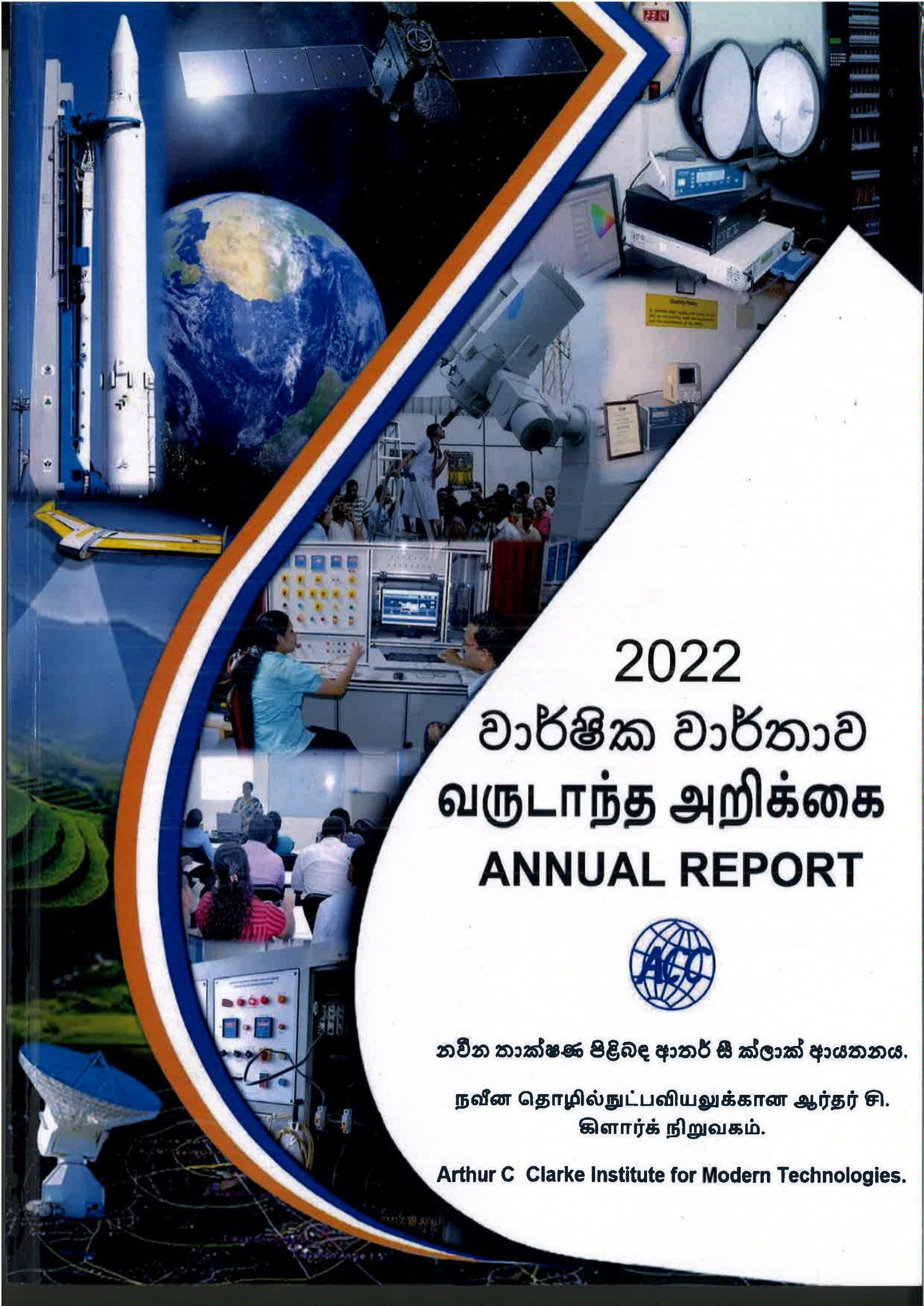

2022

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வருடாந்த அறிக்கை

ANNUAL REPORT

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நவீன தொழில்நுட்பவியலுக்கான ஆர்தர் சி. கிளார்க் நிறுவகம்.

Arthur C Clarke Institute for Modern Technologies.

Arthur C Clarke Institute for Modern Technologies
Annual Report 2022

Table of Contents **Page Number**

1.0 General Information

1.1. Governing Legislation

The Arthur C Clarke Institute for Modern Technologies (ACCIMT) is a statutory corporation operating within the purview of the Ministry of Education. The ACCIMT was established on April 1, 1998 by the Science and Technology Development Act. No. 11 of 1994 of the Parliament of Sri Lanka, as successor to the Arthur C Clarke Centre for Modern Technologies (ACCMT) established by the Act No. 30 of 1984.

The functions of the Arthur C Clarke Institute for Modern Technologies as specified in the Act are as follows:

(a) to accelerate the introduction of modern technologies to Sri Lanka by
   (i) initiating, promoting and conducting research and development in the application of modern technologies
   (ii) providing research and development support to the Government and private sector undertakings in the application of modern technologies and
   (iii) training of personnel in modern technologies to meet the needs of the Government and private sector undertakings and

(b) to promote future studies

The areas of modern technologies include Communication and related Sciences, Information Technology, Electronics, Micro-electronics, Space Technologies, Robotics, Photonics and New materials.

1.2. Vision

To be a leading innovation center for Modern Technologies in the region

1.3. Mission

To develop, foster and facilitate the domestic base of modern technological capabilities through innovation, R & D, training, industrial services and international collaboration

1.4. Governing Ministry

Ministry of Education (State Ministry of Skills Development, Vocational Education, Research and Innovation)

1.5. Members of the Board of Governors – 2022

No	Name	Position in the Board	Duration	
			From	To
01	Prof. Sisil Kumarawadu	Chairman, Board of Governors	January	August
02	Eng. (Dr.) Sanath Panawennage	Director General & CEO - ACCIMT Member, Board of Governors	January	December
03	Prof. K.P.S. Chandana Jayaratne	Member, Board of Governors	January	August
		Chairman, Board of Governors	September	December
04	Prof. N.D. Gunawardena	Member, Board of Governors	January	December
05	Mr. Merrick Goonaratne	Member, Board of Governors	January	December
06	Mr. Rajitha Dahanayake	Member, Board of Governors	January	December
07	Mr. Sushena Ranathunga	Member, Board of Governors	January	December
08	Mrs. U. Udugahapattuwa	Member, Board of Governors	January	March
09	Prof. A.K.W. Jayawardane	Member, Board of Governors	January	December
10	Prof. Ranjith Premalal de Silva	Member, Board of Governors	January	December
11	Prof. Sudantha Liyanage	Member, Board of Governors	May	September
12	Mr. S U Chandrakumaran	Member, Board of Governors	April	December

Board Meetings held for the year 2022

Board Meeting No.	Date of Meeting
2022/01	25th of January
2022/02	22nd of February
2022/03	22nd of March
2022/04	24th of May
2022/05	26th of July
2022/06	27th of September
2022/07	31st of October
2022/08	20th of December

1.6. Brief profile of Senior Management

Senior Management Brief Profile

Eng. (Dr) P. Sanath Panawennage
PhD, MSc, MBA, CEng., FIE(SL), MIET(UK)
Director General & CEO

Mrs. (Eng.) Kamani Ediriweera
BSc. Eng., CEng., MIE(SL), MPA
Deputy Director General (Technical Operations)

Mrs. G. H. C. Jayarani
LLB, AAL., MBASL, MPM
Senior Deputy Director (Administration & HR)

Mr. R. A. S. S. Gunasekera
BSc, PG Dip., MTech
Principal Research Scientist & Act. Director (Space Technology & Applications)

Eng. J. K. Jayawardena
BSc. Eng., PG Dip., CEng., MIE(SL)
Director (Communication Engineering)

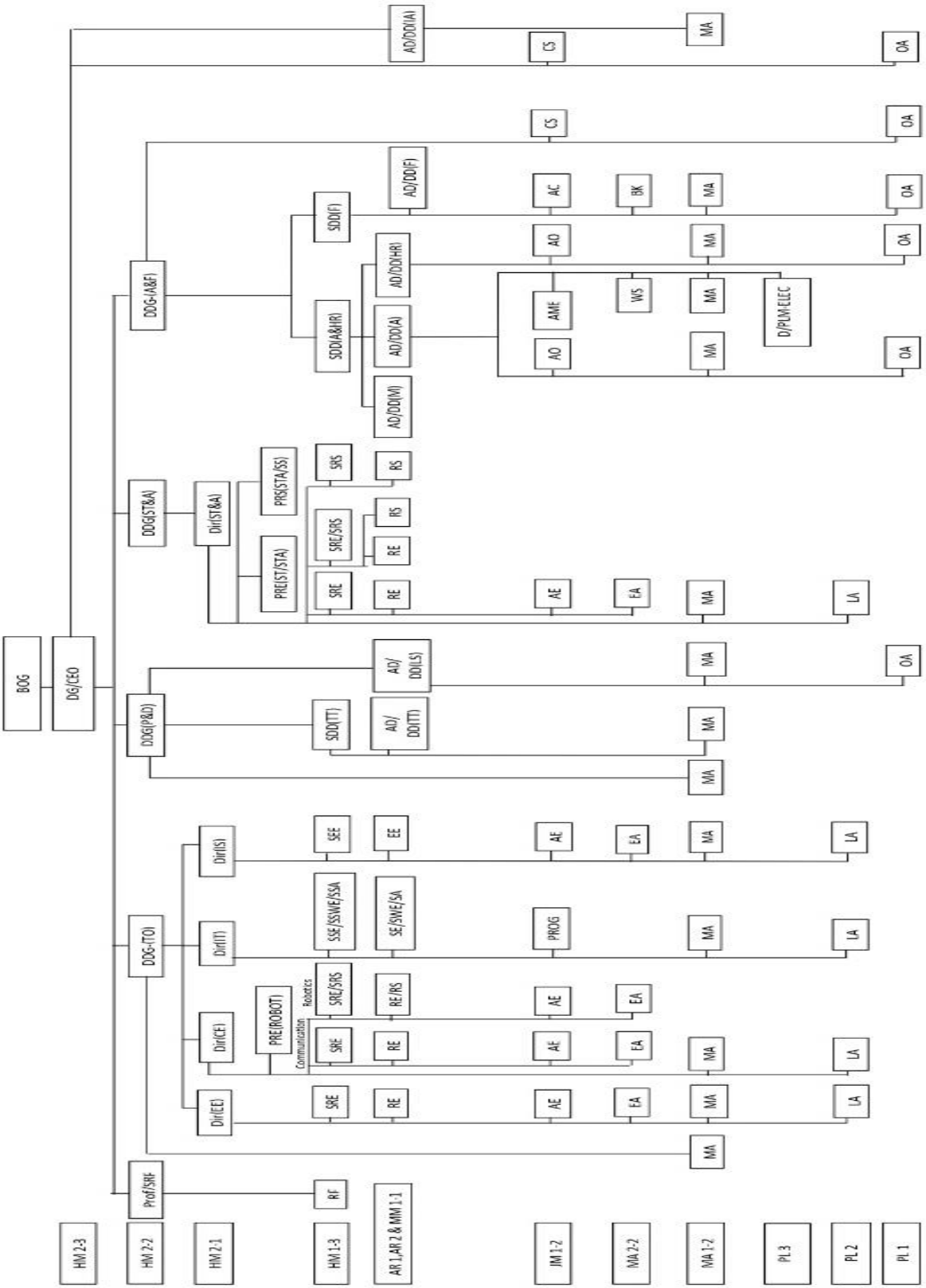
Mrs. (Eng.) J. D. P. S. Athuraliya
BSc. Eng., MSc, CEng. MIE(SL), MIET(UK)
Director (Electronic Engineering)

Mr. R. P. Dassanayake
BSc, PG Dip., MSc,
Senior System Analyst & Act. Director (Information Technology)

Eng. S. A. Welikala
BEng., PG Dip., MBA
Senior Deputy Director (Technology Transfer)

Mr. J S B Rathnayake
BSc, CASL (Finalist), SAT (SL)
Deputy Director (Internal Audit) & Act. Senior Deputy Director (Finance)

1.7. Organizational Structure



2.0 Chairman's Review

It is with great pleasure that I issue this brief message to the Annual Report of the Arthur C Clarke Institute for Modern Technologies (ACCIMT), for the Year 2022 as the Chairman of the Board of Governors of the Institute.

Year 2022 was a highly challenging year for ACCCIMT, as it was for the country at large. However, the Institute has managed to achieve significant success in its research and development and other technical activities despite the above non-conducive environment as well as the continuing limitations in attracting and retaining core categories of staff due to comparatively low remuneration.

While the successful collaborations that the Institute has developed with international organizations, has been a strategic success factor in the area of Space Technologies and Applications including the nano satellite programme, the Institute has developed a multitude of successful partnerships with public and private sector institutions in industry. The technological solutions developed by the Institute through such collaborations for such sectors as the plantation sector, industrial manufacturing sector and the transport sector (particularly the Railways) are particularly significant.

In the meantime, the Institute has reported noteworthy progress in the areas of continuing professional development and other types of training. The Institute progressed well with activities in the area of Astronomy – the Institute's only area of activity in fundamental services.

Prof. K.P.S.C. Jayaratne
Chairman
Board of Governors.

3.0 Director General's Report

During the year under review, the institute made significant progress in its key areas of activity, including research and development, technological services, and training and consultancies, whilst achieving in the meantime a significant degree of capacity development in its core areas of technology-specialization, mitigating to a large extent the impact of the adverse external environment that prevailed following the Covid-19 Pandemic and the onset of economic crisis.

With the launch of the advanced 6U Nano-Satellite KITSUNE into orbit on March 24, 2022, the institute recorded another important milestone in its programme for acquisition and development of national capacity in space technology –a vital domain of advanced technology that has been identified as a priority area for national capacity development, in multiple policy and strategy documents pertaining to the science and technology sector. The design, development, testing, launching, and in-orbit operation of the satellite, which was the second satellite that the ACCIMT partnered in building, was undertaken as a five-partite international collaborative project among the Kyushu Institute of Technology of Japan, the ACCIMT, Nanyang Technological University of Singapore, and the industrial partners Addnics Corporation and Harada Seiki Corporation of Japan. The satellite included five in-orbit research missions, including an earth observation camera mission, a satellite-based IoT mission, an ionospheric measurement mission, and in-orbit testing of a communication transceiver and a standardized 2U CubeSat bus.

It is significant that the ACCIMT's entry into the project as a collaborating partner was secured purely on the basis of its strategic and technological contributions, with no capital contribution from Sri Lanka, diligently leveraging the strong relations that the institute has developed with international actors in the space domain, including through the multiple leadership roles that the institution has played, representing Sri Lanka in multiple international/intergovernmental forums for international cooperation in capacity-development in the space-domain over the past years.

In another initiative on nanosatellite development, the institute commenced an in-house project for design and testing of the Engineering Model of a 1U cube satellite. This capacity development project would lead to gain exposure in systems engineering, space testing of locally made nanosatellite sub systems and explore the possibility of supplying subsystems

such as power, on board computer, communication etc. to the booming global nanosatellite industry.

