.

The cloud infrastructure is enhanced and the Disaster Recovery facility has been extended at a budget of Rs.9.98 crore.

**7. TAMIL NADU DISASTER RECOVERY CENTRE (TNDRC)**

The Tamil Nadu Disaster Recovery Centre (TNDRC) was established at ELCOSEZ, Tiruchirappalli and has been operational from the year 2018. This provides business continuity for various critical e-Governance applications hosted in TNSDC in the event of any breakdown or disaster.

**8. CYBER SECURITY ARCHITECTURE FOR TAMIL NADU (CSA-TN)**

Cyber Security Architecture for Tamil Nadu (CSA-TN) has been established to counter cyber-attacks in collaboration with the Centre for

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Development of Advanced Computing (C-DAC), Chennai, at a cost of Rs.21.39 crore for a period of 3 years.

The three pillars of Information Security Management System (ISMS), namely, People, Process and Technology are strengthened as below:-

#### **People**

- a. Departments are assigned with a Chief Information Security Officer (CISO)/Information Security Officer (ISO) for the department employees to reach out to in case of any cyber related issues/threats. Periodically, CISO/ISO are given training on Cyber Security awareness.
- b. Classroom-based and virtual training are conducted across Tamil Nadu to educate the department officials on how to secure their assets and report incidents.
- c. Cyber Security Incident Response Team – A trained pool of experts on Cyber Security is made available for prompt response and recovery in case of any cyber incident.

#### **Process**

a. National Institute of Standards and Technology (NIST) - The NIST cyber security framework is a powerful tool to organize and improve the cyber security program. It is a set of guidelines and best practices to help organisations build and improve their cyber security posture with 5 main functions, namely, identify, protect, detect, respond and recover. CSA-TN is one of the pioneers in implementing NIST for State-wide Cyber Security Program.

b. The release of a strong Cyber Security Policy to identify and protect against threats.

c. A helpdesk section of CSA-TN helps departments with rescue activities in case of defacing/hacking/breaching using quicker and reliable channels to detect, respond to and recover from cyber incidents.

d. The Cyber Crisis Management Plan (CCMP) for cyber resilience defines how the organizational plan to respond to a cyber incident can work the difference between success and failure of a Cyber Security Program. The speed at which the CMG (Crisis Management Group) and CMC (Crisis Management Cell) identify and mitigate such incidents makes a significant difference in controlling their risks, costs and exposure. A comprehensive CCMP document is being charted out.

e. Regular auditing of the systems/workstations of the entire State is planned and execution is already underway.

**Technology**

a. Complete Security Operation Centre (SOC) and Network Operation Centre (NOC) have been established as part of CSA-TN to monitor the critical assets.

b. Security Information and Event Management (SIEM) solution are established as part of SOC-TN to prevent attacks for critical assets.

As on date,

- Around 4000 brute force credential access events detected.
- Around 47 endpoint denial of service activities detected.
- Around 3,847 lateral movement incidents detected.

c. Antivirus installation -To prevent any cyber attack at Secretariat, around 2,533 machines were identified and completely scanned. Antivirus (AV) software was installed in around 813 machines for which AV had expired.

**9. TAMIL NADU e-GOVERNANCE AGENCY (TNeGA)****1. Introduction**

The Directorate of e-Governance was created in 2006 to lead all the e-Governance initiatives of the Government of Tamil Nadu. The Tamil Nadu e-Governance Agency (TNeGA) was created as an autonomous society registered under the Tamil Nadu Societies Registration Act, 1975, to implement and align with the National e-Governance Plan.

**2. Objectives**

- i. To offer the benefits of information technology to the citizens, firms and the Government through awareness creation, education and capacity building program.
- ii. To position itself as an institution dedicated to promote e-governance by combining the best, that the specialized institutions in the country have to offer into a holistic program.
- iii. To help create a State-wide strategic architecture for e-Governance.
- iv. To be the primary technology and innovation driving organisation for the Government of Tamil Nadu.
- v. To support change management in digital transformation projects.
- vi. To conceptualise and stipulate standards for interoperability.
- vii. To create an ecosystem of academic institutions, research organisations, start-ups, funding agencies and eminent individuals, to innovate, design and implement solutions for pressing governance issues.

