

Arthur C Clarke Institute for Modern Technologies

Annual Report – 2014

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Arthur C Clarke Institute for Modern Technologies
Katubedda,
Moratuwa.

14/09/2015

Hon. Minister of Science, Technology & Research
Ministry of Science, Technology & Research,
408, Galle Road,
Colombo 03.

Hon. Minister,

Annual Report of the Arthur C Clarke Institute for Modern Technologies For the Period from 1st January to 31st December 2014.

In terms of section 40 of part vii of the Science & Technology Development Act. No. 11 of 1994, I have honour to submit herewith the Annual Report of the Arthur C Clarke Institute for Modern Technologies for the year 2014 along with,

- (a) A copy of the Audited Statement of Financial Performance
- (b) A copy of the Audited Statement of Financial Position
- (c) Auditor General's Report and the Observations of the Institute on the same for being submitted for the approval of the Cabinet of Ministers.

Yours faithfully,



Eng. Sanath Panawennage
Director General & CEO
Arthur C Clarke Institute for Modern Technologies

Annual Report - 2014

1.0 General

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 Technology and Research. 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 centre 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

The ACCIMT, (formerly known as the ACCMT) was established under of the Ministry of Higher Education in 1984 and was brought under the purview of the Ministry of Industries, Science and Technology in 1990.

In Augsut 1994 the ACCIMT was asigend to the Ministry of Science and Technology. With the establishment of the new Ministry for Economic Reform, Science and Technology, in December 2000, the ACCIMT was transferred under its purview. In 2004, the institute came under the newly constituted Ministry of Science and Technology.

In 2010 the Ministry of Science & Technology has renamed as the Ministry of Technology & Research. The ACCIMT continues to function under the newly fromed Ministry of Technology & Research.

1.5 Members of the Board of Governors

- | | | |
|-----|---------------------------------|---|
| 1. | Prof. H Y Ranjit Perera | Chairman – Board of Governors |
| 2. | Eng. Sanath Panawennage | Director General & CEO -
Member, Board of Governors, |
| 3. | Prof. (Mrs) I J Dayawansa | Member, Board of Governors |
| 4. | Mr. P Algama | Member, Board of Governors |
| 5. | Prof. A K W Jayawardena | Member, Board of Governors |
| 6. | Mr. Muditha Prasanna Jayasinghe | Member, Board of Governors |
| 7. | Prof. A Senarathna | Member, Board of Governors |
| 8. | Mr. M A Salgado | Member, Board of Governors |
| 9. | Prof. Chandana Jayaratne | Member, Board of Governors |
| 10. | Prof. Ranjith Senarathne | Member, Board of Governors |

The total no.of Board of governors meetings held for year under review was twelve.

2.0 Executive Summary

The overall operational and development activities of the institute for the year 2014 have seen a substantial progress and growth where the direct, tangible, national level impact of the institution's research and other technical initiatives are concerned.

The core activities carried out by the five technical divisions of the institute during the year under review, in terms of in-house and industry initiated research and development activities, test, measurement and instrument calibration services, technical consultancy and other services to the industry as well as training and other educational activities have shown high level of success, while contending with one major constraint prevailing over the years in recruitment and retention of staff in core technical disciplines mainly due to inadequate remuneration levels.

Functioning as the National focal point in Sri Lanka for Space Technology Applications for the Regional Space Application Programme, the ACCIMT teaming up with United Nations Economic and Social Commission for Asia & Pacific (UNESCAP) initiated a project to develop national capacities, to use space technologies for effective drought monitoring and early warning through the long-standing Regional Space Applications Co-operative Programme for Sustainable Development (RESAP). The programme aims to build resilience of the countries in the region against agricultural drought and such other natural phenomena resulting in economic losses to such countries. The ACCIMT has been successfully driving the pilot project, as the lead agency with seven other relevant national agencies namely, Natural Resource Management Centre of Department of Agriculture, Department of Agrarian Development, Irrigation Department, Mahaweli Authority of Sri Lanka, Department of Meteorology, Department of Census and Statistic and Disaster Management Centre participating in the project. Further the institute in collaboration with UNESCAP hosted a Regional Workshop on Space Technology Applications for Drought Monitoring and Early Warning and training on UNESCAP sponsored Space Technology Based Agriculture Drought Monitoring. In addition to that ten scientists and engineers were given the opportunity to undergo advanced training organized in NRSC India and in China.

In – house research, design and development projects which were initiated or continued during the year included development of Solar operated semaphore signal light, Railway level crossing bell unit and Audio frequency based train detection technique for continuous tracks of Sri Lanka Railways. Industry-initiated Research and Development activities include design and development of Mobile operated vending machine for Thunkk Solutions, Solar powered lighting system for hoardings for Sri Lanka Institute of Information Technology, CCTV security surveillance systems to National Water Supply and Drainage Board, Baring temperature monitoring interface for Sapugaskanda Diesel Generator Plant of Ceylon Electricity

Board, an extension to On-line Administration System for Buddhist & Pali University and Web based Software Development for the reservoir level monitoring project carried out for National Water Supply and Drainage Board. Further hardware recovery services were continued to Sri Lanka Railways for the recovery of advanced microprocessor based control and sub systems of Alstom Class M9 locomotives and Sefang Class S9 power coaches which contained considerable volume of work of Research and Development nature.