On another front, the institute has also undertaken several collaborative projects to contribute towards effective use of technology in Sri Lanka's Tea Industry. In response to skilled labour shortage (of tea-pluckers) faced by the tea industry in the country, the ACCIMT, in collaboration with the Tea Research Institute of Sri Lanka, initiated a project aimed at developing a potential mechanization solution. The targeted efficiency of the harvester is four times that of manual plucking. Significant progress has been made on the project during the current year, with highly successful prototypes developed. These prototypes have achieved a selectivity efficiency rate exceeding 70%. The ongoing product development efforts are focused on further refining and enhancing the technology.

Apart from above key projects, following industry-initiated design and development projects have been either initiated or delivered in year 2022 namely, Technology support to Tea Research Institute of Sri Lanka: Agriculture-cell for climate and soil nutrient monitoring in tea plantations, Development of Acceptance and Cranking / Retention Testers for factory compliance testing for an automobile battery manufacturing and exporting company, User Interface for personal security/alarm device against crime for Nordic countries (Alarmwear) and Sensor based automation of water taps for Airport and Aviation Services (Pvt.) Ltd.

Key in-house research, design and development projects initiated or continued during the year under consideration include, Technology transfer, marketing of Tea Color Grading System using Xilinx technology, Synthetic Aperture Radar (SAR) System, LoRa based communication network, Development of Reusable Radiosonde, Liquid fertilizer spraying drone, Development of VTOL UAV, and Remote parameter monitoring, logging and alarm system for switch endurance tester.

Furthermore, the institute has undertaken several deep diagnostic and advanced hardware recovery services based on client requests. One notable assignment involved the recovery of 35 Driver display consoles for Class S10 and Class S12 Power-coaches of Sri Lanka Railways. Additionally, the institute successfully secured two more tenders for recovering faulty Traction Control Units and Main Processor Systems of Class M9 Locomotives.

The institute has been entrusted with other significant hardware recovery assignments. These include repairing PLC units for the State Development and Construction Corporation, repairing X-ray tubes for the Sri Lanka Atomic Energy Board, and repairing INAEL LBS

controllers, automatic switch controllers, and LBS RTU panels for the Ceylon Electricity Board. The successful completion of these assignments has not only met the clients' requirements but has also resulted in significant cost savings by eliminating the need to procure these services from overseas suppliers at comparatively higher costs. These achievements highlight the institute's expertise and its contribution to conserving foreign exchange.

Information Technology division conducted a number of information system development projects in the year 2022 namely; Development of Agri-Cell database in collaboration with Tea Research Institute of Sri Lanka, Development of mobile applications for number of specific requirements, MIS Module for Buddhist and Pali University, Web interface development support for projects undertaken by the institute and Information system development and maintenance support for assignments carried out for inhouse and external clientele.

Astronomy division of the institute conducted key research, infrastructure and other related application development projects including, International collaborative research on Cataclysmic Variable Star with Yunan Observatory China; Setting up new Echelle Spectrograph for astronomy spectroscopy research and Sun Parameter Calculator for Sri Lanka.

In addition, following research and development projects have been undertaken in the area of space technology application, Geographical Information Systems and Remote Sensing, namely monitoring and quantifying the forest degradation in Sri Lanka with open access satellite, Space technology-based approach for identification of potential deep aquifer recharge sites by rainwater in Ampara district and Geospatial modeling of electricity distribution network.

Despite the adverse economic situation of the country, and the aftermath of the pandemic, the institute managed to consistently deliver its services to industrial clients in order to comply with the demand for industrial services regardless of facing numerous constraints, including acute staff shortages. The institute provided services, such as calibration of electronic and electrical test and measurement equipment, performance testing of different types of electronic equipment, accessories, and modules, testing of lead acid batteries and surge protective devices, as well as measurement services for the communication and broadcasting sectors. In 2022, the institute issued a total of 105 performance test reports and 148

calibration reports. Additionally, the institute successfully handled a significant number of consultancy projects and advanced hardware recovery assignments. In the field of lightning protection, the institute successfully delivered several technical consultancies involving site inspections, system design, preparation of tender documents, and certification of installations, primarily for government clients.

It should be emphasized that the institute succeeded in achieving the above performance, mitigating to a large extent the impact of the adverse external environment that prevailed following the Covid-19 Pandemic and onset of the economic crisis, whilst continuing to be constrained by severe staff-shortage caused primarily due to unattractive remuneration and, externally determined stipulations of procedural compliance impeding pro-active decision-making.

Eng. (Dr.) Sanath Panawennage
Director General and CEO
(Ex-Officio Member, Board of Governors)

4.0 Divisions of the Institute

- Electronics & Micro Electronics
- Communications / Robotics
- Industrial Services
- Space Technology Applications / Space Technology /Astronomy
- Information Technology
- Administration, Finance and Human Resources

5.0 Performance highlights of key projects

Selective Tea Harvester

Sri Lanka holds the distinction of being the fourth largest tea producer globally, following China, India, and Kenya. China leads the pack with an impressive output of over 2.2 billion kg, while India follows closely with 1.2 billion kg, and Kenya contributes 400 million kg. Sri Lanka, with an annual export volume ranging from 290 to 300 million kg, makes a significant contribution to the global tea market.

However, the Sri Lankan tea industry faces formidable challenges for its survival, primarily stemming from a shortage of skilled labor and rising labor charges, particularly in the area of tea plucking. In response, the Tea Research Institute of Sri Lanka has recognized the potential of mechanization as a solution for tea plucking, offering reduced labor requirements and ensuring adequate selectivity.

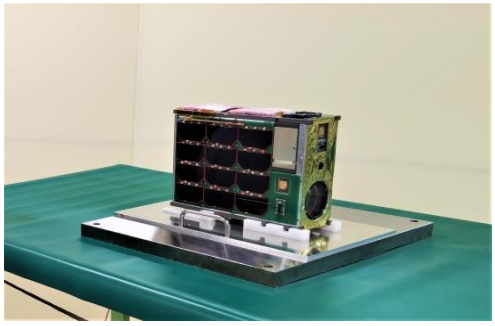
Through a competitive Expression of Interest (EOI) process that involved both local and international participants, the Advisory Board of the Tea Research Institute of Sri Lanka selected ACCIMT for the tea harvester mechanization project. The goal is to design a selective tea harvester capable of plucking young tea leaves (such as one bud with two or three leaves, or tender shoots) while leaving out mature tea leaves and stalks (known as Arimbu). The harvester should also avoid damaging the first tea leaf sprouts, thus preserving secondary growth. The targeted efficiency is four times higher than manual plucking, while maintaining the freshness of the tea leaves comparable to those plucked manually. The proposed design offers advantages such as mechanical selectivity, suitability for humid climates, field reliability, and user-friendly operation. The machine is designed to be lightweight for single-person maneuvering, capable of long hours of operation using batteries, and offers four times the efficiency of manual plucking.

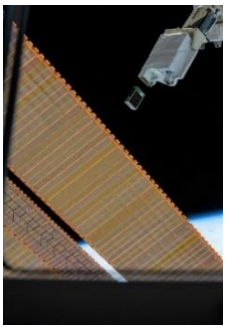
The project has made significant progress during the current year, with the first prototype meeting satisfactory results in preliminary field tests. Based on data and observations from the field tests, improvements were made, resulting in a highly successful second prototype with selectivity efficiency exceeding 70%. The Tea Research Institute of Sri Lanka (TRISL) is pleased with the project's progress. The next steps involve obtaining a patent for the product, developing four units for a six-month extended field testing period

Nano satellite (6U) development and capacity building with KITSUNE

Continuing the collaborative project with the Kyushu Institute of Technology in Japan, activities involving the design, development, and launch of a new Nano satellite named Kitsune were continued in 2022. The project also focused on capacity development for engineers in the field of space technology.

Kitsune, a 6 Unit Nano satellite, was successfully deployed on March 24th, 2022. It was equipped with five missions, including earth observation with a resolution of 5 meters, satellite-based IoT, ionosphere sensing, high-speed communication, and a standardized CubeSat bus. The Nano satellite, successfully achieved all its missions was partnership among Kyutech, Nanyang Technological University, Harada Seiki Inc and Addnics Inc. (Two industry partners from Japan), and ACCIMT.





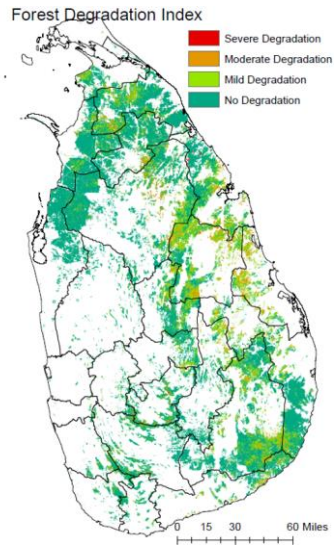
Designing and testing Engineering Model of 1 U Cube satellite

The ACCIMT engineers have successfully gained the knowledge and skills required to design and develop Cube satellites, starting from the electronic component level, and assembling the associated subsystems. During the cause of this project, Engineering Model of a Cube satellite has been completed, and it will serve as a crucial tool for standard tests and future launch missions. This exercise has yielded several significant achievements, which include:

- Capacity Development initiative; launching of a CubeSat.
- Gain exposure in project management and team work
- Gain exposure in systems engineering
- Possibility of supplying subsystems to booming Nano satellite industry (Ex, Power system, On board computer, communication board)

- Space testing of Nano satellite sub systems, manufactured in Sri Lanka

Monitoring and quantifying the forest degradation in Sri Lanka with open access satellite



Forest cover plays a vital role in ecosystems, but deforestation and degradation pose significant threats globally. Among these, degradation is particularly challenging to monitor as it gradually reduces forest reserves while still appearing as forest land use. In March 2022, the Department of Forest Conservation in Sri Lanka requested the development of a "forest degradation index" based on Remote Sensing. Currently, the department lacks a method to assess the level of degradation in the country's forests. Having information about the extent of forest degradation is crucial for formulating policies and implementing plans to restore degraded forests and rehabilitate damaged forest lands. Identifying and evaluating the condition of forests is complex as different individuals hold varying perspectives on what constitutes degradation.

Satellite imagery-based monitoring methods for forest degradation are more efficient in terms of time and labor compared to on-site data collection methods. The project, initiated in 2022, is planned for completion in 2023. Models have been developed to generate images of different factors influencing forest degradation across the entire country. The final integrated forest degradation index map will be calibrated and validated in collaboration with the Department of Forest Conservation.

6.0 Research Programmes and Technology Services

6.1 Industry-initiated Research & Development Activities in Engineering/IT

Technology support to TRISL: Agriculture-cell for climate and soil nutrient monitoring in Tea Plantations

To support the Agriculture-Cell of the TRISL in applying Precision Agriculture technologies to tea farming, an initiative was launched to increase utilization of advanced technologies for sector advancements. This initiative involved the use of IoT (Internet of Things) products developed by ACCIMT to provide decision support systems to farmer community based on environmental data, including climate change effects and soil quality.The primary benefits of this initiative have been optimizing irrigation requirements and fertilizer usage for crops. Sri Lanka being fertilizer importer, it is crucial to use fertilizer efficiently. In the current trend of organic farming, precise measurements of primary soil nutrients such as Nitrogen, Phosphorous, and Potassium are essential. These measurements are taken both prior to and after fertilizer usage, based on expert decisions, to improve productivity and quality while reducing production costs and the carbon footprint of tea farming. Moreover, this approach aligns with good global agricultural practices.

ACCIMT has a successful track record in developing agriculture-related plantation monitoring products. The information gathered through these products is now being processed and utilized for the benefit of the tea farming community. The data gathered includes climatic data from real-time weather station data and other soil parameter data related to agro-meteorology.

The initiative also identified the need for new product developments, particularly in the area of soil nutrient identification for fertilizer applications in tea plantations. Currently, there is a lack of readily available equipment that can provide accurate testing results in a shorter time period, suitable for field use. The existing practices are labor-intensive and require chemical laboratories with expert skills.

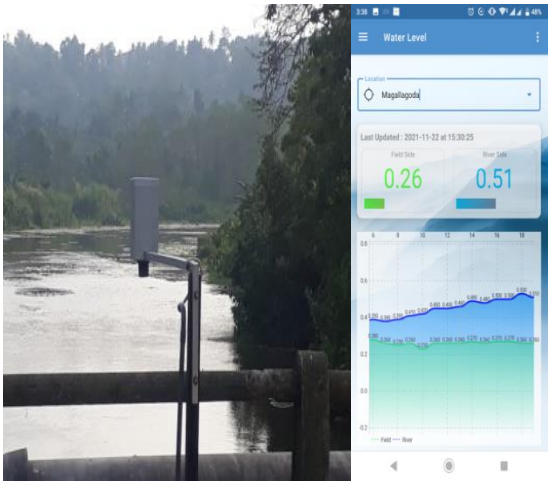


The socio-economic impact of this initiative is significant, as it allows for the testing of organic fertilizers and other nutrient contents. Farmers can now conduct field sample testing to identify the nutrient needs of their crops and receive recommendations accordingly.

Overall, the application of advanced technologies and precision agriculture methods in tea farming not only enhances productivity and quality but also contributes to sustainable practices, reducing environmental impact and promoting the well-being of the tea farming community in Sri Lanka.

Water level monitoring stations based on IOT (Internet Of Things)

The existing products developed by ACCIMT for remote monitoring and logging of water levels in real-time for system management in the Nilwala River gravity points have been successfully expanded to another location. These developments involve the creation of standalone rugged products specifically designed to monitor water levels in various water bodies, such as rivers, reservoirs, and tanks.



The expanded products allow for continuous monitoring of water levels and provide real-time data that can be easily accessed and displayed on mobile phones or computers. This enables users to have instant access to crucial information about water levels and facilitates timely decision-making. Additionally, the system is equipped with alert mechanisms to notify users in critical situations, ensuring prompt actions to be taken.

The rugged design of these products ensures their durability and suitability for outdoor environments, making them reliable tools for monitoring water levels in different locations. The expansion of these products to new areas demonstrates ACCIMT's commitment to providing effective solutions for water management and resource monitoring. Overall, the standalone rugged products developed by ACCIMT offer a practical and efficient way to monitor water levels in real-time, facilitating better management of water resources and aiding in decision-making processes related to water systems in various locations.

Deep diagnostic and advanced hardware recovery of sophisticated systems

This activity recovers faulty very high valued imported systems with intelligent microprocessor systems and annually save high proportion of much needed foreign exchange to the country as well as reducing the downtime of the fleet of locomotives belong to Sri Lanka Railways. In the absence of technical documentation on the hardware and firmware modules of systems concerned, the recovery process has been performed adopting extensive Reverse Engineering methodologies by technical experts of the ACCIMT.

Sri Lanka Railways was the major client for 2023 and the ACCIMT recovered 35 Driver display consoles of Class S10 and Class S12 Power coaches. Further the institute is successful in securing another two tenders for Traction control units and Main Processor Systems recovery of Class M9 Locomotives.