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- viii. To build the soft infrastructure for e-Governance, help improve the competitiveness of the State and make the State future ready.
- ix. To support capacity building of all Government employees at all levels in Information Technology to enable efficient Governance.
- x. To create secure cyberspace for Government departments.

#### **10. STATE E-MISSION TEAM (SEMT)**

A State e-Mission Team (SeMT) has been formed to enhance internal professional capacity and support in the areas of program management, technology, enterprise architecture and change management. SeMT is funded by the Ministry of Electronics & Information Technology (MeitY), Government of India and is functioning under the overall control of TNeGA.

#### **11. CENTRE OF EXCELLENCE IN EMERGING TECHNOLOGIES (CEET)**

Tamil Nadu Government has established a Centre of Excellence in Emerging Technologies (CEET) under the aegis of TNeGA to focus on emerging technologies such as Artificial Intelligence, Blockchain, Data Analytics and Internet of Things (IoT). This will help the Government adopt Artificial Intelligence (AI) and Blockchain in various sectors such as healthcare, agriculture and education to serve the citizens better.

CEET acts as a catalyst for encouraging innovation in various Government departments and proposes to:

- i. Find low-cost scalable solutions for Government problems.
- ii. Establish and foster partnerships with Government departments, agencies, corporate entities, industry bodies and academic institutions working in emerging technologies.
- iii. Define and promote best practices and standards followed across the globe in emerging technologies.
- iv. Engage in capacity building, training and orientation of Government officers at various levels.
- v. Reach out to other organisations offering similar, complementary or supplementary technologies.
- vi. Organise development programs, training courses, conferences, seminars, guest lectures and other related activities.
- vii. Organise workshops in the areas of emerging technologies, invite innovative ideas and nurture innovation.



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viii. Research output in terms of working papers, industry papers, peer reviewed journal articles, conference presentations etc.

ix. Take specific prototyping and development tasks in emerging technology areas based on the needs of the Government departments.

x. Evolve reuse software strategies for asset creation and consumption by Government departments.

#### **Achievements/Awards of CEET during last year**

##### **Data Analytics**

- Data Purity – Information Technology Department has instructed all Government departments to share a copy of the data including transaction data. TNeGA will process this data for data-driven decision making. It will also issue mandatory directions related to standards on data copy, corrections, collections, format, meta-data, transfer, use and storage.

Current Position - Using the data received from the departments, specific questions raised from Hon'ble Chief Minister's Office and other departments were answered.

Under this project, the family counts in Chief Minister's Comprehensive Health Insurance Scheme (CMCHIS), Jewel loan waiver scheme beneficiary identification, number of cylinders in LPG vs PDS, comparing OAP with death date, employee and pension data have been validated and crores of money have been saved to the Government exchequer.

- Tamil Nadu Decision Support System (DeTN - CM Dashboard) – The CM Dashboard was launched to monitor implementation of schemes and projects and to provide insights for policy making. The dashboard displays the Key Performance Indicators (KPIs) of various department schemes/programs in near real time. It offers a comprehensive data analytics capability along with visual representation to aid decision making. Current position - Hired around 50 Data Analysts and Engineers to work with all departments ensuring the quality of data flowing into the CM Dashboard, data purity, data standards and open data in the future.

- Business Intelligence Platform – Working with Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO) in developing a Business Intelligence platform that will help them with day-to-day operational decisions. Also working on the AI model to predict the demand to reduce last minute purchases at a higher price.

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**Artificial Intelligence / Machine Learning (AI/ML)**

- Health department – Developed e-Paarvai, a cataract detection mobile app using AI and currently getting rolled out for the whole State. Feasibility study is completed for developing a Proof of Concept (PoC) for detecting Tuberculosis.
- Face Recognition Attendance System (FRAS 2.0) – AI/ML based face recognition and attendance marking system developed by TNeGA and being used by TNeGA, TANGEDCO and 2 organisations in Kanyakumari. The next version FRAS 2.0 is developed using Android for scaling the current solution across the State and the first roll-out is planned for Commissionerate of Rehabilitation and Welfare of Non-Resident Tamils.
- Integrated Child Development Scheme (ICDS) – Android based mobile app similar to ‘Poshan Tracker’ is being developed to capture the growth and nutrition data in Anganwadis. The data collected will be used to develop AI models to predict malnutrition for children aged 0-5. The data obtained will be linked to other relevant datasets for analytics and policy decisions.