The number of research projects undertaken in the area of Astronomy amounted to five, which included Study of Solar Flares using CALLISTO Radio Spectrometer and Spectroscopy study of Planetary Nebulae. The former was presented in the 30th technical session of Institute of Physics, Sri Lanka. The other three projects were undertaken in collaboration with the undergraduate programmes of University of Peradeniya and Sabaragamuwa University.

Joint research, application on agricultural drought monitoring for Sri Lanka using Remote Sensing, aiming to determine drought indices was carried out and an abstract was submitted to International Symposium on Environment Management and Planning organized by the Central Environmental Authority.

On the training domain the institute conducted seven types of short term continuous professional development (CPD) programmes on highly specialized technological areas such as Modern Electronic Test & Measuring Instruments, Modern Power Electronics, Modern Electronic Components, Embedded Control Systems, Programmable Logic Controllers, and Surge Protection of Electronic Systems mainly for the benefit of engineers, technologists and other professionals from public and private sector organizations and these courses continued to enjoy substantial demand from the industry. The total number of professionals who attended such courses during the year was approximately 300. In the meantime the institute also provided training opportunities through its intermediate training courses and workshops including a programme specially conducted for the University Grant Commission's Higher Education for the Twenty first Century World bank project. As part of this project the ACCIMT conducted several training programmes to technical personnel employed at universities and affiliated institutes. The number of participants who attended the intermediate training courses / workshops during the year was approximately 160.

There was a substantial demand for industrial services the institute offer namely, electronic test and measurement equipment calibration, performance testing of various types of electronic equipment, accessories, module, lead acid batteries and surge protective devices, testing and measurement services provided for the communication and broadcasting sectors etc. During the year 278 performance test reports were issued and 91 instrument calibration jobs were performed. Apart from that a significant number of consultancies, measurements and advance hardware recovery assignments were undertaken by the institute.

The government grants received during the year for capital and recurrent expenditure were approximately 87 million and 91 million respectively. Total revenue generated by the institute was approximately Rs. 30 million which amounts to approximately 25% of the total recurrent expenditure.

3.0 Divisions of the Institute

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

4.0 Research Programmes and Technological Services

4.1 Industry-Sponsored R&D Projects and other Technical Services to the Industry

The institute has made substantial contributions to the industry through

- R & D projects undertaken as per specific requests by the industry
- Test & Measurement services
- Equipment calibration / Performance testing and recovery services
- Information systems development projects
- Consultancy assignments, and
- Contractual maintenance of systems and facilities.

4.1.1 Industry-Initiated Research & Development Activities

4.1.1.1 Mobile operated vending machine

Mobile phone operated vending machine for Thunkk Solutions was designed and developed by the Electronic Division.

This design of vending machine is based on the short message service (SMS) with the main control module comprising a GSM modem and PIC18F4525 microcontroller. The user can select merchandise using keypad and LCD, and SMS can be sent as per the instructions given by the machine. Upon validation of the details, the transaction can be completed, if satisfied or abandoned, if the requirements are not satisfied.

4.1.1.2 Solar Powered Lighting System for Hoardings

The system consists Diamond shaped hoardings, which were lit by 08 flash lights and the client was Sri Lanka Institute of Information Technology (SLIIT). This project was undertaken by the Electronic Division.

4.1.1.3 Development of CCTV security surveillance systems to National Water Supply and Drainage Board (NWSDB)

This project was to design, develop and install security surveillance systems at four NWSDB sites namely Ambatale, Biyagama, Thelawala and Ratmalana. The agreement was signed upon the submission of the project proposal including the work plan to NWSDB and the ACCIMT is waiting for NWSDB confirmation initially to commence installations at Abatale site. The project is undertaken by the Communication Division.

4.1.1.4 Baring Temperature Monitoring Interface

Based on a request received from the Sapugaskanda Diesel Generator Plant, this project was commenced to develop an interface circuit to monitor the baring temperature and communicate the information to the processor system. The initial prototype was developed and testing is in progress. Successful completion of this project will create opportunities for several new installations. The project is undertaken by the Communication Division.

4.1.2 Information System Development Projects

The Information Technology Division of the institute has been developing information system solutions for the public and the private sector organizations on customized applications upon request. The main information system development projects undertaken by the Institute during the year under review include the following:

4.1.2.1 Extension to On-line Administration System – Buddhist & Pali University

This was carried out as an extension to the On-line Administration System developed in 2013 by integrating it with newly developed student registration (external) and examination modules.

4.1.2.2 Web Based Software Development for the Project on Reservoir Level Monitoring for National Water Supply and Drainage Board

This was carried out as a joint project with the Communication Division. The project was to develop a system to display reservoir water level information over the web by incorporating Web and SMS technologies.

4.1.3 Test and Measurements, Hardware Recovery and Consultancy Services

4.1.3.1 Test & Measurement Services of Power Electronics Measurement Laboratory- Electronics & Microelectronics Division

During the year, the division issued 278 performance test reports mainly for testing of surge protective devices, RCCBs, MCBs, cables, socket outlets, switches, PSTN phones, routers and batteries. Further division carried out safety testing & power quality measurement of electrical/ electronic products apart from the power quality measurements undertaken at customer locations. The key customers include Orel Corporation, Micro Power Engineering, Sri Lanka Telecom, Hyperjet Technologies, Kevilton Electrical Products, Sri Lanka Standards Institution, Cybertec Enterprises, Console Electronics, Douglas and Sons, E B Creasy and Associated Battery Manufactures.