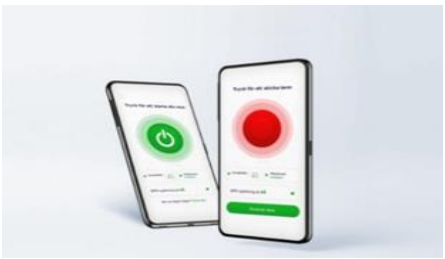
Development of Acceptance and Cranking / Retention Testers for factory compliance testing for an Automobile Battery Manufacturing and Exporting Company

The project is to design and develop two testers namely, Acceptance and Cranking/Retention for factory compliance testing for Leader Battery Manufacturing (Pvt.) Ltd., an export oriented manufacturing company catering for both local and export markets. The company operates a fully automated plant consists with most up-to-date technology for battery manufacturing, adhering with ISO9001:2008 standards. Preparation of specifications has been completed and system development commenced. By involving such collaborations, the ACCIMT facilitates local manufacturers by providing solutions with guaranteed long term, timely maintenance support at affordable cost, together with hassle free options for system modifications, once such necessity arises.

User Interface for Personal security/alarm device against crime for European countries (Alarmwear)

ACCIMT has already completed design and development of a product for crime prevention, "Alarmwear Unit" to be used by women in outdoor environments targeting for Scandinavian countries. The local partner of this project is TOS Lanka (Pvt) Ltd and it was undertaken to a foreign counterpart, Alarmwear Sweden AB. The product consists of three modules a waistband with a LED strip, a hand-held unit and a smartphone.

This additional task, which originated as a new requirement from TOS Lanka is to develop user interface to the Alarmwear unit to adjust parameters of LED strip. Majority of work related to new assignment has been completed and awaiting a response from the client to finalize the developments and integrate it to the system.



Sensor Based Automation of Water Taps

The aim of this project is to design and develop an innovative technology solution to convert an ordinary water tap to a sensor operated unit. This project was initiated based on a request received from Airport & Aviation Ltd. 05 sample units have already been developed and handed over to the client for testing. Local development of this solution would enable the client to save cost in system modifications and access to hassle free maintenance support from a reputed local entity.

6.2. In-house Research and Development Projects in Engineering/IT

Technology Transfer, marketing of Tea Color Grading System Xilinx technology

The machine was successfully tested in the laboratory environment with tea samples obtained from the tea factories and internal technology transfer was successfully handled by the project team. Further project documentation has already been completed. The system will be installed at ACCIMT premises for demonstrations enabling to attract a prospective collaborator to commercially explore this development and the same time to acquaint the user community.

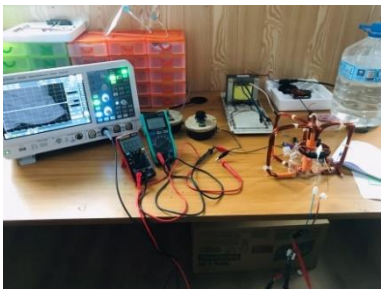
Synthetic Aperture Radar (SAR) System

SAR is a powerful microwave remote sensing technique that is used to create high resolution two or three-dimensional representations of objects, similar to a landscape, independent of weather conditions and sunlight illumination. This project was commenced as a know-how sourcing exercise followed by a technology demonstration.

LoRa based communication network

This three partite project between Ceylon Electricity Board (CEB), University of Peradeniya (UOP) and ACCIMT is to fulfill requirement of remotely monitoring high voltage transmission line conditions for CEB.

The objective of this project is to implement a wireless data communication network to monitor, improve, and to maintain power distribution systems of CEB more efficiently. LoRa (Low Power Long Range) based communication network will be used to transmit data taken from the distribution system to the control center. After processing and analysis of data, relevant information can be forwarded to identify service centers for necessary actions.


Following are the outcomes of the project proposed.

- Low cost and real time monitoring in power distribution system (No operational cost)
- Detect the locations of faults and forward them to service centers which is time effective
- Use data to improve, manage and maintain the power distribution system
- Power distribution system optimization
- Use data for future planning
- Analyze the possibility of remote maintenance

Currently the proof of concept phase of the project was completed.

Development of Reusable Radiosonde

Radiosondes are battery-powered telemetry instruments designed to be carried into the atmosphere, usually by weather balloons. They are used to measure various parameters, including altitude, pressure, temperature, relative humidity, wind speed and direction, and even cosmic ray readings at high altitudes.

Currently, the Meteorology Department heavily relies on imported radiosondes for weather predictions, which come at a higher price compared to the potential cost of local development.

This situation warrants an opportunity for local development of radiosondes. By establishing local capabilities for developing and manufacturing radiosondes locally, the Meteorology Department and other relevant stakeholders could potentially benefit from cost savings, as well as the flexibility to customize the instruments to suit specific requirements.

Furthermore, local development of radiosondes would contribute to technology transfer, knowledge enhancement, and capacity building within the country. It would enable the utilization of local resources, expertise, and innovation in the field of atmospheric measurement.

By reducing reliance on imported radiosondes and encouraging local development, there is potential for long-term cost savings, increased autonomy, and enhanced capabilities in weather prediction and atmospheric research.

Liquid Fertilizer Spraying Drone

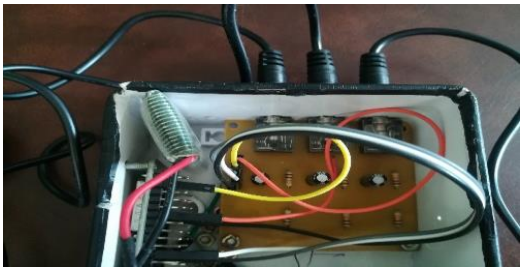
Recent advances in usage of liquid fertilizer spraying related applications in agriculture prompted the ACCIMT to perform innovations in liquid fertilizer spraying drones. This initiation was guided by the discussions had with the plantation industry more precisely tea sector. This led to perform both economic and technical feasibility analysis of developing and deploying locally made high-lift multi-copter systems for fertilizer and pesticide spraying. Thereafter followed by successful proof of concept study, simulations for a prototype system was developed based on calculations for coverage optimization and a propulsion system was designed considering parameters such as weight, endurance, speed, capacity and financial constraints.

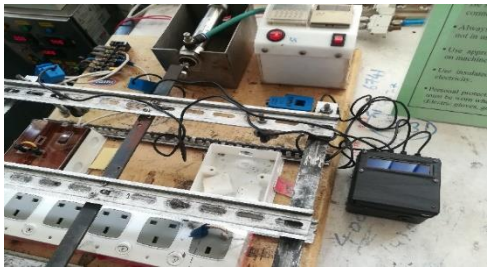
Development of VTOL UAV

A vertical take-off and landing type unmanned aerial vehicle was designed and developed at ACCIMT. The avenues for commercialization of this development will be exposed after successful field testing for surveillance applications, which require higher coverage. A collaborative project initiation opportunities for the application is to be explored with defense sector of the country.

Remote parameter monitoring, logging and alarm system for switch endurance tester

Electronic division of the institute uses a load unit combined switch tester with manual observation when perform testing for various types of switches. In the present system, load current is displayed and verified manually for constant current. The new method adopted logs the current and voltage as per pre-defined time interval, enabling user to analyze data as required. At present the product is in operation.





Establishing a Center for Lightning Protection

With the objectives of reducing lightning related damages and losses, standardizing protection procedures and enhancing subject oriented research and development, formation of a full-fledged center for lightning protection was proposed by the ACCIMT. Bearing with limited resource availability the center has been in operation from 2019, primarily concentrating dissemination of knowledge, and providing consultancy services. During the year under consideration several consultancies on designing of structural and surge protection systems and testing services were provided to government institutions.

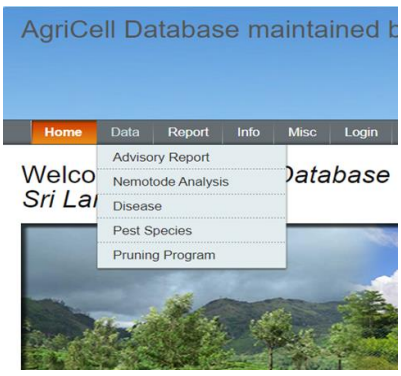
Information Systems Development Projects

The Information Technology Division of the institute has been developing customized information systems solutions, upon request for the public and the private sector organizations.

Development of IT Solutions

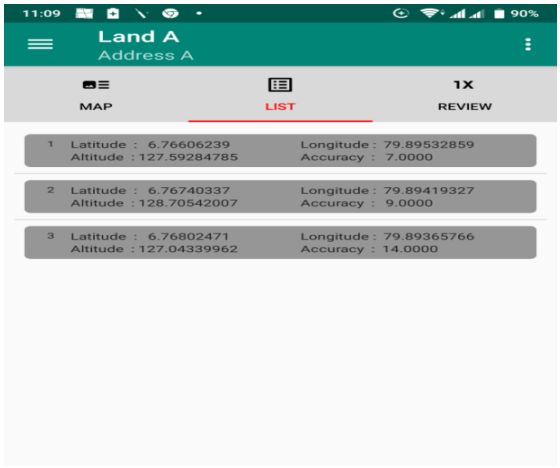
Development of Agri-Cell Database in collaboration with Tea Research Institute of Sri Lanka

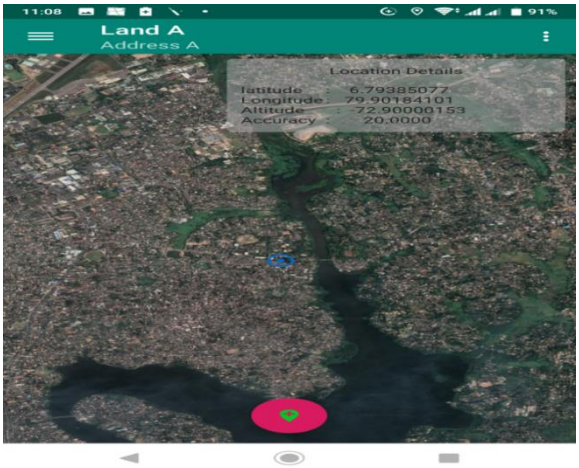
A web-based system is being developed to facilitate storing climate data and soil data collected by IoT systems developed and installed by the ACCIMT, for advisory reports and nematode reports issued by TRI. In future, this data will be available for research, planning and other operation requirements of plantation companies for a nominal fee. A web based Interfaces will be developed to store data and relevant reports in a centralized database and accessing will be restricted to authorized personnel



Development of Mobile Apps

Forecasting area of tea cultivation in Sri Lanka is difficult due to the lack of information on extent of large-scale estates and small-scale lands. Surveying with traditional methods would be time consuming and expensive. Hence an android mobile app for surveying tea land with GPS data with offline maps is a better solution. This app helps to collect accurate data on tea plantations including location specific information even in remote areas where internet connectivity is limited. This app has ability to collect information without internet connectivity and upload data to a main server when connection is restored. User-friendly interface of the app allows users to create custom surveys by saving location data manually or automatically with additional fields for plantation, harvesting and fertilizing. This app will be an efficient and reliable tool for collecting accurate survey data for tea and any other agricultural crops and land usage.

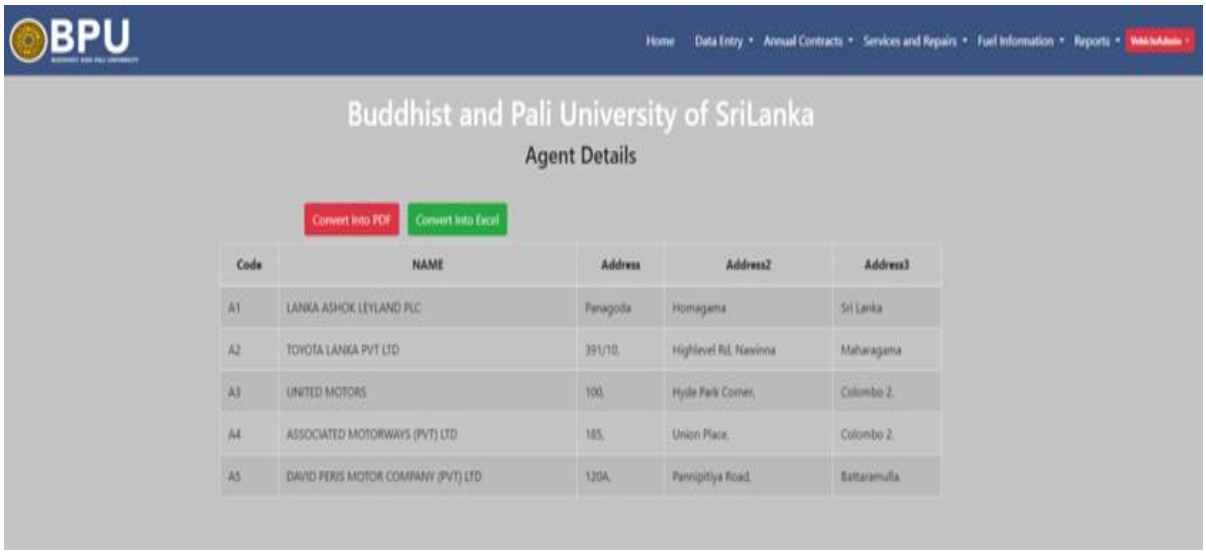




MIS Module for Buddhist and Pali University

Design, develop and implementation of sub modules pertaining to vehicle management, stores, academic and non academic functions were completed. Further development of key modules such as

- Student registration of the Examination module for MA and BA students was completed for external examination branch and
- Process of Online Applicant details and student registration was completed for the internal students in progress



Contractual Services

- Contractual maintenance of Databases and other Information Systems
  - Accounts System – University of Moratuwa. Maintenance agreement has been signed.
  - Accounts System – University of Sri Jayewardenepura. Maintenance agreement has been signed.
  - Payroll System – Development Lotteries Board - Maintenance agreement has been signed.
  - Accounts System – Buddhist and Pali University. Maintenance agreement has been signed.

In-house Software Development

The following software systems were further developed and modified in 2022 to enhance the efficiency of internal administration process.

- Action Plan and Progress Monitoring System
- Project Registration System
- Leave and Attendance System
- Accounts System
- Invoice System

ACCIMT LAN, Web, and related Network Services

Maintained the LAN, Internet, and E-mail services for the Institute

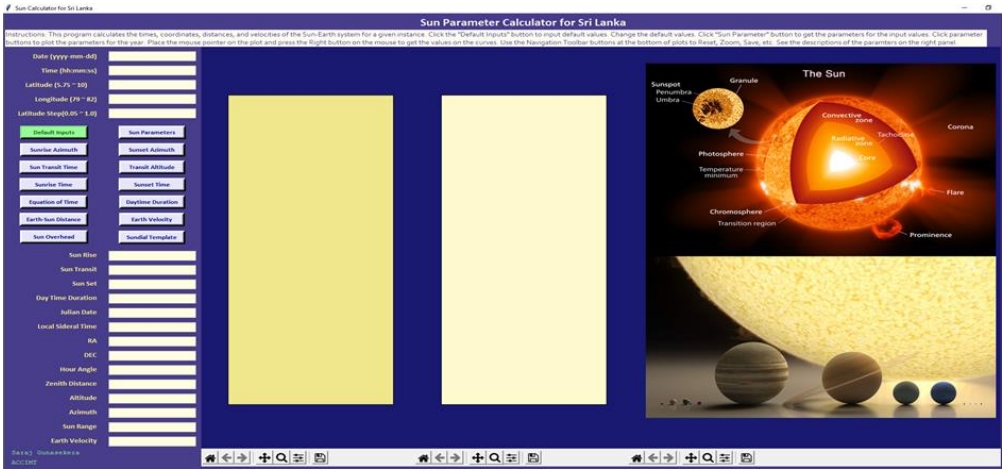
6.3 Research Projects in Astronomy

International Collaborative Research on Cataclysmic Variable Star

The objective of this long term research is to study and investigate the evolutionary characteristics in various Cataclysmic Variable systems such as Novae, Nova-like systems, dwarf novae, recurrent novae, supernovae, Magnetic & Intermediate magnetic CVs, and their sub classes etc. through the mechanisms involved in mass transfer, out bursts, angular momentum loss, magnetic characteristics, orbital motions etc. which related to the individual components of the CV systems such as white dwarf, accretion disk, Roche-Lobe, hotspot etc. This international collaborative research project was started in 2018 in collaboration with Yunan astronomical observatory under Chinese academy of science. During this period four international journal publications including journals of American Astronomical Association, and Two local publications were completed. A Research paper was published in the journal of Applied Sciences Undergraduate Research Symposium (APSURS)- 2022, organized by the Sabaragamuwa University.