**Awards:**

The AI based e-Paarvai solution developed to detect cataract using a mobile phone, won the National ‘AI Game Changers 2021’ award from NASSCOM.

**Capacity Building and Events:**

AI Conclave 2021 – more than 100 companies participated in the event.

**Centre of Excellence in Emerging Technologies (CEET)-Ongoing e-Governance Projects :**

CEET works with multiple departments in conceptualising, designing, developing and delivering several e-Governance applications.

- Know Your Government, a State portal, will be developed and the existing State portal will be migrated to the new portal.
- Next generation integrated service delivery platform, e-Sevai 2.0, will be developed using the latest cutting edge technologies to replace the existing e-Sevai platform. e-Sevai 2.0 will be modular, scalable and composable and will be integrated with SFDB, Blockchain and predictive service platform in the future that provide efficient citizen delivery.
- Predictive Services Platform – To build a framework for predictive and prescriptive governance, aimed at assisting policymakers in making informed and evidence-based decisions by providing them with critical, actionable insights and in making governance a seamless process. The end beneficiaries are the public, as life becomes much easier for them with Government services reaching their

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doorsteps without any explicit efforts from their side. Platform will be built on top of SFDB and Blockchain initially and scaled across department service portals.

- Tamil Nadu Legislative Assembly Secretariat (TNLAS) - Digitisation and Management of Electronic Records of Legislature (DMERL) project digitises the debate books and committee reports from the year 1921 in multiple phases.
- Finance department and National Payment Corporation of India (NPCI) – To develop a common digital payment solution to handle all C2G, G2G, G2C payments through a unified system. This will provide transparency in payments to Government services.
- Commissionerate of Revenue Administration and Disaster Management - To develop a common application for Disaster Relief Management, matching the relief needs and supplies during disaster situations and manage logistics during disasters.
- Tamil Nadu Water Supply and Drainage Board (TWAD)– A DPR for end-to-end computerisation of department activities and work flow is under preparation.
- Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO)– A mobile application for automatic capture of meter reading is being developed.
- Environment, Climate Change and Forests Department – A DPR has been prepared for end-to-end computerisation of department activities, digitize G2C services and to integrate them with e-Sevai 2.0.
- Tourism, Culture and Religious Endowments Department - A website has been developed for Aazadi ka Amrut Mahotsav – Suthanthira Thirunaal Amudha Peruvizha (STAP).
- Tamil Nadu Archives and Historical Research department – A portal has been developed for digitization project.
- Registration Department - Digitization of registration documents prior to 1950-1974.
- Tamil Nadu Forest Plantation Corporation Limited (TAFCON) - DPR has been prepared for end-to-end computerisation.
- Recently developed the Chief Minister's Public Relief Fund (CMPRF) portal to collect donations from public and philanthropists for relief related activities in the State.
- IT Nanban, a unified portal has been developed to connect the IT Industries, companies and Government that enables active participation to the growth of the State.

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- Micro, Small and Medium Enterprises department – Developed ‘Valar 4.0’, a Networking Portal for Industries stakeholders in Tamil Nadu to promote collaboration between Industry and Academia on leveraging research to adopt technologies related to Industry 4.0.

#### **Policy and Strategy**

CEET has actively contributed to the research and drafting of the below policies:-

- Digital Transformation Strategy of Tamil Nadu (DiTN)
- Tamil Nadu Data Policy, 2022
- Reference Standards, 2022

#### **12. DISTRICT E-GOVERNANCE SOCIETIES (DEGS)**

District e-Governance Societies have been constituted in all Districts. This Society is headed by the District Collector, except in Chennai, where the Commissioner, Greater Chennai Corporation, is its head. It provides overall guidance to e-Governance projects at the district level. DeGS gets a 5% revenue share from the e-Sevai operations.

#### **13. TAMIL NADU BLOCKCHAIN BACKBONE – NAMBIKKAI INAIYAM**

The State-wide Blockchain Backbone (Nambikkai Inaiyam - நம்பிக்கை இணையம்) will enable departments of Government of Tamil Nadu to use blockchain infrastructure in a plug-and-play model and can be used as single source of truth. Nambikkai Inaiyam will be used to develop applications such as securing the documents and records of Hindu Religious and Charitable Endowments (HR&CE), land related documents, education certificates, marksheets, certificates and licenses issued through e-Sevai platform, authentic seed certification for agriculture department and certifying authentic handicraft of Tamil Nadu. Other applications of this platform includes automated certificate verification for Tamil Nadu Engineering Admission (TNEA) process, protecting Government websites and portals and enabling easy verification of Government issued certificates/licenses.