4.1.3.2 Troubleshooting / Repair Services and Consultancy Assignments - Electronics & Microelectronics Division

During the year under review 11 major consultancy and hardware recovery assignments were undertaken by the Electronics and Microelectronics division. Apart from that 48 miscellaneous jobs were performed.

Key hardware recovery assignments include, recovery of power failure recorder for Lanka Electricity Company, repair of transformer tap indicator for Ceylon Electricity Board, repair of Foss Tecator Digestor and Polarimeter for Sri Lanka Standards Institution, recovery of power meter for National Cleaner Production Centre and repair of DC power supply for University of Ruhuna.

4.1.3.3. Test and measurements and hardware recovery services - Communication Division

Under test and measurement services Radio Frequency related and cable characteristic measurement jobs were carried out to the clients namely, Ocean Link Management, Kamal Cables, Solusys Consulting, Kelani Cables, Amateur Radio Society, Lanka Bell and Civil Aviation Authority.

Hardware recovery activities is concerned, repairing of signaling telephone sets for Sri Lanka Railways and leak and metal detectors for National Water Supply and Drainage Board were undertaken during the year under review.

4.1.3.4 Test and Measurements, Hardware Recovery and Consultancy Services Industrial Services Division

During the year under review the division performed two complex hardware recovery assignments namely, repair of power module (for control boards) of an Offset Printing Machine of Department of Agriculture and repair of Odometers and Bumper Integrators of Road Development Authority.

4.1.3.5 Instrument Calibration Service / Performance test services offered by the Calibration Laboratory - Industrial Services Division

Ninety one instrument calibrations were performed on industrial requests. The instruments that were calibrated include Digital / Analogue multimeters, Oscilloscopes, Clamp meters, Earth testers, RCCB and Loop testers.

4.1.4 Warranty Maintenance Services

4.1.4.1 Remote reservoir and overhead tank level logging and monitoring system for Maharagama NWSDB pumping station.

The above system designed and installed in 2013 was maintained for successful operation during the year under review.

4.1.4.2 Recovery of Microprocessor based electronic control subsystems of the Class S9 Power Coaches (Sefang) Driver Display units

The five driver display units recovered during the year 2013 were maintained, in the year under review.

4.1.4.3 Contractual Services

Contractual maintenance of Databases and other Information Management Systems performed during the year under review include,

1. Accounts System – University of Moratuwa
2. Accounts System – University of Sri Jayewardenepura
3. Payroll System – Development Lotteries
4. Accounts System – Kothalawala Defense University
5. Accounts System – Postgraduate Institute, University of Sri Jayewardenepura
6. Accounts System – Buddhist and Pali University

4.2 In-house R & D Projects

4.2.1 Solar operated Semaphore signal light

After exploring the Sri Lanka Railways (SLR) requirement of an automatically controlled solar light, that could be fitted into old semaphore signal poles, design, development and fabrication of a prototype unit was done. The unit will be given to Sri Lanka Railways for testing. This product would improve the visibility of the semaphore signal pole during night.

4.2.2 Railway level crossing Bell unit

A prototype unit of a standard for railway level crossings bell unit was designed and the team is in the process of assembling two units. The assembled units will be given to SLR for testing.

4.2.3 Audio Frequency based train detection technique for continuous tracks of SLR

This project is to develop AFTC (Audio Frequency Track Circuit) based technology to detect a train in a rail track. This technology is new to Sri Lanka in contrast to existing DC track circuits, which are having own disadvantage of separating the tracks electrically at the crossing points.

The project team studied similar technology SLR acquired from China few years ago as well as theory notes on AFTC published on the web. The design modules are identified for prototype construction.

4.2.4 Research Work in Astronomy and RS/GIS

4.2.4.1 Study of Solar Flares using CALLISTO Radio Spectrometer

Solar Type II and Type III radio bursts recorded by e-CALLISTO system were investigated and a paper was presented at the 30th technical session of Institute of Physics, Sri Lanka, under the title “Observation of Solar Radio Bursts using e-CALLISTO System”. The paper is available in the following website.

<http://www.ipsl.lk/index.php/technical-sessions/18-publications/technical-sessions/55-volume-30-2014>.

4.2.4.2. Spectroscopy study of Planetary Nebulae

In this study the team explain the mechanisms of the formation of forbidden emissions, H, He recombination lines and a method to determine the electron temperature and electron density that uses the relative strength of some forbidden emission lines by using 23 PN spectra obtained through Arthur C. Clarke Telescope facility and other international sources. The team found that the brightness of the auroral line [OIII] λ 4363 increases compared to nebular lines λ 4959 and λ 5007 when the temperature increases. As far as the R[SII] ratio is concerned it is slightly dependent of electron temperature. The calculations show that for the highest electron densities, the R[SII] ratio tends to around 0.45.

4.2.4.3 Collaborative astronomical research projects undertaken with local Universities.

CCD photometry on Delta Scuti Type Short period variable star HD67390

SZ Lyn is a dwarf Cepheid δ Scuti type pulsating variable star with an ultra short-period of 0.12 days. SZ Lyn was observed in CCD photometry with a high temporal resolution using the 20 inch reflective telescope at the Mount Abu observatory, Rajasthan, India on the 6th of January 2014. About 700 images of SZ Lyn were taken and were used to obtain the V, B and R light curves of the star. The obtained light curves cover two full cycles of the SZ Lyn and the new pulsation period of the system was found to be 0.12053503 days. The team found that the period of the system is increasing and is in agreement with the previous observations on this system.