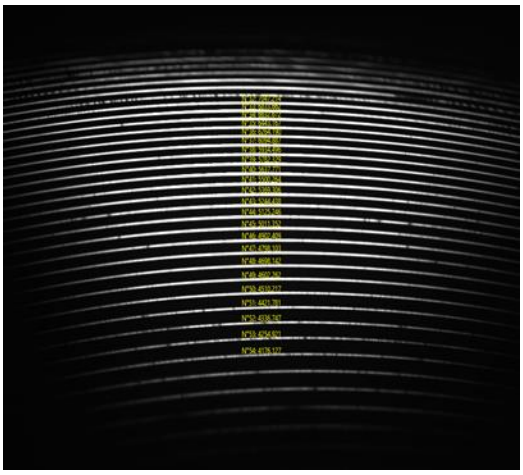
Sun Parameter Calculator for Sri Lanka

A Windows application to calculate and display the Sun parameters was developed using Python programing language and astronomical algorithms. The main usage of this App is to find out the times and positions of the sun at any given instance. Astronomical activities can be introduced to school curriculum based on this application. This App can also be used to input the coordinates of the sun to track the Sun for efficient generation of electricity from Solar panels.



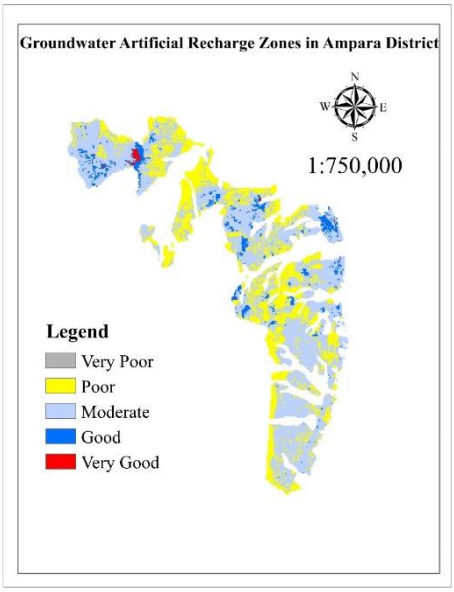
Setting up new Echelle Spectrograph for astronomy spectroscopy research

Echelle spectrographs give simultaneously high spectral resolution and large spectral bandpass. This instrument was successfully set up in the astronomy division of the ACCIMT. The high resolution spectrum of the Sun was obtained using this spectrograph.



6.4 Research Projects in Remote Sensing (RS) and Geographic Information Systems (GIS)

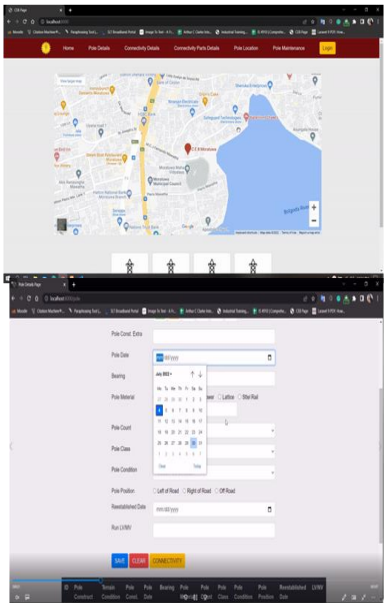
Space technology-based approach for identification of potential deep aquifer recharge sites by rainwater in Ampara district



Water resources are crucial for county development. Only 1% of the global freshwater is available for human consumption out of the total 2.5%. Effective management of water resources is vital, particularly in arid regions like Sri Lanka's Ampara district. Agriculture serves as a primary income source for the people, but inadequate planning and management have led to severe water shortages for farming activities. Introducing an alternative solution like rainwater harvesting can significantly improve their livelihood by providing a continuous and environmentally friendly freshwater supply. The selection process for suitable rainwater harvesting sites becomes complex when considering factors such as hydrology, climate, soil, topography, and socio-economic conditions. However, the use of GIS and remote sensing technologies simplifies this process by identifying optimal

locations. The main objective of the study is to present a methodology for decision-making in identifying suitable sites for rainwater harvesting in Ampara district using the area volume elevation curve and other criteria. The proposed approach is efficient in terms of cost and time, especially for large study areas. The groundwater artificial recharge zones map for Ampara district was generated.

Geospatial modeling of electricity distribution network



Electricity is essential for our daily lives and societal development. Efficient power utilities are crucial for a country's success and economic well-being. However, Sri Lanka is currently facing an economic crisis due to poor economic development and inadequate attention given to the electricity distribution network. Unethical practices and inefficiencies have caused the electricity sector to fall below international standards, resulting in generation deficits, weak infrastructure, poor utility performance, and neglect of investment and maintenance. To run an organization effectively, it is necessary to have a comprehensive understanding of its assets, their conditions, performance, and cost. Geographic Information Systems (GIS) and remote sensing will be utilized in this project to model medium voltage electricity distribution. These technologies are introduced to address the complexities of electrical distribution systems. The project aims to develop a mobile app for data collection and asset management in utility systems. This includes gathering information about transformers, electric poles, and customer indexing. The process involves transforming the real world into conceptual, geospatial, digital, and project worlds using geospatial standards.

6.5 Research Publications

Journal publication

(i). Jayawardhana, W.G.N.N., Chathurange, V.M.I., Premakantha, K.T., Alawathugoda, R.M.D., Estimation and Mapping of Mangrove Aboveground Biomass in Sri Lanka using Sentinel I Satellite Imageries,2022, The Sri Lanka Forester, Vol.41, 47:62

(ii). P R S Tissera, N I Medagangoda, N S Bandara, GMLP Aponsu, Identifying intrinsic Parameters using orbital properties of cataclysmic variable stars, journal of Applied Sciences Undergraduate Research Symposium (APSURS)- 2022

Book Chapter publication

Kumar, S.,Jayawardhana W.G.N.N., Potential of Spaceborne Bistatic Polarimetric Interferometric SAR Modeling for Vgetation Height Estimation,2022, Handbook of Himalayan Ecosystems and Sustainability, Vol. 1: Spatio-Temporal Monitoring of Forests and Climate (CRC Press), DOI: https://doi.org/10.1201/9781003268383, eBook ISBN: 9781003268383.

6.6 Test and Measurements, Hardware Recovery and Consultancy Services

Test and Measurement Services of Power Electronics Measurement Laboratory- Electronics and Microelectronics Division

During the year under review, the division issued 105 performance test reports mainly for testing of Batteries, Surge Protective Devices (SPDs), Plugs, Socket outlets, Switches, Residual Current Circuit Breakers (RCCB), Miniature Circuit Breakers (MCB) and Inverters. Further the division carried out safety testing and power quality measurement of electrical / electronic products apart from the power quality measurements undertaken at customer locations.

Key customers include Douglas and Sons (Pvt.) Ltd, Kevilton Electrical (Pvt.) Ltd, Associated Battery Manufacturers (Ceylon) Ltd., ACL Electric Pvt Ltd. and Browns and Company PLC.

Troubleshooting/Repair Services and Consultancy Assignments Carried Out by Electronics and Microelectronics Division

During the year under review 62 consultancy and hardware recovery assignments were undertaken by the Electronics and Microelectronics division.

Key hardware recovery assignments undertaken include;

- Repairing of PLC units for SD&CC.
- Repairing of X-ray tube for Sri Lanka Atomic Energy Board.
- Repairing of INAEL LBS Controller, Automatic switch controller & LBS RTU Panel for CEB.




Test, Measurements and Consultancy Services undertaken by the Communication Division

Consultancy to the industry on product specification preparation upon user requirement analysis, testing of cables/antennas, equipment functionality testing, Radio Frequency test and measurement services and minor repair jobs were covered as activities under this category.

Consultancy work has been undertaken for following companies.

- Special Task Force
- Brandix (Pvt.) Ltd.
- National Water Supply and Drainage Board and Radio frequency measurement related activities were conducted for Kelani Cables (Pvt.) Ltd.

Calibration Laboratory - Industrial Services Division

148 reports were issued for calibration services undertaken for various types of electronic and electrical test and measurement instruments during 2022. The instruments that were calibrated include Digital / Analogue Multimeters, Oscilloscopes, Scopemeters, AC/DC clamp meters, High voltage testers, Hipot testers, Leakage current tester , Glove testing meter , Power & Harmonic analyzers, Watt meters, Volt meters, Portable appliance testers, Insulation continuity testers, Earth testers, RCCB testers and Multifunction testers.

Our key customers were LTL Transformers, Kohoku Lanka, Sri Lanka Air Force, Hitech Sensor Development (Pvt) Ltd, Dimo (Pvt) Ltd, Professional MET Consultancy, Venora International, David Pieris Motor Company, Balfour Beatty, Pubudu Engineering (Pvt) Ltd, Richardson Projects (Pvt) Ltd and Electro Metal Pressing (Pvt) Ltd.

Light Measurement Services offered by the LMS Laboratory - Industrial Services Division

Product conformity testing of LED and CFL lamps were carried out and thirty nine test reports were issued in collaboration with Sri Lanka Standard Institute. Our key customers have been Ming Industries (Pvt) Ltd, Riselko Marketing, Sugath Electrical and Signify Lanka (Pvt) Ltd.

7.0 Training Education and Information Dissemination

7.1. Continuing Professional Development (CPD) Programmers for Professionals

CPD course- Geo Information for Earth System Science

Going through competitive bidding process the ACCIMT was awarded to conduct five workshops on Geo Information for Earth System Science by World Food Programme (WFP) for 125 public officers from selected divisional secretaries, Thanamalivilla, Wilgamuwa, Kopay, Kiran and Mannar.

The aim of this workshop is to familiarize participants in application of Geo Information concepts in performing their day to day job functions and specially enhance their knowledge in Geographic Information Systems (GIS) area.

Programmable Logic Controller applications in railway locomotives

One CPD program (50 hours) conducted for 20 participants from Sri Lanka Railways. Participant profile consists with supervisors and technologists attached to railway workshops and they were given exposure on PLC and associated interface module maintenance and fault troubleshooting. Main focus was to give participants knowledge on theory, hands-on exposure on individual components and to carry out their day to day running shed maintenance tasks in the power coaches, which use PLCs.

Programmable Logic Controller

02 numbers 05 day CPD courses on Programmable Logic Controller covering S7-1200 & S7 -200 PLCs were conducted for 90 technical personals consisting engineers, technical officers and undergraduate students. The participants were given theoretical and practical knowledge on Programming PLCs and HMI devices used in Industrial systems.

7.2. Basic and Intermediate Level Technical Training

Practical Electronics Course

This regular training program was conducted for 27th time for approximately 60 participants. The programme provided participants with sound knowledge in basic electronics backed up by specifically developed practical sessions. The entire programme lasted approximately six months.

Course on Electronics

Two intermediate level customized electronic courses were conducted for 30 participants.

- course for 13 participants from Ministry of Agriculture and industry
- course for 17 participants from Sri Lanka Inventors Commission and the NAVY

Workshop on introduction to Practical Astronomy

20th annual Workshop on introduction to astronomy was conducted with 40 participations at the ACCIMT. During this workshop participants learn about the sun, solar system, star evolution, cosmology etc. Participants also get an opportunity to observe through modern astronomical telescopes at ACCIMT.

Astronomy Data Reduction and Analysis workshop for Undergraduates

A workshop was conducted for 22 undergraduates to introduce the Techniques of astronomical data reduction and analysis. During the workshop participants were able to gain hands-on experience in using various astronomical data reduction packages and this exposure will help pursue their higher studies.

7.3. Science & Technology Popularization and Information Dissemination

Astronomy and Space Science Popularization Programs

- **Water rocket educational workshop & Water rocket Competition**

In collaboration with Asia Pacific Regional Space Agency Forum (APRSAF) Water rocket workshop & symposium were organized and conducted. 9 students were selected for the APRSAF international online water rocket competition. The online water rocket competition was held at Moratuwa university ground.

- **APRSAF International Poster Competition**

The ACCIMT annually represents the APRSAF international poster competition with the posters drawn by the Sri Lankan students aged 8-11 years. 3 posters were sent for the international poster competition organized by APRSAF and JAXA. One of the Sri Lanka posters of Minoshi Amaya Daluwaththa of Madirigiriya National School won the 2022 special JAXA award.

- **Technology familiarization visits to the institute**

This activity focused on popularizing Science & Technology among specific categories of general public including school children, officers of the three forces, police officers, university students, school teachers etc. In the year 2022 about over 1000 visitors belong to above categories visited the institute and participated for lectures and technology demonstrations in the areas of our expertise.

National Deffence College staff visit

Astronomy population activity aiming student

7.4 ACCIMT Library

The library houses a specialized collection of books, reports, publications, and other technical materials, including handbooks, data libraries, user surveys, product guidelines, application notes, technology reviews, encyclopedias, dictionaries, VHS tapes, VCDs, DVDs, and CD-ROM databases in the fields of Communications, Information Technology, Electronics, Photonics, Robotics and Space Technology. While the library offers limited resources on technical standards, it serves as a valuable reference point for users seeking specific information.

Lending services are available to staff and trainees affiliated with the institute, while reference services are offered to academics, students, participants of institute-led training programs, and library members. Additionally, the library provides photocopying, scanning, internet access, interlibrary loan arrangements, and other specialized information and reference services offered by the institute.

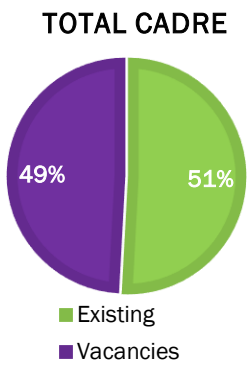
8.0 Human Resources Development

The total cadre allocation to the ACCIMT consists with 177 positions scattering into 51 designations and belongs to 15 salary categories. At the end of 2022, 90 positions out of total cadre of 177 were occupied and 87 positions were remained vacant.

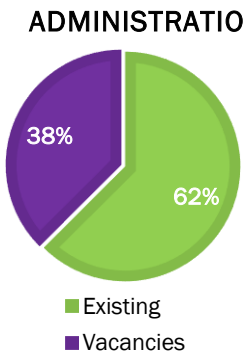
The majority of key vacant positions are fallen in to technical categories that require advanced degree or equitant professional qualifications in related engineering and scientific disciplines and also few years of work experience.