#### **Current Position**

- Nambikai Inaiyam Backbone – The backbone network allows onboarding of different departments to share common ledgers and automate inter-departmental workflows.
- Developing blockchain applications for Department of Higher Education, Medical Education and Technical Education to make education certificates available in the Citizen Wallet.

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- Developing blockchain applications for Commercial Taxes and Registration Department for annual integrity checking of registration documents and making the registration certificates available in the Citizen Wallet.
- Proof of Concepts are being developed for the Environment, Climate Change and Forests Department and Handlooms, Handicrafts, Textiles and Khadi Department to track the assets, licenses and Geographical Indicators (GI) tagged items.

#### **14. TAMIL NADU GEOGRAPHICAL INFORMATION SYSTEM (TNGIS)**

A Geographic Information System (GIS) uses spatial information in layers arranged geographically. It allows creation, storage, processing and visualization of the spatial information. TNGIS - Tamil Nadu State Spatial Data Infrastructure (TNSSDI) Portal [www.tngis.tn.gov.in](http://www.tngis.tn.gov.in) is a one-stop-source for all the geospatial data for the State of Tamil Nadu with 358 layers. Currently a modular Web-GIS framework is being developed.

#### **15. DIGITAL TAMIL NADU (DiTN)**

The mission of the DiTN is to enable all Government departments to transform their services and functions. This will provide transparent and citizen-centric Government to citizens. A Project Management Unit has been established and a strategy document is being prepared for laying out the roadmap.

#### **16. E-SEVAI**

G2C Services are provided electronically through Common Service Centres via walk-in and through a web-based open citizen portal for access anytime/anywhere. The e-Sevai centres are run by Tamil Nadu Arasu Cable TV Corporation Ltd. (TACTV), TACTV Franchise, Primary Agricultural Co-operative Credit Societies (PACCS), Tamil Nadu Corporation for Development of Women (TNCDW), Fisheries and Fishermen Welfare Department, Village Level Entrepreneurs (VLEs) and Cantonment Board to deliver Government services to the public near their home. Compared to last year, 56 more services were added to the bouquet of e-Services this year.

Between 2020 and 2021, the total number of transactions grew by 101% and at a Compound Annual Growth Rate (CAGR) of 12% between 2016 and 2021. In 2018, a citizen portal was launched, allowing citizens to apply for e-Sevai services from their own mobile phones or laptops anywhere/anytime. There has been a steady increase in the number of transactions on the citizen portal since then. From only 2% of the e-Sevai transactions being delivered over the citizen

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portal in 2018, it has increased to more than 20% in 2021. The goal is to have 50% of the e-Sevai transactions through the citizen portal.

To promote digital economy, e-Sevai centres have been equipped with Aadhaar enabled payment systems. Citizens can now avoid cash payments and instead use biometric authentication to pay digitally. What cannot be measured cannot be improved. Hence, a feedback system has been implemented in all e-Sevai centres to collect granular service feedback and overall feedback through an Interactive Voice Response System (IVRS). IVRS pushes around 15,000 calls every day and receives feedback from the public, which helps to improve the quality of services.

#### **17. AADHAAR ENROLMENT - PERMANENT ENROLMENT CENTRES**

Directorate of e-Governance / TNeGA is the State Registrar for Unique Identification Authority of India (UIDAI) to carryout Aadhaar enrolment through Permanent Enrolment Centres across Tamil Nadu. Electronics Corporation of Tamil Nadu (ELCOT) and Tamil Nadu Arasu Cable TV Corporation (TACTV) have been appointed as the enrolment agencies under the Registrar.

Permanent Enrolment Centres (PECs) are operated at Secretariat, Ezhilagam, all Taluk offices, Head Quarters and Zonal offices of Greater Chennai Corporation by Tamil Nadu Arasu Cable TV Corporation (TACTV). ELCOT is operating the Permanent Enrolment Centres at all the Collectrates, Municipalities/Corporation Zonal offices (other than Chennai). Aadhaar enrolment is done free of cost for the public.