Construction of CMD diagrams of selected Globular clusters

The images of open clusters, NGC663, NGC1513, and NGC1528 observed using the 50 cm reflective telescope at Mount Abu observatory, Rajasthan, India during the period of 9th to 12th December 2013 were used to construct the CMDs of NGC663, NGC1528 and NGC151. The CMD of NGC663 showed suspected red giant stars and the three stars in CMD of NGC1528, could be confirmed as red giant stars. The distance modulus was estimated for the open cluster NGC1513.

Identification of Blue Stragglers in the Open Cluster M53 using CCD Photometry

CCD observational data of the globular cluster M53 (NGC5024), obtained with the 1.2 m telescope at Mount Abu Observatory, Girishikar, India have been reduced and analyzed. B-V color-magnitude diagram for the cluster which extends below $V=21$ is presented using more than 2000 stars. The main sequence turn off point of the cluster and the distance modulus were found and are in agreement with previous research literature/ results. The distance to the cluster was calculated and an approximate value for the age of the galaxy was estimated. 19 Blue Straggler Stars have been identified in the cluster.

4.2.4.4 Joint Research on the Application of RS/GIS Project on Agricultural Drought Monitoring for Sri Lanka using Remote Sensing Drought Indices

Drought is the second largest disaster of the Sri Lanka in terms of the people affected. The objective of this research is to determine the remote sensing drought indices such as Normalized Difference Vegetation Index (NDVI), NDVI anomaly, Normalised Difference Water Index (NDWI) and Shortwave Angle Slope Index (SASI) using Moderate Resolution Imaging Spectroradiometer (MODIS) 250m images and Resourcesat-1 Advanced Wide Field Sensor (AWiFS) 56m images. Abstract titled "Sri Lanka Agriculture Drought Monitoring using Remote Sensing Drought Indices" was submitted to international symposium on environment management and planning organized by the Central Environmental Authority.

5.0 Internal Capacity Building

5.1 Infrastructure Development in Astronomy

5.1.1 Project Proposal for a National Astronomical Observatory, Sri Lanka

Support from the Government of Sri Lanka was requested to develop a National Astronomical Observatory consisting of a research class 1.5 meter robotic telescope. This project will play an important role in developing astronomy research and education in the country. Project proposal is completed. Finalizing the road access to the telescope site is in progress.

5.1.2 Refurbishment of the telescope room

As ACCIMT did not receive commercially responsive bid for the tender called in 2013, a new set of technical drawings were prepared by the Buildings Department. Tender process is in progress.

5.2 Infrastructure Development in other co-technical areas

5.2.1 Robotics Laboratory

Construction of mobile platform based applications were completed for exhibition purposes amidst staff shortage.

1. Object avoiding rover unit
2. Line following rover unit

A design was completed for the EMT track module platform for material handling application of hazzardous environment. Additional firmware identified for remotely controlled operation under implementation.

5.2.2 Improvements to Power Electronics Measurement Laboratory - Electronics & Microelectronics Division

Accreditation of the Surge Testing Facility

The surge simulation facility was granted accreditation by the Sri Lanka Accreditation Board in year 2012. In order to continue the accreditation, the divisional staff successfully faced the surveillance audit.

Development of RCCB/MCB testing facilities

The electronics division commenced testing of RCCBs and MCBs as per the international standards.

Development of facilities for testing Switches/ Plugs/ Socket outlets

The electronics division designed and developed an endurance tester for testing Switches/ Plugs/ Socket outlets as per the international standards.

5.2.3 Industrial Services division

Planning and initial procurement process for setting-up of a Light Measurement facility for testing of CFL and LED lamps were carried out.

5.2.4 In-house Software Development

The following software systems were developed in 2014 to enhance the efficiency of internal administration process.

- Trainee Information system
- Personal Information system
- Governing Board Meeting Information system

Apart from the above the IT division undertook following in-house ICT related activities during 2014

- Maintenance of the Payroll System with upgrades as and when required.
- Maintenance of the Attendance System with upgrades as and when required.
- Maintenance of the Accounts System with upgrades as and when required.
- Maintenance of the Vehicle Movement and Maintenance System with upgrades as and when required.
- Maintenance of the Invoice System with upgrades as and when required.
- Testing and add additional features to the “On-line Library System” with RFID tags. (Joint development with the Communication Division where the IT division is responsible for the web based software development)

5.2.5 ACCIMT LAN, Web, and related Network Services

Maintained the LAN, Internet, and E-mail services of the Institute and undertook network cabling for new library building.

5.2.6 Trouble-shooting and Repair Service for PCs / Laptops / Printers and UPSs of Non-Technical Divisions

Electronic & Microelectronic division provided trouble-shooting and repair support for office equipment used by non-technical divisions of ACCIMT by recovering faulty PCs/ Laptops/ Printers and UPSs during the year.

5.3 General Infrastructure Development

During the year under review the institutional infrastructure development projects namely, relocation of the library, renovation of auditorium and cafeteria and construction of a new garage were successfully carried out.

6.0 Training Programmes Conducted by the Institute

During the year 2014, the institute conducted a variety of training programmes ranging from Continuing Professional Development (CPD) programmes, conducted on several subject areas for practicing engineers, technicians and other professionals in the industry, to the basic and intermediate level technical training programmes on electronics, computer hardware etc.