During the year under review, 07 no's of employees resigned, including a Senior Research Scientist, three of Research Engineers, two of Electronic Engineers and a System Engineer. 04 no's of employees were retired, including a Director, two Deputy Directors and a Management Assistant.

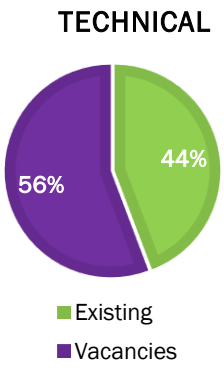
One employee was dismissed, duly following procedural rules of formal disciplinary inquiry under the Establishment Code Volume II.



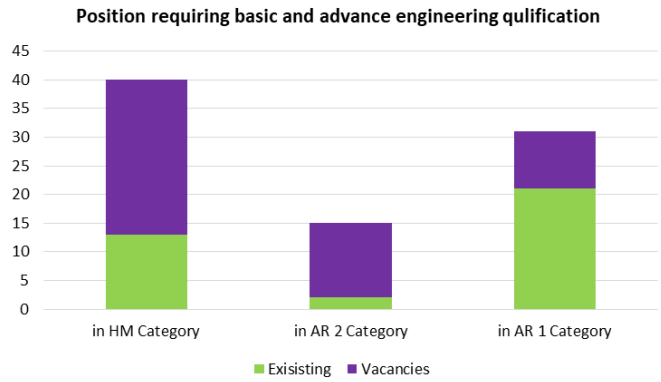
Existing Cadre - 90
Vacancies - 87



Existing Cadre - 40
Vacancies - 24



Existing Cadre - 50
Vacancies - 63



9.0. Financial Statements of Year 2022

ARTHUR C CLARKE INSTITUTE FOR MODERN TECHNOLOGIES
STATEMENT OF FINANCIAL PERFORMANCE FOR THE YEAR ENDED 31ST DECEMBER, 2022.

	NOTES	2022 Rs.	2021 Rs.
REVENUE			
Government grant	(01)	197,785,906.86	205,428,016.74
Other income	(02)	47,215,033.45	24,772,746.88
Total revenue		245,000,940.31	230,200,763.62
EXPENSES			
Personal emoluments	(03)	130,592,290.47	123,762,364.90
Travelling expenses	(04)	598,380.67	118,548.26
Supplies and requisites	(05)	1,700,729.41	840,198.89
Repairs and maintenance	(06)	41,332,498.88	42,159,765.43
Utility and other services	(07)	14,554,971.08	19,251,255.61
Project expenses	(08)	22,036,444.97	13,959,795.55
Research and development expenses	(09)	2,459,757.18	22,069,563.95
Other operating expenses	(10)	171,809.54	333,954.06
TOTAL EXPENSES		213,446,882.20	222,495,446.65
NET SURPLUS/(DEFICIT) FOR THE PERIOD		31,554,058.11	7,705,316.97
Income & Expenditure Appropriation Account for the Year Ended 31.12.2022			
Net surplus/(deficit) for the period		31,554,058.11	7,705,316.97
Transfer of surplus out of generated funds from PC A/C	Schedule 01	(5,634,883.02)	(2,355,830.21)
NET PROFIT FOR THE YEAR		25,919,175.09	5,349,486.76

The significant accounting policies and notes from pages 6 to 13 form an integral part of these financial statements.

ARTHUR C CLARKE INSTITUTE FOR MODERN TECHNOLOGIES
STATEMENT OF FINANCIAL POSITION AS AT 31ST DECEMBER, 2022.

	NOTES	2022 Rs.	2021 Rs.
ASSETS			
Current assets			
Cash and cash equivalents	(11)	14,832,762.44	19,634,386.16
Short term investment	(12)	101,070,491.18	80,146,146.95
Trade and other receivables	(13)	22,115,032.17	16,132,031.42
Inventories	(14)	9,794,874.53	9,790,415.43
Prepayment	(15)	3,765,700.05	375,539.01
		151,578,860.37	126,078,518.97
Non-current assets			
Staff loan	(13.3)	9,672,890.00	9,042,870.00
Property, plant and equipment	(16)	189,050,790.88	217,659,197.60
Work in progress (construction)	(17)	3,545,744.40	3,545,744.40
		202,269,425.28	230,247,812.00
Total assets		353,848,285.65	356,326,330.97
EQUITY AND LIABILITIES			
Current liabilities			
Trade and other payables	(18)	12,669,127.77	12,745,888.74
Accrued expenses	(19)	4,801,870.75	3,768,840.40
Retirement benefit obligation(with in one year)	(20 a)	2,715,812.50	2,761,555.00
		20,186,811.02	19,276,284.14
Non-current liabilities			
Differed income		3,665,688.56	2,024,713.56
Retirement benefit obligation	(20 b)	48,655,401.13	50,073,535.05
		52,321,089.69	52,098,248.61
Capital and reserves			
Capital contributed by government	(21)	289,442,688.10	322,052,586.25
Reserves	(22)	84,416,883.23	81,021,192.69
Accumulated deficit	(23)	(92,519,186.39)	(118,121,980.72)
		281,340,384.94	284,951,798.22
Total equity and liabilities		353,848,285.65	356,326,330.97

I certify that the financial statements comply with the requirements of the Sri Lanka Public Sector Accounting Standards (SLPSAS)

The Board of Directors is responsible for the preparation and presentation of these financial statements.
Signed for and on behalf of The Board by,

Chairman | **Director General / CEO** | **Senior Deputy Director (Finance) (Acting)**

February 28, 2023

The significant accounting policies and notes from pages 6 to 13 form an integral part of these financial statements.

ARTHUR C CLARKE INSTITUTE FOR MODERN TECHNOLOGIES

STATEMENT OF CASH FLOWS FOR THE YEAR ENDED 31ST DECEMBER, 2022

Cash Flows From Operating Activities	2022	2021
	Rs.	Rs.
Surplus/(deficit) for the period	25,919,175.09	5,349,486.76
Non-cash movements		
Depreciation	32,476,149.68	34,896,452.79
Amortization	(32,476,149.68)	(34,896,452.79)
Provision for Bad Debts	5,614,682.84	5,773,028.43
Provision for Defined Benefit Plans	3,019,646.08	4,150,710.51
Accumulated profit Adjustments	-	46,440.53
Interest Income - Fixed Deposits	(4,575,165.29)	(1,106,412.21)
Interest Income - Treasury Bills	(1,737,873.61)	(545,807.38)
Government Grant - CBP	(2,459,757.18)	(22,051,563.95)
Operating Profit/(Loss) before Working Capital Changes	**25,780,707.93**	**(8,384,117.31)**
(Increase)/ Decrease in Trade and Other Receivables	(11,597,683.59)	19,640,388.48
Decrease / (Increase) in Inventories	(4,459.10)	157,930.58
(Increase)/ Decrease in Prepayment	(3,390,161.04)	1,923,962.85
Increase/ (Decrease) in Payables	(76,760.97)	2,342,792.71
Increase/ (Decrease) in Accrued Expenses	1,033,030.35	(3,758,985.42)
Cash Generated from Operations	**11,744,673.58**	**11,921,971.89**
Defined Benefit Plan Costs paid	(4,483,522.50)	(994,160.00)
Interest Income Received - Fixed Deposits	4,575,165.29	1,106,412.21
Interest Income Received - Treasury Bills	1,737,873.61	545,807.38
Profit/Loss on Disposal of Assets	-	-
Deferred Revenue	1,640,975.00	(9,181,877.44)
Net Cash From/(Used in) Operating Activities	**3,470,491.40**	**(8,523,817.85)**
Cash Flows from / (Used in) Investing Activities		
Acquisition of Property, Plant & Equipment	(3,867,742.96)	(1,233,397.51)
Short Term Investments	(20,924,344.23)	(14,083,268.87)
Movement Staff Loans	(630,020.00)	1,535,167.00
Proceeds from disposal of property, plant and equipment	-	-
Movement Capital Work in Progress	-	110,264.00
Net Cash Flows from/(Used in) Investing Activities	**(25,422,107.19)**	**(13,671,235.38)**
Cash Flows from (Used in) Financing Activities		
Proceeds From Capital Grant	2,295,000.00	11,740,000.00
Proceeds From Capital Ministry Grant	-	-
Movement of Reserves	3,110,318.49	2,321,579.22
Net Cash Flows from/(Used in) Financing Activities	**5,405,318.49**	**14,061,579.22**
Net Increase/(Decrease) in Cash and Cash Equivalents	**(4,801,623.72)**	**3,788,497.88**
Cash and Cash Equivalents at the beginning of the year	19,634,386.16	15,845,888.28
Cash and Cash Equivalents at the end of the year	**14,832,762.44**	**19,634,386.16**

ARTHUR C CLARKE INSTITUTE FOR MODERN TECHNOLOGIES

Statement of Changes in Net Assets / Equity for the Year Ended 31st December 2022

Rs. 000s

	Govt.Capital Grant	Govt.Capital Grant (Non Monetary)	Ministry Capital Grant	General Reserve	Celltel Donation	R & C Fund	Foreign Grant	Re-Valuation Surplus	Research Pool	Other Grants & Donations	Revolving Fund	Directors Fund	FINDS Grant	NASDA Grant	Accumulated Surplus/ (Deficit)	Total
Balance as at 1st Jan 2021	353,668	133	13,156	273	213	1,341	3,464	26,683	206	23,066	14,657	1,611	8,255	8	(124,246)	322,488
Grants received	11,740															11,740
Amortization	(34,460)	(133)														(34,593)
Capacity Building Programme	(22,052)															(22,052)
Gain on Fixed Assets Revalution																0
Fixed Assets/Tools																0
Depreciation										(302)						(302)
Other Receipts											429					429
Interest Income											608	88	426	0		1,122
Adjustments															775	775
Expenses									(4)					(0)		(4)
Surplus for the period															5,349	5,349
Balance as at 31st Dec 2021	308,896	0	13,156	273	213	1,341	3,464	26,683	202	22,764	15,694	1,699	8,681	7	(118,122)	284,951
																284,951
Balance as at 1st Jan 2022	308,896	0	13,156	273	213	1,341	3,464	26,683	202	22,764	15,694	1,699	8,681	7	(118,122)	284,951
Grants received	2,295															2,295
Amortization	(32,445)									(31)						(32,476)
Capacity Building Programme	(2,460)															(2,460)
Gain on Fixed Assets Revaluation																0
Fixed Assets/Tools																0
Depreciation																0
Other Receipts									33		723					756
Interest Income											1,634	123	913	0.216		2,670
Adjustments															(316)	(316)
Expenses														(0.025)		(0)
Surplus for the period															25,919	25,919
Balance as at 31st Dec 2022	**276,286**	**0**	**13,156**	**273**	**213**	**1,341**	**3,464**	**26,683**	**235**	**22,733**	**18,051**	**1,822**	**9,594**	**8**	**(92,519)**	**281,340**

ARTHUR C CLARKE INSTITUTE FOR MODERN TECHNOLOGIES
NOTES TO THE FINANCIAL STATEMENTS - 31ST DECEMBER, 2022.

General Policies

Reporting Entity

Arthur C Clarke Institute for Modern Technologies (hereafter referred to as the "Institute") was incorporated by the Science and Technology Development Act No.11 of 1994, and is situated at Bandaranayake Mawatha, Katubedda, Moratuwa.

Principal Activities and Nature of Operations

The Principal activities of the Institute are:

a. To accelerate the introduction of modern technologies to Sri Lanka by

(i) Initiating, promoting and conducting research and development in the application of modern technologies.

(ii) Providing research and development support to the government and private sector undertakings in the application of modern technologies, and

(iii) Training of personnel in modern technologies to meet the needs of the government and private sector undertakings, and

b. To promote future studies

The areas of modern technologies include communication and related sciences, information and technology, electronics, telecommunications, micro electronics, space technologies, robotics, photonics and new materials.

The number of employees

The number of permanent employees as at the end of the reporting period was 90.

Basis of preparation

1) Statement of compliance

The financial statements comprise the Statement of financial Position, Statement of Financial Performance, Statement of Changes in Net Assets/Equity, Cash Flow Statement and notes to the financial statements. These statements have been prepared in accordance with the Sri Lanka Public Sector Accounting Standards (SLPSAS) issued by the Institute of Chartered Accountants of Sri Lanka.

ARTHUR C CLARKE INSTITUTE FOR MODERN TECHNOLOGIES
NOTES TO THE FINANCIAL STATEMENTS - 31ST DECEMBER, 2022. (CONTINUED)

2) Basis of measurement

The financial statements have been prepared on historical cost basis except where the appropriate disclosures are made with regard to fair value under the relevant notes.

3) Comparative Information

Comparative information including quantitative, narrative and descriptive is disclosed in respect of the previous period for all amounts reported in the financial statements in order to enhance the understanding of the financial statements of the current period and to improve inter-period comparability.

The accounting policies set out below have been applied consistently to all periods presented in these financial statements, unless otherwise indicated.

4) Functional and presentation currency

The financial statements are presented in Sri Lankan Rupees, (LKR) which is the functional and presentation currency of the institute.
All financial information presented in Sri Lankan Rupees has been rounded to the nearest thousand, unless stated otherwise.

5) Use of estimates and Judgements

The preparation and presentation of financial statements in conformity with SLPSAS requires management to make judgments, estimates and assumptions that effect the application of accounting policies and reported amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates and judgments used.

Estimates and underlying assumptions are reviewed on an on-going basis. Revisions to accounting estimates are recognized in the period in which the estimates is revised if the revision effect only that period or in the period of the revision and future periods if the revision effect both current and future periods.

Information about significant areas of estimates, uncertainty and critical judgments in applying accounting policies that have the most significant effects on the amounts recognized in the financial statements is included in the notes to the financial statements.

ARTHUR C CLARKE INSTITUTE FOR MODERN TECHNOLOGIES
NOTES TO THE FINANCIAL STATEMENTS - 31ST DECEMBER, 2022. (CONTINUED)

Assets and the bases of their valuation

6) Property, plant and equipment

(6.1) Recognition and measurement

Items of property, plant and equipment are stated at cost or at fair value less accumulated depreciation.

All items of property, plant and equipment are initially recorded at cost less accumulated depreciation. Significant components of an asset are identified and depreciated separately. When significant parts of property, plant and equipment are required to be replaced at intervals, the entity derecognizes the replaced part, and recognizes the new part with its associated useful life and depreciation. All other repair and maintenance costs are recognized in the income statement as incurred.

(6.2) Cost

The cost of property, plant and equipment is the cost of acquisition or construction together with any incidental expenses thereon.
The cost of property, plant and equipment comprises its purchase price and any directly attributable cost of bringing the asset to working condition for its intended use.

Subsequent expenditure incurred for the purpose of acquiring, extending or improving assets of a permanent nature in order to carry on or increase the earning capacity of the assets has been treated as capital expenditure.

Expenditure incurred to replace a component of an item of property, plant and equipment that is accounted for separately, including major inspection overhaul expenditure, is capitalized. Other subsequent expenditure is capitalized only if it is probable that the future economic benefits embodied within the part will flow to the institute and its cost can be measured reliably.

The land value is not stated in the financial statements since land is a property of Ministry of Education and transferred to carry out the activities of the Institute. If Institute operations will not be continued the land should be handed over to the University of Moratuwa as per the MOU signed between University of Moratuwa and the Institute.