#### **18. State Call Centre and Helpline (1100)**

‘Integrated and Inclusive Public Grievance CM Helpline Management System’ (IIPGCMS) has been implemented as an integrated system to allow citizens to register their petitions through multiple channels such as helpline on 1100, online web portal, mobile application, e-Mail, social media or physical submission. Prior to this system, departments used to run independent grievance handling systems – both physical and electronic which were not effective.

This integrated system has been handling the petitions submitted under ‘Mudhalvarin Mugavari’ and it assigns, tracks and monitors grievances across all Offices.

#### **19. SiTN - Simplify TN**

A new initiative called ‘Simplify TN’ has been undertaken to simplify governance. TNeGA is helping in process re-engineering activities in various

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Government departments / Directorates / Commissionerates / Boards on a pilot basis. Priority is being given to areas with maximum public interface. Process compliances, licenses, acts, regulations, rules, Government orders, guidelines and circulars are being studied. Re-engineering measures will be drafted and discussed with the departments for implementation.

#### **20. E-PAARVAI: AI-BASED CATARACT DETECTION SYSTEM**

Cataract is one of the main reasons of blindness in India. Detection of Cataract at its initial stages can help save the vision. Currently, individuals come to district hospital when they are at their late stages of Cataract. TNeGA has developed an AI-based mobile application to provide quick screening of Cataract. The pilot was initially done in three districts, namely, Madurai, Nagapattinam and Vellore, and subsequently it has been rolled out in 34 districts.

#### **21. e-Office**

e-Office is the application suite that allows automation of routine tasks and processes within the Government offices. The Electronic File Management System (e-File) helps create 'paperless' offices, allows speedy disposal of files and improves governance. The communication both within and across offices is almost real-time leading to improved efficiency in decision making. The audit and history features add to the transparency of the processes.

So far, 43,359 users across 42 departments / offices are using this application. TNeGA is rolling out e-Office application to all offices under the administrative control of the Government of Tamil Nadu. In Phase-I, the Secretariat officials in all departments of the Secretariat have been trained in e-Office. It is expected that the Secretariat will be fully on e-Office by June 2022. Simultaneously, e-Office is being rolled out in Heads of the Departments and District Collectorates (and its subordinate offices) and the work will be prioritized after rollout at the Secretariat is completed.

#### **22. Namadhu Arasu (MyGov)**

'Namadhu Arasu' is a unique platform for the people of Tamil Nadu to participate in governance, sharing ideas and suggestions with the Government in areas related to policies, programs and schemes. This helps build a good partnership between citizens and the Government and promotes participative Governance.

#### **23. Tamil Nadu Data Policy**

TNeGA is the Nodal Empowered Agency for the Government data vide Tamil Nadu Data Policy published by the Information Technology department,

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Government of TamilNadu. The data collected by TNeGA will be co-owned by it on behalf of the Government of Tamil Nadu with the primary owner being the agency / department / ministry / entity that collected and provided it to TNeGA.

CEO, TNeGA, is the State Chief Data Officer for implementing the various tenets of the policy. The thirteen principles of the policy are as follows:-

- Openness
- Privacy
- Ethics and Equity
- Flexibility
- Transparency
- Legal Conformity
- Protection of Intellectual Property
- Interoperability and Standards
- Quality
- Security
- Accountability and Formal Responsibility
- Sustainability
- Usability

#### **24. iTNT Hub**

The Government of Tamil Nadu has proposed to establish Tamil Nadu Technology Hub (iTNT Hub) in Chennai, Madurai and other Tier-II and Tier-III cities over a period of 5 years. These hubs will facilitate innovation via startups in the IT and deep technology space. The primary objective of iTNT Hub will be to nurture the innovation ecosystem in Tamil Nadu that can guide, develop, implement and support startups.

A section 8 company shall be the implementing agency for this project in conjunction with Software Technology Parks of India (STPI) under the aegis of IT Department, Government of Tamil Nadu. The total budgetary outlay for setting up and operationalizing the iTNT Hub is estimated to be of Rs.54.76 crore.