6.1 Continuing Professional Development (CPD) Training Programmes for professionals

6.1.1 Modern Electronic Test & Measuring Instruments with Digital Emphasis

One CPD course was conducted for 21 participants earning an income of Rs. 315,000/=. The participants were given the knowledge and practical experience on usage, applications, advantages and limitations of modern electronic test and measuring instruments such as oscilloscopes, spectrum analyzers, etc.

6.1.2 Modern Power Electronics

One CPD course was conducted for 25 participants earning an income of Rs. 250,000/=. The participants were given the knowledge and practical experience on the modern power semiconductors, switch mode power supplies, UPSs, power conditioning and protection, energy saving lamps and electronic ballasts, modern batteries and management techniques, power factor correction and harmonic control etc.

6.1.3 Modern Electronic Components

One CPD course was conducted for 43 participants earning an income of Rs. 645,000/=. The participants were given the knowledge and practical experience on modern electronic component families both analog and digital together with data conversion components.

6.1.4 Embedded Control Systems

Two CPD programmes were conducted for 60 participants and on a special request received from Sri Lanka Navy a similar customized programme was also conducted for 10 participants.

6.1.5 Programmable Logic Controller

Programmable Logic Controller Course was conducted in three batches for 91 technical personals attached to various institutions and for youth .

6.1.6 Surge Protection of Electronic Systems: An end user perspective

This CPD training programme was conducted for the benefit of the industrial participants as well as the ACCIMT technical staff by Mr. Nihal Kularatna, Senior Lecturer in Electronic Engineering, attached to the University of Waikato, New Zealand. The programme was opened to external participants for a nominal fee and the institute was able to earn Rs. 36,000/= from twelve participants.

The programme was about the surge protection concepts applicable for low voltage systems in an end user perspective. Further the overall presentation was based on a balanced mix of relevant theory, applicable techniques, relevant international standards, available technologies and industrial practices and a summary of the state of the art and future directions, supported by a selected set of research publications.

6.1.7 Computer Networking and Linux Server Administration (CNLA)

Two 16-Day CPD courses were conducted for the benefits of 42 participants consisting engineers, technicians, managers and youth providing training on Computer Networking and Free-and-Open-Source Sever solutions. Total revenue generated from the courses were Rs. 1,082,000/=.

6.1.8 UNESCAP Regional Workshop on Space Technology Applications for Drought Monitoring and Early Warning- from 1 to 2 July 2014

ACCIMT hosted this workshop in collaboration with ESCAP. This forum was an important milestone for reviewing the success and key outcomes of the pilot activities in Sri Lanka and Mongolia, and identifying the gaps and challenges of implementing drought monitoring program, particularly for other pilot countries such as Cambodia,

Nepal, Myanmar and those of central Asia. ACCIMT presented their research finding conducted using freely available MODIS NDVI images. The institute have processed 14 years of MODIS images and concluded that this year early months had a very severe drought condition compare to the past years.

6.1.9 Five Days Indian Training on Drought Monitoring Project

10 scientists and engineers attended 5 days training course in ISRO. Indian scientists introduced their methodology, data products and software used for drought monitoring.

6.1.10 Five Days training on UNESCAP sponsored Space Technology Based Agriculture Drought Monitoring

This was the first capacity building training program under this project and held during February 17th to 21st 2014 at the ACCIMT premises with the participation of nearly 40 scientist and engineers from different government departments and agencies. Technical contribution was given by Indian Space Research Organization, National Remote Sensing Centre (China), Institute of Remote Sensing & Digital Earth (China), Regional multi –hazard early warning system (Thailand) and International Water Management Institute (Sri Lanka). This training program introduced different space based technologies used by the different organizations/countries to monitor drought effect more efficiently and how these technologies can be adopted to Sri Lanka. Roadmap was prepared for the implementation of the project during its time span of 5 years.

6.2 Basic and Intermediate Level Technical Training Programmes

6.2.1 Computer Hardware Engineering Course to technical personnel of UGC affiliated universities and institutes.

On a special request received from UGC, the ACCIMT conducted several training programs to technical personnel of universities and affiliated institutes during the 2014. Apart from that a computer hardware engineering course was conducted for 29 personnel from 10 universities. The course consisted of theory and practical secessions.

6.2.2 Practical Electronic Course

This regular course designed for the general community including students and school leavers. The course was successfully undertaken for the 21st year in sucession. 90 participants attended for 2014 programme, which provides participants with practical knowledge on electronics for design and repair work exposure.

6.2.3 Workshop on Practical Electronics for Enthusiastics – 04 days

A workshop was designed and organized for students during the August school holidays to expose them to the electronics basics with practical constructions as a four day program. 38 students attended.

7.0 Science and Technology Popularization and Information Dissemination

7.1 Astronomy and Space science Popularization Programs and Information Dissemination

7.1.1 Educational Visits to the ACCIMT

Lectures and telescope demonstrations were conducted for about 2555 visitors, comprising 1538 students and 122 teachers from 16 schools, 522 persons from Sri Lanka Navy and 373 persons from Vocational Training Authority.

7.1.2 Astronomical Information and Space Science Dissemination for Schools

Astronomy & space science information disseminated for 21 persons.

7.1.3 Annual Water Boost Rocket Competition

The annual water rocket competition was held on the 13th of September 2014 at the Moratuwa University grounds. 34 students accompanied by 24 teachers participated in this event. The student who won the first place of the competition was nominated to participate in the APRSAF water rocket competition which was held in Tokyo, Japan in November, 2014. The students who won the 2nd and 3rd places of the above competition also participated in the APRSAF water rocket competition.