(6.3) Depreciation

Depreciation is not charged on freehold land and construction in progress. Depreciation is charged on all other Property, Plant & Equipment on the straight-line basis over the estimated useful lives by equal installments as follows.

Asset Category	% per Annum
Building	5
Computers & Peripherals	20
Satellite Antenna, Lab Equipment	10
Office Equipment, Furniture & Fittings	10
Motor Vehicles	20
Library Books	15

Depreciation of an asset acquired begins when it is available for use whereas depreciation of an asset ceases at the earlier of the date that the asset is classified as held for sale and the date that the asset is derecognized.

(7) Inventories

Inventories consist of Stationery Stock Items, Electronic Components, Accessories and Tools etc.
Inventories are stated at the lower of cost and net realizable value. Net realizable value is the estimated selling price in the ordinary course of business less the estimated cost of completion and selling expenses.

(8) Trade and Other Receivables

Trade receivables are stated at the amounts they are estimated to realize net of allowances for bad and doubtful receivables.

Other receivables and dues from Related Parties are recognized at cost less allowances for bad and doubtful receivables.

General Bad Debt Provision is determined as follows:

Overdue Period	Provision Required
1 – 2 years	50%
2 – 3 years	75%
More than 3 years	100%

ARTHUR C CLARKE INSTITUTE FOR MODERN TECHNOLOGIES
NOTES TO THE FINANCIAL STATEMENTS - 31ST DECEMBER, 2022. (CONTINUED)

(9) Investments

Funds are invested only in government securities and fixed deposits in state owned banks. Investments are made after considering the higher yield on investment, liquidity and interest rate risk for reinvestment. All new investment and reinvestment decisions require the approval of the board of governance.

(10) Cash and Cash Equivalents

Cash and cash equivalents are cash in hand, demand deposits and short-term highly liquid investments, readily convertible to known amounts of cash and subject to insignificant risk of changes in value.

For the purpose of cash flow statement, cash and cash equivalents consist of cash in hand and deposits in banks net of outstanding bank overdrafts.

(11) Liabilities and provisions

Liabilities classified as current liabilities on the Statement of Financial Position are those which fall due for payment on demand or within one year from the reporting date. Non-current liabilities are those balances that fall due for payment after one year from the reporting date.

All known liabilities have been accounted for in preparing these financial statements. Provisions and liabilities are recognized when the Institute has a legal or constructive obligation as a result of a past event and it is probable that an outflow of economic benefits will be required to settle the obligation.

ARTHUR C CLARKE INSTITUTE FOR MODERN TECHNOLOGIES
NOTES TO THE FINANCIAL STATEMENTS - 31ST DECEMBER, 2022. (CONTINUED)

(12) Employee Benefits

(12.1) Defined Benefit Plans

Gratuity is a defined benefit plan. In order to meet this liability, a provision is carried forward in the statement of Financial Position. The provision is calculated based on a formula method considering the future salary increment rates, discount rates and the expected staff turnover rate the resulting difference between the brought forward provision at the beginning of the year and the carried forward provision at the end of the year is dealt within the statement of comprehensive income. However, as per the payment of Gratuity Act No. 12 of 1983, Gratuity liability is not externally funded. This liability is grouped under non- current liabilities is the statement of Financial Position.

(12.2) Employees' Provident Fund

Employees are eligible for employees provident fund contribution in line with respective statutes and regulations. The institute and employees contribute 15% and 10% respectively. The institute contribution recognized as an expense in the statement of comprehensive income as incurred.

(12.3) Employees' Trust Fund

Employees are eligible for employees provident fund contribution in line with respective statutes and regulations. The institute contributes 3% of gross emoluments of the employee to employee trust fund. These are recognized as an expense in the statement of comprehensive income as incurred.

(13) Trade and other payables

Trade and other payables are stated at cost.

ARTHUR C CLARKE INSTITUTE FOR MODERN TECHNOLOGIES
NOTES TO THE FINANCIAL STATEMENTS - 31ST DECEMBER, 2022. (CONTINUED)

(14) Taxation

The Institute is exempt from Income Tax under Section 7 (b) (ii) of the Inland Revenue Act. No. 10 of 2006.

(15) Capital commitments and contingent liabilities

Contingent liabilities are possible obligations whose existence will be confirmed only by uncertain future events or present obligations where the transfer of economic benefits is not probable or cannot be reliably measured. Capital commitments and contingent liabilities of the Institute are disclosed in the respective notes to the financial statements.

(16) Accounting for Grants

Grants that compensate the Institute for expenses incurred are recognized as revenue in the Statement of Financial Performance in the same period in which the expenses are recognized. Grants that compensate the Institute for the cost of an asset are recognized in the income statement on a systematic basis over the useful life of the related asset.

(17) Grants related to specific projects

Where grants/donations are received for use in an identified project or activity, such funds are held in a restricted fund account and transferred to the statement of financial performance, income to match with expenses incurred in respect of that identified project. Unutilized funds are held in their respective fund accounts and included under accumulated fund and reserves in the statement of financial position until such time as they are required

(18) Revenue Recognition

Revenue is recognized to the extent that it is probable that the economic benefits will flow to Institute and that it can be reliably measured.

a) Course fees from students are recognized as revenue on accrual basis.
b) Project income, consultancy income are recognized as revenue on accrual basis
c) Interest income is recognized on accrual basis.

Revenue Recognition (Continued)

d) Grants related income is recognized when control of the contribution or right to receive the contribution is confirmed.

e) Other income is recognized on accrual basis.

(19) Disbursement of surplus income of projects

The surplus of income on projects undertaken over and above of the normal quantum of activities in the annual action plan has been disbursed in accordance with the Public Finance Circular No.380 applicable for universities and research institutions.

(20) Expenditure

a) Expenses are recognized in the Statement of Financial Performance on the basis of direct association between the cost incurred and the earning of specific items of income. All expenditure incurred in the running of the Institute and in maintaining the capital assets in a state of efficiency has been charged against revenue in arriving at the surplus for the year.

b) Expenditure on courses, projects, consultancy works and other activities are recognized in the Statement of Financial Performance on accrual basis.

(21) Cash Flow Statement

The cash flow statements have been prepared by using the indirect method of preparing of cash flows in accordance with SLPSAS 2.

(22) Events after the reporting date

The materiality of events occurring after the reporting date has been considered and appropriate adjustments, wherever necessary, have been made in the financial statements.

ARTHUR C CLARKE INSTITUTE FOR MODERN TECHNOLOGIES
SCHEDULES TO THE FINANCIAL STATEMENTS - 31ST DECEMBER 2022. (CONTINUED)

	2022 Rs.	2021 Rs.
(01) REVENUE - GOVERNMENT GRANT		
Amortization	32,476,149.68	34,896,452.79
Government grant - Capacity buildings	2,459,757.18	22,051,563.95
Recurrent grant	162,850,000.00	148,480,000.00
	197,785,906.86	205,428,016.74
(02) OTHER INCOME		
Course fees	21,287,975.00	83,400.00
Interest income (Inhouse Loans)	580,089.43	620,425.07
Interest income on fixed deposits	4,575,165.29	1,106,412.21
Interest income on treasury bills	1,737,873.61	545,807.38
Profit from disposal of assets	-	-
Project income / Consultancy income	13,780,278.42	20,647,007.99
Other Income	1,395,645.30	1,341,422.94
Sundry income	3,825,006.40	428,271.29
Tender deposits	33,000.00	-
	47,215,033.45	24,772,746.88
(03) PERSONNEL EMOLUMENTS		
Allowance to board members	216,000.00	265,500.00
E.P.F.	11,414,439.98	11,901,583.76
E.T.F.	2,282,888.04	2,380,316.27
Engineering allowance	4,308,214.29	4,722,532.00
Fuel allowance	7,637,400.00	3,358,939.00
Gratuity	3,019,646.08	4,150,710.51
Other allowances	3,487,133.33	2,102,911.00
Overtime and holiday pay	2,006,675.75	1,430,889.90
Professional allowance	2,064,830.00	2,106,000.00
Salaries and wages	81,316,092.87	79,070,847.46
Vehicle allowance	8,623,333.34	8,646,774.00
Chartered Allowance	1,320,000.00	1,291,834.00
Telephone Allowance	1,731,676.79	2,333,527.00
Reearch Allowance	1,163,960.00	-
	130,592,290.47	123,762,364.90
(04) TRAVELLING EXPENSES		
Travelling - Local	185,336.62	118,548.26
Travelling - Overseas	413,044.05	-
	598,380.67	118,548.26

ARTHUR C CLARKE INSTITUTE FOR MODERN TECHNOLOGIES
SCHEDULES TO THE FINANCIAL STATEMENTS -31ST DECEMBER 2022. (CONTINUED)

	2022 Rs.	2021 Rs.
(05) SUPPLIES AND REQUISITIES		
Exhibitions and seminars	-	1,500.00
Fuel	359,028.59	59,321.62
Mech and elect goods / Lab components	26,040.90	17,926.45
Periodicals	-	-
Stationery and office requisites	588,661.38	241,675.00
Stock damages	41,766.04	75,945.34
Uniforms	108,000.00	108,000.00
Welfare items	577,232.50	335,830.48
	1,700,729.41	840,198.89
(06) REPAIRS AND MAINTENANCE		
Buildings	5,689,157.16	5,343,376.74
Computers	225,500.00	451,170.00
Depreciation	32,476,149.68	34,896,452.79
Lab Equipment	118,433.47	510,086.01
100KVA Generator	372,362.00	43,000.00
Furniture & Fittings	-	-
Motor vehicles	704,526.47	121,601.06
Office equipment	1,746,370.10	794,078.83
	41,332,498.88	42,159,765.43
(07) TRANSPORTATION,COMMUNICATION UTILITY AND OTHER SERVICES		
Advertisement	220,050.00	502,551.00
Audit fees	624,800.00	300,000.00
Bank charges	18,350.00	27,620.00
Electricity	3,850,725.59	2,854,778.40
Hospitality and entertainment	98,614.15	59,763.25
Insurance	487,352.84	3,607,683.62
License fees	31,053.44	119,598.68
Nation building tax expenses	-	-
Other expenses	1,539,072.50	1,093,351.53
Postage	49,405.00	38,965.00
Security	2,735,480.59	3,177,283.07
Stamp duty	2,275.00	2,350.00
Telephone	4,627,324.28	4,443,562.71
VAT expenses	-	-
Water	141,427.78	142,784.07
Annual Report 2017	-	142,751.50
Annual Report 2015	-	1,860.00
Annual report 2016	-	128,365.00
Annual Report 2018	34,067.00	489,660.00
Annual Report 2019	8,626.50	598,154.16
Annual report 2020	115,296.00	8,198.00
Annual report 2021	88,896.00	
Annual report 2022	40,500.00	
Bad Debts	(158,345.59)	1,511,975.62
	14,554,971.08	19,251,255.61

ARTHUR C CLARKE INSTITUTE FOR MODERN TECHNOLOGIES
SCHEDULES TO THE FINANCIAL STATEMENTS - 31ST DECEMBER 2022. (CONTINUED)

	2022 Rs.	2021 Rs.
(08) PROJECT EXPENSES		
Courses / Projects	22,036,444.97	13,959,795.55
	22,036,444.97	13,959,795.55
(09) RESEARCH AND DEVELOPMENT EXPENSES		
Research and development expenses	2,459,757.18	22,051,563.95
Consultancy Fees	-	18,000.00
	2,459,757.18	22,069,563.95
(10) OTHER OPERATING EXPENSES		
Membership fees	147,809.54	130,954.06
Professional fees	-	-
Staff training	24,000.00	203,000.00
	171,809.54	333,954.06

ARTHUR C CLARKE INSTITUTE FOR MODERN TECHNOLOGIES
NOTES TO THE FINANCIAL STATEMENTS - 31ST DECEMBER, 2022. (CONTINUED)

(11) CASH AND CASH EQUIVALENTS	2022 Rs.	2021 Rs.
Current accounts	-	-
Bank of Ceylon		
- A/c No 7054733	13,346,593.14	17,063,415.48
- A/c No 307144	(1,696,318.97)	96,788.88
- A/c No 307399 (Directors Fund)	(3,133.54)	1,866.46
- A/c No2479737 (Revolving Fund)	2,339,389.26	1,615,848.40
Peoples Bank		
- A/c No 313-1-001-9-0012847	678,804.83	678,804.83
Commercial Bank of Ceylon PLC		
-A/c No 1114029211	27,150.00	26,500.00
Savings account	-	-
Bank of Ceylon		
-A/c No 326764 (FINDS)	132,954.00	129,029.57
-A/c No 328391 (NASDA)	7,323.72	7,132.54
Imprest		
Board Memebres Travelling	-	3,000.00
Board Members Imprest	-	12,000.00
Cash and cash equivalents for the purpose of statement of cash flows.	14,832,762.44	19,634,386.16
(12) INVESTMENTS		
Invest. of surplus funds in Treas.Bills - Projects/Courses Fund	12,432,041.03	11,285,897.37
Invest. of surplus funds in Treas.Bills - Revolving Fund	2,524,473.97	2,225,066.61
Invest. of surplus funds in Treas.Bills - FINDS Grant	9,140,282.47	8,471,067.66
Fixed Deposit 01(76387182)-Revo.Fund	821,893.83	742,032.49
Fixed Deposit 02(76387290)-Revo.Fund	821,893.83	742,032.49
Fixed Deposit 03(76387299)-Revo.Fund	821,893.83	742,032.49
Fixed Deposit 04(76387310)-Revo.Fund	821,893.83	742,032.49
Fixed Deposit 05(76387322)-Revo.Fund	821,893.83	742,032.49
Fixed Deposit 06(76387328)-Revo.Fund	821,893.83	742,032.49
Fixed Deposit 07(76387343)-Revo.Fund	821,893.83	742,032.49
Fixed Deposit 25(81820199)-Dir.Fund	34,161.20	32,380.28
Fixed Deposit 08(81819773) -Proj.Fund	7,442,312.79	7,054,324.92
Fixed Deposit 09(81819900) - Proj Fund(6 Month)	763,671.98	692,261.42
Fixed Deposit 10(81819988) - Proj.Fund (6 month)	763,671.98	692,261.42
Fixed Deposit 11(81820008) Proj.Fund(6 Month)	763,671.98	692,261.42
Fixed Deposit 12(81820127) - Proj. Fund(6 Month)	763,671.98	692,261.42
Fixed Deposit 13(81820031) - Proj.Fund (3 Month)	748,886.22	678,567.35
Fixed Deposit 14(81820049) - Proj.Fund (3 Month)	748,886.14	678,567.27
Fixed Deposit 15(81820073) - Proj.Fund(1 Month)	702,625.26	630,334.92
Fixed Deposit 16 (81820087) Revo. Fund(1 month)	702,625.26	630,334.92
Fixed Deposit 17 (81820099) - Revol Fund(1 Month)	702,625.26	630,334.92
Fixed Deposit 19 (81820136) - Revol Fund(1 Month)	702,625.26	630,334.92
Fixed Deposit 20 (81820174) - Revol Fund(1 Month)	702,625.26	630,334.92
Fixed Deposit 21 (81820186) - Revol Fund(1 Month)	702,625.26	630,334.92
c/f	46,094,740.11	42,171,154.09

Notes to the financial statements continued on page 18.