#### **25. TAMIL NADU ARASU CABLE TV CORPORATION LIMITED (TACTV)**

##### **1. Origin**

Arasu Cable TV Corporation Ltd., was formed under the Companies Act, 1956, on 04.10.2007 with the objective of safeguarding the livelihood of Local Cable TV Operators (LCOs) and providing high quality Cable TV service at a low cost to the public. “Arasu Cable TV Corporation Ltd.,” was renamed as “Tamil Nadu Arasu Cable TV Corporation Limited” (TACTV) on 26.08.2011.



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**2. Vision**

To provide high quality Cable TV and e-Sevai services to the public at an affordable cost using latest technologies.

**3. Mission**

- To provide high quality digital Cable TV service to the public at an affordable cost through the LCOs.
- To provide an enabling environment to facilitate the livelihood of LCOs through cable TV and Internet services.
- To provide role model ‘e-Sevai front offices’ for the benefit of the general public.
- To provide high quality Internet service to the public at an affordable cost through the LCOs.

**4. Digital Cable TV Service**

The Ministry of Information and Broadcasting, Government of India, granted the DAS License to TACTV on 17.4.2017 for providing Digital Cable TV Service. TACTV is the first State Government Undertaking in the Cable TV industry to get DAS License in the country.

In order to ensure best quality pictures with the latest Digital Cable TV technology, TACTV also upgraded its existing MPEG2 Digital Head End at Chennai to MPEG4 Digital Head End with higher channel capacity in Digital Transmission.

TACTV started the Digital Cable TV Service with the upgraded MPEG 4 Digital Head End at Chennai and distribution of free Standard Definition Set Top Boxes on 01.09.2017. The High Definition Cable TV service was provided on 02.07.2018 at 5 locations viz., Chennai, Salem, Coimbatore, Tiruchirappalli and Madurai.

TACTV is providing Digital Cable service at the subscription fee of Rs.140+GST with 217 channels (140 FTA channels + 77 pay channels). This is the lowest Digital Cable TV subscription rate in the country. The revenue sharing pattern is fixed as Rs. 70+GST for TACTV and Rs. 70+GST for Local Cable TV Operators. Steps are being taken to provide the new STBs with the latest technology to ensure quality digital TV signals are reaching the common people at an affordable cost.

**26. TAMIL NADU FIBRENET CORPORATION LIMITED (TANFINET)**

Tamil Nadu FibreNet Corporation (TANFINET) is a Special Purpose Vehicle (SPV) setup by the Government of Tamil Nadu to implement the BharatNet phase-II project to provide high speed broadband connectivity in the

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rural areas of the State. 'TAMILNET' is envisioned by TANFINET to extend the connectivity to urban and semi-urban areas. This unified digital infrastructure will digitally empower the citizen of Tamil Nadu by bridging the digital divide and connecting them to the knowledge economy.

#### **27. BHARATNET**

BharatNet project, at an approved cost of Rs.1815.31 crore, envisages laying Optical Fibre Cable (OFC) for 49,500 km to connect 12,525 Gram Panchayats across the State. It is further proposed to extend the connectivity beyond the Gram Panchayats to all the inhabited villages across the State.

A Master Service Agreement (MSA) has been executed with the bidders of packages A, C and D and the work is ongoing. Package B is under litigation in the Hon'ble High Court of Madras. The Project is expected to be completed within one year from the issuance of work orders to Master System Integrator / System Integrators (MSI/SIs).

#### **28. TAMILNET**

TamilNet will connect all the Corporations, Municipalities and Town Panchayats through optical fibre, enabling the urban citizens to reap the benefits of the digital revolution. BharatNet aims to provide connectivity only to rural areas and would primarily act as an access network.

TamilNet, on the other hand, will provide connectivity to all urban and semi-urban areas and would act as the Core and Aggregation network. TamilNet will act as the backhaul optical fibre infrastructure for BharatNet. TamilNet is proposed to be implemented parallelly with BharatNet to achieve a Unified Digital Infrastructure (UDI) for the State.

#### **29. TAMIL VIRTUAL ACADEMY (TVA)**

##### **Introduction**

Tamil Virtual University was established as per the Tamil Nadu Co-operative Societies Act, 1975 Section 27 and renamed as Tamil Virtual Academy (TVA) on 16th July, 2010. It functions under the administrative control of the Information Technology Department to provide Tamil education through internet for the Tamil Diaspora and promote Tamil Computing.

##### **Objectives**

- ❖ To conduct Certificate, Higher Certificate, Diploma, Higher Diploma and Degree courses in Tamil.
- ❖ To promote Tamil Computing.