7.1.4. Poster competition organized by APRSAF

Local poster competition was organized under the theme of “Space is the future” among school children and three best posters were selected for the international competition held during the 21st Session of the Asia-Pacific Regional Space Agency Forum (APRSAF-21), Tokyo, Japan from December 1 to 3, 2014.

7.2 ACCIMT Library

ACCIMT Library and Information Division functions as a special library and consists a fair collection of books, periodicals and other educational materials in the fields of Communications, Information Technology, Electronics, Photonics, Robotics and Space Technology.

The aims and objectives of the library are to facilitate and provide information to professionals and personnel engaged in Research and Development projects, graduates, postgraduates, students, etc.

7.2.1 Library Collection

The Library has a fair collection of very expensive specialized reports and publications with frequent updates obtained from reliable and independent organization both in and out of the country. The Library consist of handbooks, data libraries, user surveys, product guidelines, application notes, design-oriented text books, state-of-art reviews, encyclopedias, dictionaries, directories, VHS, VCDs, DVDs, CD-ROM data bases, standards etc. Also, The specific magazines allocated to Communication, Information Technology, Space Technologies, Electronics are available in the periodical section.

Total collection:-

Books	- 8808
CD-ROMs	- 745
Video Tapes	- 368
Audio Tapes	- 94
VCDs	- 130
DVDs	- 87
New Acquisitions	
Books	- 35

7.2.2. Services

- (a) Lending & Reference Facilities:- ACCIMT staff and trainees
- (b) Reference Facilities: - Visiting lectures and instructors, graduate and Postgraduate student engage in projects, Continuing Professional Development (CPD) course participant, and Personal and Institutional membership.
- (c) Reader Services:- Photocopying service, Scanning facility, Internet facility, Electronic Library facility, Inter library loan, Current Awareness Services, Information and document supply service, and Online catalogue.
- (d) Service to Community:- Membership offers for the professionals in the public and private industrial sectors, Information & document supply service for professionals scholars (a. Industrialists. b. University academic & researchers. c. General public with a special interest.), providing display items for exhibitions and Astronomy promoting Programs.

7.2.3 Open Public Access Catalogue (OPAC) via Internet (<http://www.accimt.ac.lk>).

Information about the collection can be accessed through the ACCIMT Library on-line catalogue from the internet (www.accimt.ac.lk). (computers are also provided for our users to search and access the library collection via our LAN. The user can search for materials by Author, Title or Key words.)

8.0 Special Events and Exhibitions

8.1 Special Events

8.1.1 National Capacity building in Space Technology Applications – Pilot Project on Agricultural Drought Monitoring and Early Warning

This national project assisted by the UNESCAP is being implemented consequent to selection of Sri Lanka as one of the pilot countries for implementation of the regional Space Technology based Drought Monitoring and Early Warning mechanism in November 2013. This is in addition to Sri Lanka's selection by UNESCAP as the first pilot country for implementation of the five-year Asia Pacific Regional Action Plan on Space Technology Applications for Sustainable Development and Disaster Risk Reduction, 2012-2017.

The overall management of the project is carried out by the ACCIMT in its capacity as the national focal point for space technology applications for the Regional Space Application Programme. The ACCIMT is also driving the implementation of the 5-year action plan.

ACCIMT has been successfully driving the pilot project, implemented by the project-team representing ACCIMT and six other participating agencies.

Establish a Steering committee and project execution team

Meeting was held at the ACCIMT to establish a steering committee with the participation of Director Generals / Directors of seven identified government departments. Many decisions/suggestions were made during the meeting to achieve the intended outcome of this project and entering into memorandum of understandings with each stake holder agency was one such decision. A steering committee and a project execution team were formed comprising members from each organization.

Memorandum of Understanding with stakeholders for the project and data collection

ACCIMT entered into a Memorandum of Understanding with all relevant departments/ institutes on implementation of the project. Scientists of Space applications division paid frequent visits to all agencies to enlighten the relevant staffs, collect the data and to fill the gaps of the data.

Drought situation map and group discussion with Indian Scientists

Seasonal drought situation maps were received mainly from ISRO and secondly from Institute of Remote Sensing and Digital Earth, China. The report was analyzed along with the ground data and reported back. Video conference was organized with Indian scientists and execution team to discuss the drought monitoring methodology. During this conference Bhuvan Geo portal and mobile application platform for ground truth data collection were introduced by the Indian scientists.

8.1.2 Arthur C Clarke Memorial Lecture - 2014

A memorial lecture was organized on 07th of April 2014 at the Bandaranayake Center for International Studies to mark the sixth anniversary of the demise of Sri Lankabhimannya Sir Arthur C Clarke, the founder patron of the institute. The lecture was delivered by Prof. Hui Lin, Professor and Director of the Institute of Space and Earth Information Science (ISEIS) of the Chinese University of Hong Kong (CUHK).

The lecture, titled “Environmental Monitoring with Satellite Mapping and Virtual Geographic Environments (VGE)”, was attended by a large audience of policy makers, senior public officials, engineers, scientists, academic and other professionals.

8.1.3 ACCIMT School Day and Industrial day

In-line with the Science Week activities initiated by the Ministry of Technology and Research, the ACCIMT organized an exhibition demonstrating Research & Development projects and Industrial Services carried out by the institute, dedicating 5th of November for school children and 7th of November for industrial participants.

Apart from the exhibition the school day comprised programmes such as lectures and documentary sessions on astronomy and space technology applications. Around three hundred school children from about twenty schools attended the event.