ARTHUR C CLARKE INSTITUTE FOR MODERN TECHNOLOGIES
NOTES TO THE FINANCIAL STATEMENTS - 31ST DECEMBER, 2022. (CONTINUED)

		2022 Rs.	2021 Rs.
(12) INVESTMENTS (CONTINUED)			
b/f		46,094,740.11	42,171,154.09
Fixed Deposit 22 (81820244) - Revol Fund(1 Month)		702,625.26	630,334.92
Fixed Deposit 23 (81820190) - Revol Fund(6 Month)		763,671.97	692,261.42
Fixed Deposit 24 (81820194) - Revol Fund(6 Month)		610,937.57	553,809.13
Fixed deposit 26(81820180) - Proj Fund(1 Month)		702,625.27	630,334.93
Fixed Deposit -83214406 (DF)		1,727,151.16	1,637,110.11
Fixed Deposit 27(83203809)Revo Fund		1,002,390.43	954,657.55
Fixed deposit 28(87799992) Revo Fund		706,513.88	633,823.45
Fund Management A/c(82097803)		48,759,835.53	32,242,661.35
		101,070,491.18	80,146,146.95

The above investments are short term period and continue more than one year. Therefore It was not classified as cash and cash equievalant.

(13) TRADE AND OTHER RECEIVABLES			
Staff Debtor - TG	**(Schedule 02)**	302.00	302.00
Debtor-W D Chamika		2,663,925.87	
Insurance Corporation Debtor		9,700.00	9,700.00
Accounts Receivable - TG	**(Schedule 02)**	3,282,141.28	3,229,297.35
Accounts Receivable - P/C	**(Schedule 02)**	4,941,772.13	4,570,600.73
Debtor - Mr P T Fernando		4,000.00	4,000.00
Accounts Receivable PF	**(Schedule 02)**	1,001,640.75	323,940.13
Accounts Receivable RF	**(Schedule 02)**	150,414.45	52,826.17
Accounts Receivable - FINDS	**(Schedule 02)**	342,571.87	102,674.05
Debtor - Mr.Jayathu Fernando		106,894.72	106,894.72
Debtor - Mr B R P Perera		39,699.66	39,699.66
Debtor - P P K Rodrigo		15,652.69	15,652.69
Other Deposits		155,315.00	155,315.00
R.S.Debtor		14,434.91	14,434.91
Elections Dept		8,159.60	8,159.60
Ministry Debtor - Dish TV Package		33,381.50	33,381.50
Festival Advance	**(Schedule 03)**	37,500.00	13,750.00
TG Control		1,755,824.86	3,450,474.49
Debtor-L V Wijesinghe		627.00	627.00
Debtor - P D T De silva		9,711.80	9,711.80
Debtor-Y sagarage		3,750.00	3,750.00
Bank Gurantee		-	600,000.00
		14,577,420.09	12,745,191.80

Notes to the financial statements continued on page 19.

ARTHUR C CLARKE INSTITUTE FOR MODERN TECHNOLOGIES
NOTES TO THE FINANCIAL STATEMENTS - 31ST DECEMBER, 2022. (CONTINUED)

	2022 Rs.	2021 Rs.
(13.1) Work in progress - Projects		
SCADA Project	49,159.00	48,489.00
Establishing a Center for Lightning Protection(ECLP)	-	148,750.96
PDM II project 2021 (Elec Div)	67,111.79	67,111.79
SOILRE project(Elec Div)	-	-
THD Project 2021 (ISD Div)	34,228.37	29,728.37
STHTRI Projcect (com Div)	507,851.53	133,494.53
IRR Matara Project (Com Div)	321,065.96	304,985.96
NASTEM project (com Div)	581,021.84	516,820.44
PT POC Project (Elec)	269,967.18	244,967.18
DT BAT prject (Elec Div)	25,216.45	18,328.45
Callisto Radio Spectrometer Project	-	92,772.52
Clsf project of BPU (IT Div)	7,000.00	-
LCNMV Project(Comm Div)	50,771.18	-
MQFD Project 2022(SAD)	3,330.00	-
GMEDN Project 2022(SAD)	4,000.00	-
AT Project 2022(ELEC)	5,488.04	-
AVBH Project 2022 (Com Div)	798,937.00	-
S12S10 Project 2022(Com)	2,474,514.00	-
RM9SLR Project 2022(Com)	142,025.00	-
TPM project 2022(SpaceAppli)	9,260.00	-
Web Controlling Telescope Project	1,099.58	-
Automated Irrigation System (ELE)	-	-
ECGTA Project (Elec Div)	-	-
	5,352,046.92	1,605,449.20

Notes to the financial statements continued on page 20.

ARTHUR C CLARKE INSTITUTE FOR MODERN TECHNOLOGIES
NOTES TO THE FINANCIAL STATEMENTS - 31ST DECEMBER, 2022. (CONTINUED)

		2022 Rs.	2021 Rs.
(13.2) Work in Progress - Courses			
PEC 27 2020 (com div)			347,587.85
PLC SLR Project 2022(Com)		317,462.00	
(13.3) Staff loan			
Distress loan	**(Schedule 04)**	13,122,338.00	12,677,562.00
Motor cycle loan	**(Schedule 05)**	523,669.00	578,399.00
Motor vehicle loan	**(Schedule 06)**	3,509,669.00	2,993,740.00
Flood relief loan	**(Schedule 06)**	-	-
		17,155,676.00	16,249,701.00
Staff loan after one year		(9,672,890.00)	(9,042,870.00)
Staff loan with in one year		7,482,786.00	7,206,831.00
Trade and other receivable		27,729,715.01	21,905,059.85
Less:			
Provision for bad debts		(5,614,682.84)	(5,773,028.43)
		22,115,032.17	16,132,031.42
(14) INVENTORIES			
Electronic components		3,580,707.28	3,608,547.36
Stationery		1,788,835.75	1,790,473.17
Others		11,276.48	23,633.73
Electrical and mechanical		166,154.90	184,773.55
Welfare		137,635.50	72,723.00
Accessories -TG		199,218.03	199,218.03
Inventory items - TG		518,035.98	518,035.98
Inventory items - Projects (P/C)		2,000,013.92	2,000,013.92
Tools - TG		1,392,996.69	1,392,996.69
		9,794,874.53	9,790,415.43
(15) PREPAYMENT			
Payment in advance - TG	**(Schedule 07)**	3,744,338.05	324,462.01
Payment In Advance - PC		-	15,000.00
Stamp Imprest		21,362.00	36,077.00
SDB-Project		-	-
SDB-Equipment			
		3,765,700.05	375,539.01

Notes to the financial statements continued on page 21.

ARTHUR C CLARKE INSTITUTE FOR MODERN TECHNOLOGIES
NOTES TO THE FINANCIAL STATEMENTS - 31ST DECEMBER, 2022. (CONTINUED)

(16) PROPERTY, PLANT AND EQUIPMENT

	As at 01st January, 2022	Additions	(Disposals) / Adjustments	As at 31st December 2022
	Rs.	Rs.	Rs.	Rs.
Cost				
Freehold assets				
Building	182,714,758.01		(1,116,234.11)	181,598,523.90
Satellite antenna	2,959,797.83			2,959,797.83
Computers	78,248,061.26	540,864.40		78,788,925.66
Lab equipment	256,250,727.85	3,691,285.27		259,942,013.12
Office equipment	40,965,150.58	710,951.40		41,676,101.98
Furniture and fittings	20,155,386.71	22,526.00		20,177,912.71
Motor vehicle	28,785,689.00			28,785,689.00
Library books	24,573,965.97	18,350.00		24,592,315.97
	634,653,537.21	4,983,977.07	(1,116,234.11)	638,521,280.17
Accumulated depreciation				
Freehold assets				
Building	78,843,584.47	9,135,737.90	(502,305.34)	87,477,017.03
Satellite antenna	2,959,778.83	-		2,959,778.83
Computers	63,306,869.44	4,794,057.48		68,100,926.92
Lab equipment	178,781,749.72	14,795,647.10		193,577,396.82
Office equipment	26,447,797.48	2,614,961.17		29,062,758.65
Furniture and fittings	13,974,047.89	1,442,735.83		15,416,783.72
Motor vehicle	28,545,229.47	65,440.00		28,610,669.47
Library books	24,135,282.31	129,875.54		24,265,157.85
	416,994,339.61	32,978,455.02	(502,305.34)	449,470,489.29
Carrying value	217,659,197.60			**189,050,790.88**

Note: The reversed adjustment has been made to Building value due to a non-refundable payment to the Department of Building.

Notes to the financial statements continued on page 22.

ARTHUR C CLARKE INSTITUTE FOR MODERN TECHNOLOGIES
NOTES TO THE FINANCIAL STATEMENTS - 31ST DECEMBER, 2022. (CONTINUED)

		2022 Rs.	2021 Rs.
(17) WORK IN PROGRESS - CONSTRUCTION			
WIP - Furniture and fitting(Lunch room)		-	-
WIP Buil - Demarcation and protection(Pitipana)		3,545,744.40	3,545,744.40
		3,545,744.40	3,545,744.40
(18) TRADE AND OTHER PAYABLES			
Accounts payable -TG	**(Schedule 08)**	1,106,435.10	284,717.10
Accounts payable -PC	**(Schedule 08)**	113,268.87	71,190.00
Salaries & Wages Control		-	-
E.P.F. control		1,512,877.84	1,725,956.65
E.T.F. control		181,545.34	207,114.80
Creditor - General treasury		1,443,680.69	1,391,884.00
Refundable deposit		-	87,600.00
VAT Payable on receipts - P/C		38,219.71	38,219.71
Welfare society control		47,256.00	200.00
NBT payable - TG			
NBT payable - P/C		6,080.00	6,080.00
Stamp duty payable - TG		7,625.00	9,425.00
Payee tax payable - TG		13,543.00	11,943.00
Disbursement control		5,192,470.87	3,088,216.57
Buildings dept creditor		-	984,403.00
Arpico interiors - Creditor		14,377.61	14,377.61
PC Control		1,755,824.86	3,450,474.49
Retention		1,211,358.55	1,339,624.66
Creditor - W D Chamika		-	8,535.13
Creditor - H Wijesuriya		24,564.33	25,827.02
Trade union control		-	100.00
		12,669,127.77	12,745,888.74
(19) ACCRUED EXPENSES			
Treasury fund	**(Schedule 09)**	4,207,677.75	3,504,062.40
Projects / Courses	**(Schedule 09)**	594,193.00	264,778.00
		4,801,870.75	3,768,840.40

Notes to the financial statements continued on page 23.

ARTHUR C CLARKE INSTITUTE FOR MODERN TECHNOLOGIES
NOTES TO THE FINANCIAL STATEMENTS - 31ST DECEMBER, 2022. (CONTINUED)

		2022 Rs.	2021 Rs.
(20) RETIREMENT BENEFIT OBLIGATION			
Balance at the beginning of the year		52,835,090.05	49,678,539.54
Add :			
Provision for the year		3,019,646.08	4,150,710.51
		55,854,736.13	53,829,250.05
Less :			
Payments made during the year		(4,483,522.50)	(994,160.00)
Balance at the end of the year	**(Schedule 10)**	51,371,213.63	52,835,090.05
20(a)(b)			
(a) With in one year		2,715,812.50	2,761,555.00
(b) After one yeat		48,655,401.13	50,073,535.05
ASSUMTIONS FOR RETIREMENT BENEFIT OBLIGATION			
Discount rate		6.50%	6.50%
Salary increment		8.00%	8.00%
Staff turnover		8.93%	7.03%
Retirement age		60 years	62 years
Net Assets / Equity			
(21) Government Capital Grant			
Balance at the beginning		308,895,834.85	353,668,028.23
Grants received during the period		2,295,000.00	11,740,000.00
Adjustments		-	-
Capacity building programme		(2,459,757.18)	(22,051,563.95)
Amortization		(32,445,140.97)	(34,460,629.43)
Balance at the end of the year		276,285,936.70	308,895,834.85
Non Monetary Government Capital Grant			
Balance at the beginning		-	133,052.05
Grants received during the period			
Amortization		-	(133,052.05)
Balance at the end of the year		-	-
Ministry Capital Grant		13,156,751.40	13,156,751.40
		13,156,751.40	13,156,751.40
Capital Grant		289,442,688.10	322,052,586.25

Notes to the financial statements continued on page 24.

ARTHUR C CLARKE INSTITUTE FOR MODERN TECHNOLOGIES
NOTES TO THE FINANCIAL STATEMENTS - 31ST DECEMBER 2022. (CONTINUED)

	2022 Rs.	2021 Rs.
(22) RESERVES		
General Reserve	272,721.64	272,721.64
Celltel donation	213,333.34	213,333.34
Research and consultancy fund	1,341,446.90	1,341,446.90
Foreign grant	3,464,295.25	3,464,295.25
Re - valuation surplus	26,682,504.54	26,682,504.54
	31,974,301.67	31,974,301.67
Research Pool		
Balance at the beginning	201,261.29	205,583.83
Receipts	33,528.65	-
Adjustments		(4,322.54)
Expenses		
	234,789.94	201,261.29
	32,209,091.61	32,175,562.96
Other Grants and Donations		
Balance at the beginning	22,763,605.95	23,066,377.26
Fixed assets received	-	-
Adjustments		
Amortization	(31,008.71)	(302,771.31)
	22,732,597.24	22,763,605.95
Revolving Fund		
Balance at the beginning	15,694,103.98	14,657,416.69
Receipts	723,540.86	429,251.12
Adjustments	-	-
Interest income	1,633,829.60	607,436.17
Expenses		
	18,051,474.44	15,694,103.98
Directors Fund		
Balance at the beginning	1,699,436.38	1,611,253.26
Interest Income	122,571.90	88,183.12
Adjustments	-	-
Expenses		
	1,822,008.28	1,699,436.38

Notes to the financial statements continued on page 25.

ARTHUR C CLARKE INSTITUTE FOR MODERN TECHNOLOGIES
NOTES TO THE FINANCIAL STATEMENTS - 31ST DECEMBER 2022. (CONTINUED)

	2022 Rs.	2021 Rs.
FINDS Grant		
Balance at the beginning	8,681,350.90	8,255,183.14
Interest income	913,037.06	426,167.76
Expenses		
	9,594,387.96	8,681,350.90
NASDA Grant		
Balance at the beginning	7,132.52	7,217.24
Adjustments		
Interest income	216.18	215.28
Expenses	(25.00)	(300.00)
	7,323.70	7,132.52
	84,416,883.23	81,021,192.69
(23) ACCUMULATED SURPLUS / (DEFICIT)		
Opening balance -TG	(177,115,796.22)	(175,995,778.33)
Opening balance - P/C	58,993,815.50	51,749,362.54
Adjustments - TG	-	509,729.28
Adjustments - PC	(316,380.76)	265,219.03
Excess of income over expenditure	25,919,175.09	5,349,486.76
	(92,519,186.39)	(118,121,980.72)
TOTAL NET ASSETS / EQUITY	281,340,384.94	284,951,798.22

10.0 Financial Highlights in the preceding 10 years

- Self-generated income has increased by 167% during the last 5 years (2018 to 2022)
- The highest self-generated income was recorded in the year 2022. That is LKR 47 Mn
- The total value of the three (3) Nano-satellite projects undertaken by the institute through strategically negotiated and secured international technological collaboration partnerships would amount to approximately LKR 1 Billion.(If measured in terms of the cost that would have been incurred if Sri Lanka were to undertake the using its own funds with no strategic collaborations of the above nature.)