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- ❖ To maintain Tamil Digital Library and Digital Cultural Repository.
- ❖ To provide information about Tamil culture and civilization to the Tamil Diaspora and others across the Globe.
- ❖ To provide access to all contents through [www.tamilvu.org](http://www.tamilvu.org).

**Academic Programs**

Primary Course, Certificate Course, Higher Certificate Course, Diploma, Higher Diploma and Degree (B.A. Tamilology) Courses are being offered by TVA.

**Primary Course**

Primary Course is designed for Kindergarten students.

**Certificate Course**

Certificate Courses are offered at three levels as below:

- Basic Level (equivalent to classes 1 and 2)
- Intermediate Level (equivalent to classes 3 and 4)
- Advanced Level (equivalent to classes 5 and 6)

So far, 10,441 students have passed in the above courses.

**Higher Certificate Course**

Higher Certificate Courses are offered at three levels as below:

- Grade 1 (equivalent to classes 7 and 8)
- Grade 2 (equivalent to classes 9 and 10)
- Grade 3 (equivalent to classes 11 and 12)

So far, 1,175 students have passed in the above courses.

**B.A. (Tamilology) Degree Program**

B.A. (Tamilology) Degree program is modular in structure, consisting of Diploma, Higher Diploma and Degree courses.

The details of the students passed so far are as follows:

- ❖ Diploma – 1,738
- ❖ Higher Diploma - 1,191
- ❖ Degree - 883

The above academic programs are provided through 118 contact centres in 23 countries. The details may also be viewed in TVA website ([www.tamilvu.org](http://www.tamilvu.org)).

**Diploma in Tamil Computing course**

Hon'ble Minister for Information Technology has announced on the floor of Legislative Assembly that TVA shall start Diploma in Online Tamil Computing course.

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Accordingly, the curriculum has been designed and the lessons have been completed and ready for launch.

#### **30. Thirukkural**

In order to promote Thirukkural concepts among the youth, Tamil Virtual Academy is taking steps to undertake various activities under 'Theera Kadhal Thirukkural'.

A painting competition titled 'Kuraloviyam' was conducted for school and college students as first activity. The prizes for the best paintings were distributed by the Hon'ble Chief Minister of Tamil Nadu on 15.01.2022 (Thiruvalluvar Day) at Valluvar Kottam. Thirukkural daily table calendar book was printed by using the best 365 paintings and it was released by the Hon'ble Chief Minister. This calendar book is designed using only the English dates so that it can be used in the subsequent years.

#### **31. ICT ACADEMY OF TAMIL NADU (ICTACT)**

##### **Introduction**

Information and Communication Technology Academy of Tamil Nadu (ICTACT) is a not-for-profit organisation, started by the Government of Tamil Nadu in the year 2009, as a Public Private Partnership. The objective of ICTACT is to train the higher education teachers and students, especially in Tier-II and Tier-III cities in various ICT domains.

ICTACT follows a seven-pillar approach, namely:

- i. Faculty development
- ii. Student skill development
- iii. Entrepreneurship development
- iv. Youth empowerment
- v. Digital empowerment
- vi. Industry-institute interaction and research
- vii. Publications.

ICTACT is governed by an autonomous board of governors with representatives from the Government of Tamil Nadu and leading companies in the ICT industry.

##### **Activities**

The activities and achievements of ICTACT for the year 2021-22 are:

##### **Faculty Development**

5,605 faculty members have been trained through 35 faculty development programs in various ICT areas in the State.

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### **Skill Development**

ICTACT has trained and certified 14,442 graduating students from rural colleges in the State to improve their employability.

### **Entrepreneurship Development**

Conducted entrepreneurship awareness seminars benefiting 22,865 students from 64 colleges across Tamil Nadu.

### **Youth Empowerment**

- Organised “New India Learn-A-Thon 2021” activity for college students to inculcate the habit of self-learning and to make students learn foundations of trending technologies. 1,63,682 students participated and completed 1,02,318 online courses through this initiative.
- Conducted “Skill-A-Thon” initiative exclusively for second-year college students to build Robotic Process Automation (RPA) Literacy and to deploy basic Robots. 40,318 students completed their certifications.
- Conducted “Power Seminar” for college students. Around 63,623 students have been benefitted through 313 programs.