The industry day provided opportunity for industrialists, technical service providers and other organizations to get to know research, development and technical capabilities as well as testing and calibration facilities of the ACCIMT. Around 30 industrial representatives attended for this event.

8.2 Exhibitions

The ACCIMT participated in two national exhibitions namely Deyata Kirula 2014, Kuliypitiya and Techno 2014 at BMICH. Apart from that the institute was represented at four minor exhibitions and events.

9.0 Publications

“Observation of Solar Radio Bursts using e-Callisto System”: J Adassuriya, S Gunasekera, KPSC Jayaratne, C Monstein: Proceedings of the Technical Sessions of Institute of Physics, 30 (2014) 43-51

"Determination of Fe I abundances of HD26574": K. M. G. D. D. P. Wijesinghe, S. Gunasekera, P. Geekiyanage: 31st technical sessions of the Institute of Physics in Sri Lanka

10.0 Human Resources Development

10.1 Staff Position

Cadre positions approved by the Department Management Services for the ACCIMT were 177. Out of that 95 positions were filled and 82 positions were remain vacant. Majority of vacancies are in technical fields where prospective employee requires basic qualifications such as an engineering degree or equalent professional qualifications.

Twenty Seven (27) new appointments were done during the year 2014. They were eight (8) Research Engineers, two (2) Research Scientists, two (2) Software Engineers, one Electronic Engineer, one Senior Deputy Director (Finance), one Assistant Director (Industrialization), five (5) Technical Assistants, five (5) Management Assistants, one Office Aide and one Driver.

Thirteen (13) employees were resigned during the year. They were six (6) Research Engineers, one Research Scientist, one Senior Deputy Director (Finance), one Technical Assistant, two (2) Management Assistant, Works Superintendent and a Driver.

Three (3) employees were retired. They were Senior Deputy Director (Finance), Training Officer and a Driver.

During this year two Contract appointments were done and no promotions or Internal Recruitments were done.

Numbers of staff Grade employees were 52 as at 31st December 2014 and compared to 2013 it has increased by 6 employees.

During year under review eleven foreign and twenty local training opportunities were given to the staff of ACCIMT.

11.0 Final Accounts for Year 2014

11.1 Public Sector Entity - Statement of Financial Position as at 31st December 2014

	NOTE	2014 Rs.'000 s	2013 Rs.'000 s
ASSETS			
Current Assets			
Cash and Cash Equivalents	2	64,007	20,515
Short Term Investments	2a	18,158	
Trade and Other Receivables	3a&b	41,980	43,686
Less			
Provision for Bad Debts		(5,354)	36,626
Inventories / Stocks	4	9,309	9,669
Prepayments	5	2,052	16,366
		130,152	90,236
Non - Current Assets			
Investments			4,596
Property , Plant and Equipment	6	168,276	157,034
		168,276	161,630
Work - in - Progress-Construction	7	12,369	
Total Assets		310,798	251,866
LIABILITIES			
Current Liabilities			
Payables	8	12,539	10,998
Accrued Expenses	9	3,236	2,991
		15,775	13,989
Non - Current Liabilities			
Deferred Income	10	10,448	16,397
Provision for Gratuity	11	24,500	15,718
		34,948	32,115
Total Liabilities		50,723	46,104
Net Assets		260,075	205,762
NET ASSETS / EQUITY			
Capital contributed by Govt		290,622	220,930
Reserves		70,553	67,492
Accumulated Surplus/(Deficit)		(101,100)	(82,660)
Total Net Assets / Equity		260,075	205,762

The Accounting policies on pages 7 to 13 and Notes on pages 14 to 39 form an integral part of these Financial Statements. The Board of Directors is responsible for the preparation and presentation of these Financial Statements. These Financial Statements were approved by the Board of Directors and signed on their behalf.



Director General



Senior Deputy Director (Finance)

ARTHUR C CLARKE INSTITUTE FOR MODERN TECHNOLOGIES

Public Sector Entity - Statement of Financial Performance for the Year Ended 31st December 2014

	2014	2013
	Rs.'000	Rs.'000
Revenue		
Recurrent Grant	91,250	72,676
Other Revenue	37,987	24,613
Amortization	17,089	19,359
Total Revenue	146,326	116,648
Expenses		
Personal Emoluments	73,048	54,326
Travelling Expenses	2,750	2,092
Supplies & Requisites	8,859	5,762
Depreciation	17,089	19,359
Repairs & Maintenance	4,462	4,788
Transportation, Communication Utility & Other Services	15,179	13,415
Project Expenses	16,807	10,239
Other Operating Expenses	885	709
Total Expenses	139,079	110,690
Surplus / (Deficit) for the period	7,247	5,958
Income & Expenditure Appropriation Account for the Year Ended 31.12.2014		
Surplus / (Deficit) for the period	7,247	5,958
Transfer of surplus out of generated funds (Note 13) from PC a/c	(11,945)	(8,571)
Net Surplus/(Deficit) for the period	(4,698)	(2,613)

ARTHUR C CLARKE INSTITUTE FOR MODERN TECHNOLOGIES
Detailed Financial Performance for the Year Ended 31st December 2014