11.0. Summary of Short and Medium Term Activities Planned

- **Acquisition & Development of National Capacity in Basic Space Technologies**–
  - Acquisition of national capacity in Space Technologies through collaborative activities with foreign space faring nations, in particular the furtherance of collaborative design & development of nano-satellites with Kyushu Institute of Technology (Kyutech), Japan.
  - Development of an Engineering Model of a cube satellite, which will be extended to a flight model and launched to the ISS orbit.

- **Development of Aerospace Design and Manufacturing Capabilities in Sri Lanka –**
  Design and development of Fixed Wing UAVs (Unmanned Aerial Vehicles) and Quad-rotor/ Hexa-rotor Copter technologies with improved versions of stability, controllability and structures suitable for different applications.
  Design and development of an agricultural mapping and spraying UAV and research & development of unconventional UAV systems, are planned for 2023 -2024.

- **Development of Mechatronics & Robotics Capabilities in Sri Lanka –** Develop customized mechatronics and robotics applications suitable for industry. One specific planned activity is the development of a motorized selective tea harvester for the tea industry.

- **Geographic Information Systems & Remote Sensing (GIS/ RS) activities** - Projects using Earth Observation (EO) satellite imagery and air borne platform (UAV) imagery for applications in the sectors, agriculture, plantation, environment, natural resource management etc. Some specifically identified projects and project areas for 2023-24 are "Monitoring & quantifying of forest degradation", "Tea plantation mapping and monitoring", "Modeling of Electricity Distribution Network" and "Potential fishing zone forecasting".

- Electronics, Microelectronics & Communications Projects – Design and development of industrial solutions and electronic products with high socio-economic impact.
- Deep diagnostics and advanced hardware recovery of sophisticated electronic systems, measuring instruments and medical instrument. Recovery of faulty micro-processor based sub systems in the operating fleets of Locomotives and Power Coaches of Sri Lanka Railways is a specific planned activity.
- Consultancies on lightning protection systems, power quality and GIS/RS
- Continuing Professional Development (CPD) programmes in the fields of Electronics, Communications, robotics, Information Technology and Remote Sensing/ GIS
- Basic & intermediate level training programmes on practical electronics, computer hardware and troubleshooting of computers
- Astronomy research projects and Astronomy popularization activities
- Performance Testing/Certification, Calibration
- Human Resource capacity development in Aerospace Technologies, Space Technologies and Applications, Robotics and Bio-medical Engineering by way of specialized short term training, Post-graduate training, expert missions and other associated measures.

12.0 Audit Management Committee Report 2022

The committee has played a key role in ensuring good governance around accounting policies and practices, risk management and control, and the assurance process.

Role of the Committee

The role of the Audit and Management committee, which reports its finding to the Board is to ensure the integrity of the financial reporting of the institute, review and advice on internal and external audit processes of the institute and maintain a sound internal control system according to the legal and regulatory requirements.

Composition

The committee comprises three non-executive board members chaired by the Treasury representative. The composition of the committee in 2022 is as follows.

- Mr.S.U Chandrakumaran (Chairperson / Member-Board of Governors /Treasury representative / Additional Director General – Department of Public Finance)
- Prof.A. K .W Jayawardane - Member-Board of Governors
- Mr Merrick Goonaratne - Member-Board of Governors
- Mr S. Kiriyawasam -Audit superintendent / Observer – National Audit office

Meetings

The meetings were held on the 11th of October, and 29th of December during the year 2022.1st and 2nd quarter meetings were not held due to the non-availability of a Treasury representative.

Summary of Activities for the year 2022.

- Reviewing the operations and effectiveness of the institute's internal control systems to ensure that an effective Financial Reporting System is in place to comply with Sri Lanka Public Sector Accounting Standards.
- Reviewing Annual reports, Action plans, Procurement plans, Internal Audit plans, Quarterly performance reports, Progress reports etc.
- Review of the Annual Board of Survey procedure based on the comments, observations and recommendations.

- Follow-ups of the Audit queries and institution's replies.
- Recommendations made to avoid repetition of the Audit Matters.
- Reviewing and recommending cost-saving measures on considering the present economic situation. Such as energy water etc.

Conclusion

Based on the reports submitted by the National Audit Office (Auditor General) and the findings of the Internal Auditor, the committee identified matters in respect of which considered actions or improvement was needed and made recommendations as to the steps to be undertaken and reported to the Board of Governors.

13.0. Auditor General Report 2022

NATIONAL AUDIT OFFICE

My No: IMT/C/ACCIMT/FA/2022 Your No} Date}31st May, 2023

Chairman

Arthur C Clarke Institute for Modern Technologies

Report of the Auditor General on the Financial Statements and Other Legal and Regulatory Requirements of the Arthur C Clarke Institute for Modern Technologies for the year ended 31 December 2022 in terms of Section 12 of the National Audit Act No. 19 of 2018.

1. Financial Statements

1.1 Opinion

The audit of the financial statements of the Arthur C Clarke Institute for Modern Technologies for the year ended 31 December 2022 comprising the statement of financial position as at 31 December 2022, statement of financial performance, statement of change in equity, cash flow statement, and notes to the financial statements for the year then ended, including a summary of significant accounting policies, was carried out under my direction in pursuance of provisions in Article 154(1) of the Constitution of the Democratic Socialist Republic of Sri Lanka read in conjunction with provisions of the National Audit Act No. 19 of 2018 and Finance Act No. 38 of 1971. My report to Parliament in pursuance of provisions in Article 154 (6) of the Constitution will be tabled in due course.

In my opinion, the accompanying financial statements give a true and fair view of the financial position of the institute as at 31 December 2022, and of its financial performance and its cash flows for the year then ended in accordance with Sri Lanka Public Sector Accounting Standards.

1.2 Basis for Opinion

(a) Though the physical stock verification balance as at 31st December, 2022 as conducted by the institute is Rs. 4,508,103, a difference of Rs. 1,176,506 is observed by indicating the stock value in the financial statements as Rs. 5,684,610.

(b) The value of equipment used in the institute; Rs. 1,392,996 without identifying as fixed assets, has been mentioned wrongly as stock in the financial statement.

I conducted my audit in accordance with Sri Lanka Auditing Standards (SLAuSs). My responsibilities, under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of my report. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

1.3 Other information included in the Annual Report 2022 of the Institute

The other information is defined as the information that are not included in my audit report but included in the Annual Report 2022 of the Institute, due to be forwarded to me after the date of this Audit Report. The management is responsible for this other information.

My opinion on Financial Statement does not reveal the other information and I will not give any sort of guarantee or opinion regarding this information.

My responsibility in relevant to auditing financial statements stands reading the other information whenever they are available and while doing so, consider whether there are material mismatches in the financial statements according to my knowledge obtained by auditing or any other way.

If I conclude material misstatements when reading Annual Report 2022 of the Institute, these matters should be communicated to governing parties for rectification. If further misstatement that are not rectified, these will be included in the report to be tabled in Parliament in due course by me, in accordance with Article 154 (6) of the Constitution of the Democratic Socialist Republic of Sri Lanka.

1.4 Responsibilities of Management and those Charged with Governance for the Financial Statements

Management is responsible for the preparation of financial statements that give a true and fair view in accordance with Sri Lanka Public Sector Accounting Standards and for such internal control as management determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Institutes ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Institute or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Institute's financial reporting process.

As per Sub Section 16(1) of the National Audit Act No. 19 of 2018, the Institute is required to maintain proper books and records of all its income, expenditure, assets and liabilities, to enable annual and periodic financial statements to be prepared of the Institute.

1.5 Auditor's responsibility for the Audit of Financial Statements

My objective is to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Sri Lanka Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Sri Lanka Auditing Standards, I exercise professional judgment and maintain professional skepticism throughout the audit. I also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Institute's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the management.

- Conclude on the appropriateness of the management's use of the going concern basis of accounting and based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Institute's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify my opinion. However, future events or conditions may cause the Institute to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

I communicate with those charged with governance regarding, among other matters, significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

2. Report on Other Legal and Regulatory Requirements

2.1 National Audit Act, No. 19 of 2018 includes specific provisions for following requirements.

2.1.1 I have obtained all the information and explanation that required for the audit and as far as appears from my examination, proper accounting records have been kept by the Institute as per the requirement of section 12 (a) of the National Audit Act, No. 19 of 2018.

2.1.2 Financial statements presented is consistent with the preceding year as per the requirement of section 6 (1) (d) (iii) of the National Audit Act, No. 19 of 2018.

2.1.3 The financial statements presented include all the recommendations made by me in the previous year as per the requirement of section 6 (1) (d) (iv) of the National Audit Act, No. 19 of 2018.

2.2 Based on the procedures performed and evidence obtained were limited to matters that are material nothing has come to my attention;

2.2.1 to state that any member of the Institute has any direct or indirect interest in any contract entered into by the Institute which are out of the normal cause of business as per the requirement of section 12 (d) of the National Audit Act, No. 19 of 2018.

2.2.2 to state that the Institute has not complied with any applicable written law, general and special directions issued by the governing board of the Institute as per the requirement of section 12 (f) of the National Audit Act, No. 19 of 2018.

Reference to laws, rules, and regulation	Description
(a) Section 134(1) of the Financial Regulations of the Democratic Socialist Republic of Sri Lanka	The Deputy Director (Internal Audit) who is the Head of the Internal Audit Division is acting in the post of Senior Deputy Director (Finance) from 10th March, 2020.
(b) Chapter 6.6 of the Operational Manual for State Owned Enterprises No. 2021/01 dated 16th November 2021.	Though a copy of the draft annual report for the year under review should be submitted to the Auditor General within 60 days, it had not been submitted even by the accounting date, 10th of May 2023.

2.2.3 to state that the Institute has not performed according to its powers, functions and duties as per the requirement of section 12 (g) of the National Audit Act, No.19 of 2018.

2.2.4 to state that the resources of the Institute had not been procured and utilized economically, efficiently and effectively within the time frames and in compliance with the applicable laws as per the requirement of section 12 (h) of the National Audit Act, No. 19 of 2018.

3. Other matters

(a) Total receivable balance amounted to Rs. 5,735,439, carried forward for more than 02 years had not been recovered even at the end of the year under review.

(b) An Unmanned Ariel Vehicle of the value of Rs. 10,564,677 had been purchased in August, 2016 to take the photographs at the archeological research and excavation work of the Department of Archeology. A foreign training on the operation of UAV incurring Rs. 110,322 had been given to two officers prior to purchasing the UAV. However, the UAV remains underutilized even by the date of auditing from the date purchased.

(c) Rs. 1,755,825, the amount agreed by the Institute exceeding the capital grants received from the Treasury pertaining to the year under review, has been indicated both as an expenditure payable and as an income receivable from the Treasury.

(d) Actions had not been taken so far to use the idle stock of the value of Rs. 2,717,267 remaining for more than 03 years for a task advantageous to the institute, having the requirement of utilizing as per the nature of the project.

W.P.C. Wickramaratne
Auditor General

14.0. Answers to the Auditor General Report 2022

Report of the Auditor General on the Financial Statements and Other Legal and Regulatory Requirements of the Arthur C. Clarke Institute for Modern Technologies for the year ended 31 December 2022 in terms of Section 12 of the National Audit Act No. 19 of 2018.

2.2.2 Reference to Laws, Rules, Regulations

(a) The Deputy Director (Internal Audit) was appointed under the Board Approval No. HR/AD dated 05.01.2020 with effect from 10.03.2020 to perform the duties of the position of the Senior Deputy Director (Finance) that became vacant from 07.03.2020, to continuing the functions of the Finance Division without any disturbance, until the vacant position is fulfilled. The recruitments have been halted temporarily as per the provisions of the circulars issued by the government from time to time, therefore, the recruitments could not be made and the measures will be followed to fulfill the vacancies in the future.

(b) The draft annual report of 2022 has been prepared and measures have been taken to submit the said report to the Auditor General.

Actions will be taken from 2023, to submit the annual report within 60 days subsequent to the end of the year.

3. Other Matters

(a) The amount remains outstanding for more than two years as mentioned in the audit query is Rs. 5,735,439.21. Rs. 3,205,676.60 is yet to be incurred from the Telecommunication Regulatory Commission of Sri Lanka which represents 66% of the above outstanding amount. The actions have been taken to recover the above mentioned amount. In 2022, four reminders have been issued concerning the other invoices and the relevant technical units that provided the assistance also have issued the reminders in this regard.

60% from the value of the above invoices is to be incurred from the government institutions and the Ministry of Science and Technology, Department of Divineguma, Department of Irrigation are among such government institutions from which the above amounts have to be incurred.

The other outstanding amounts are to be incurred from the private sectors for the service rendered in 2009, 2010, and 2011 and reminders were given from time to time in that regard. It has become difficult to act upon such institutions, since they are not functioning by this time.

(b) Q-200 AGRI PRO UAV made by Questuav Ltd. of the United Kingdom was imported in August, 2016 subjected to the maximum flight altitude of 150m (492 feet) approved by the Ministry of Defence to capture the photographs as an alternative to the highly expensive satellite photographs with high resolution used for the development projects in the fields such as Agriculture, Town Planning, Surveying and Mapping and Archeology in Sri Lanka.

The Q-200 AGRI PRO UAV could not be used for the expected objective as the maximum flight altitude of UAV was limited to 60m (492 feet) by the Civil Aviation Authority for the requests we made constantly concerning this matter despite the recommended maximum flight altitude is 400 feet (122m). The Civil Aviation Authority, following our constant requests, granted permission in November, 2022 to the maximum altitude of 400 feet. The warranty period given by the respective producer has been expired by that time and, a defect in the software of the flight plan system of UAV was detected when planning the flight map. Since the UAV cannot be taken off with defects, we were able to contact the manufacturing company through e-mail to get the defect repaired. However, we were informed that the manufacturing company has been sold to another company and that they cannot repair such defects as the above mentioned software is not being used further for their products by the new company. Nevertheless, efforts are being made to repair the software defects of UAV with the support of the technical divisions of our institution.

(c) The amount of Rs. 1,775,825 mentioned as outstanding/ payable in the audit query is the control accounts. These control accounts are being maintained as a strategy for managing the treasury receipts account and projects and programme control accounts. The balance of the above-mentioned accounts has been reconciled as at the closing date of the finance statement. As such, there is no issue concerning the accuracy of the accounts.

Our observation is that the settling the value of debit balance with the credit balance does not disclose the value of those accounts as per the accounting policies.

(d) Most of the idle stock items mentioned in the audit query are required for research and development purposes and the need of using them arises from time to time as per the nature of the project. Further, there is no ability to purchase such items directly from the open market under the prevailing economic crisis. Therefore, it is required to maintain the stock items concerning the research and development requirements. The price of such technical and electronic items will be higher if purchased from the current market and therefore, it has happened to maintain the said stock as per the nature and requirement of the projects.

Sgd. /
Engineer Dr. Sanath Panawanage
Director General & Chief Executive Officer
Arthur C. Clarke Institute for Modern Technology