### **Research and Publications**

ICTACT publishes 6 peer reviewed International Research Journals on a quarterly basis. During the year 2021-22, 178 research papers were published. These are indexed in various international databases.

- ICTACT Journal on Communication Technology (IJCT)
- ICTACT Journal on Image and Video Processing (IJIVP)
- ICTACT Journal on Soft Computing (IJSC)
- ICTACT Journal on Micro Electronics (IJME)
- ICTACT Journal on Management Studies (IJMS)
- ICTACT Journal on Data Science and Machine Learning (IJDSML)

### **Digital Empowerment**

ICTACT is an assessment and certification agency for Pradhan Mantri Gramin Digital Saksharta Abhiyaan (PMGDISHA), a program of the Government of India. 11,61,177 candidates have been assessed and certified for Digital Literacy during 2021-22.

### **Industry Institute Interaction**

ICTACT has conducted the below conclaves with the support of leading corporate partners to create awareness on the upcoming technologies and their importance in academia. 7,111 senior educators benefitted from these events.

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- Trailblazer Connect India Program 2021
- Educators Conclave on Developing RPA Skills
- Educators Conclave on Post Pandemic Graduates
- Salesforce Trailblazer Connect India Program -2021
- Orientation Program on Amazon Web Services (AWS) Cloud Certification
- Industry Expert Session of Microsoft Azure AI and Data Fundamentals
- Explore Your Career with RPA Skills
- Grand Virtual Launch of Skill-a-thon

#### **New Corporate Social Responsibility (CSR) Projects Implemented (2021-22)**

ICT Academy has signed new CSR projects with leading corporate partners such as DXC Technology, Atos Syntel, HDFC Bank Parivartan, Honeywell Hometown Solutions, Inspirisys Systems, Tejas Networks and Marico Ltd.

Students and teachers in Tamil Nadu were given training on emerging technology skills, entrepreneurship skills and digital teaching skills.

#### **New Corporate Partners Signed**

ICT Academy has signed an MoU with UiPath Academic Alliance, Bentley and Juniper Networks to help students build their skills on the emerging technologies.

#### **“Nalaiya Thiran” - Experiential Project based Learning - An Initiative of Information Technology Department, Government of Tamil Nadu along with Tamil Nadu Skill Development Corporation, Anna University, ICT Academy of Tamil Nadu, NASSCOM, IBM**

“Nalaiya Thiran” is the first of its kind initiative which aims to expose students from engineering colleges across Tamil Nadu to have an innovative experiential learning.

It will provide students with hands-on experiences and reflection, enabling them to connect theory and knowledge to real-world situations. Learning will also be supplemented by mentoring support from various industry experts and assessment with a certification.

This elective course will be offered to IT and Computer Science students in their 6<sup>th</sup> semester of graduation as they get ready for employment and the assessment is added to the University credit.

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This initiative will be funded through Tamil Nadu Skill Development Corporation and implemented by ICT Academy of Tamil Nadu along with Anna University, NASSCOM and IBM.

#### **ICT Academy of Tamil Nadu and Autodesk Presents India Design Week 2022 Grand Finale**

ICT Academy of Tamil Nadu in association with Autodesk, has launched the India Design Week (IDW) 2022, a unique initiative for future designers to learn, explore, innovate and design products for different social problems using Autodesk Technology (Autodesk FUSION 360 software). The third edition of the IDW 2022 was conducted on 24th March 2022 at Sairam Institutions Chennai, Tamil Nadu. Around 127 students from 56 institutions participated in the 24 hours Design Challenge and worked on the problem statement given and presented their solutions to the panel of experts from leading Corporates and finally top 3 designs and team were recognised with Awards and Goodies.

#### **ICT Academy of Tamil Nadu - BRIDGE 2022.**

##### **The High Impact Industry-Institute Interaction Event of India**

ICT Academy of Tamil Nadu conducted its 46th edition of 'ICT Academy Bridge 2022', the High Impact Industry-Institute Interaction Event of India at Nagercoil, Kanyakumari District. The conference themed "Future of Work" brought together industry experts, academic leaders and government policy-makers to address the challenges faced in the era of Fourth Industrial Revolution, thus creating a correlated education ecosystem and formulating a strategic regulatory framework.

The conference was attended by more than 200 faculty members from 90 colleges across the southern districts of Tamil Nadu.