2013		2014	
Rs.	<u>Revenue</u>	Rs.	
72,675,500.00	Govt. Grant - Recurrent		91,250,000.00
10,255,450.00	Course Fees	8,158,725.00	
5,958,624.02	Project Income / Consultancy Income	17,015,522.05	
2,539,913.06	Vidatha Income		
1,273,731.71	Interest Income on Treasury Bills	441,388.94	
319,877.48	Interest Income	348,396.20	
80,000.00	Tender Deposits	222,000.00	
4,186,023.14	Sundry Income	2,868,284.16	
	Grant Income	189,497.13	
	Sponsorship Income	594,842.00	
	Income from Disposal of Fixed Assets	8,148,450.00	
19,358,850.31	Amortization	17,089,284.54	55,076,390.02
116,647,969.72	Total Revenue		146,326,390.02
	<u>Expenses</u>		
	Personnel Emoluments		
39,236,404.72	Salaries & Wages	47,084,532.40	
1,016,557.59	Overtime & Holiday Pay	1,240,778.55	
214,400.00	Allowance to Board Members	208,000.00	
5,539,965.34	Other Allowances	5,572,208.00	
5,454,643.25	E.P.F.	6,585,472.85	
1,090,927.93	E.T.F.	1,317,094.98	
1,772,936.50	Gratuity	11,039,821.64	73,047,908.42
54,325,835.33	Travelling Expenses		
597,505.75	Travelling - Local	1,303,098.55	
1,494,596.80	Travelling - Overseas	1,447,050.41	2,750,148.96
2,092,102.55			

2013		2014	
Rs.		Rs.	
	Supplies & Requisites		
1,108,819.97	Stationery & Office Requisites	895,206.64	
1,769,415.80	Fuel	1,815,471.36	
399,265.13	Mech & Elect Goods / Lab Components	79,542.64	
205,519.00	Uniforms	185,741.15	
33,522.52	Periodicals	8,464.73	
841,905.14	Welfare Items	849,949.45	
1,403,918.81	Exhibitions & Seminars	4,711,985.38	
	Profit/Loss on Disposal of Assets - OEq	56,160.00	
	Loss of Stocks	256,271.67	
5,762,366.37			8,858,793.02
	Repairs & Maintenance		
2,786,309.56	Buildings	2,728,838.92	
226,707.39	Equipment	630,400.29	
1,775,505.71	Motor Vehicles	1,102,847.47	
19,358,850.31	Depreciation	17,089,284.54	21,551,371.22
24,147,372.97			
	Transportation, Communication Utility & Other Services		
1,120,439.82	Telephone	2,294,196.50	
108,455.00	Postage	113,952.00	
100,260.88	Bank Charges	199,186.77	
2,413,734.50	Insurance	2,419,549.01	
1,905,825.60	Advertisement	1,543,912.00	

194,404.30	Hospitality & Entertainment	162,391.55	
1,495,574.80	Security	1,501,138.80	
1,000,283.94	Other Expenses	1,752,747.20	
4,588,235.42	Electricity	4,670,849.15	
487,532.34	Water	212,558.77	
	Bad Debts	308,515.59	15,178,997.34
13,414,746.60			
	Project Expenses		
8,087,654.59	Courses/Projects	16,806,686.10	
2,151,631.81	Vidatha		16,806,686.10
10,239,286.40			
	Other Operating Expenses		
62,977.88	Membership Fees	147,629.01	
645,640.40	Staff Training	737,797.00	885,426.01
708,618.28			
110,690,328.50	Total Expenses		139,079,331.07
5,957,641.22	Surplus / (Deficit) for the period		7,247,058.95

ARTHUR C CLARKE INSTITUTE FOR MODERN TECHNOLOGIES**CASH FLOW STATEMENT
Year ended 31 December 2014**

	2014	2013
	Rs. 000	Rs. 000
Cash Flows From Operating Activities		
Surplus/(deficit) from ordinary activities	7,247	5,958
Non-cash movements		
Depreciation	17,089	20,051
Amortisation	(17,089)	(20,051)
Provision for Bad Debts	5,354	
Provision for Defined Benefit Plans	11,040	757
Operating Profit/(Loss) before Working Capital Changes	23,641	6,715
(Increase)/ Decrease in Trade and Other Receivables	7,060	(14,813)
(Increase)/ Decrease in Inventories	360	
(Increase)/ Decrease in Prepayment	14,314	
Increase/ (Decrease) in Payables	1,541	(6,477)
Increase/ (Decrease) in Accrued Expenses	245	
Cash Generated from Operations	47,160	(14,575)
Defined Benefit Plan Costs paid	(2,258)	
Interest Income		(1,594)
Profit on Sale of Motor Vehicle	(2,069)	
Loss on Disposal of Assets	47	
Deferred Revenue	(5,949)	5,082
Net Cash From/(Used in) Operating Activities	36,931	(11,087)

Cash Flows from / (Used in) Investing Activities		
Acquisition of Property, Plant & Equipment	(40,178)	(35,931)
Short Term Investments	(18,158)	
Long Term Investments	4,596	
Interest Received	910	1,594
Proceed from Disposal of PP&E	2,069	
Disposal of Assets		
Capital Work in Prpgress	(12,370)	(46)
Net Cash Flows from/(Used in) Investing Activities		
	(63,131)	(34,383)
Cash Flows from (Used in) Financing Activities		
Proceeds From Capital Grant	69,692	52,699
Net Cash Flows From/(Used In) Financing Activities	69,692	
Net Increase/(Decrease) in Cash and Cash Equivalents	43,492	7,229
Cash and Cash Equivalents at the beginning of the year	20,515	13,286
Cash and Cash Equivalents at the end of the year	64,007	20,515

11.2 NOTES TO THE FINANCIAL STATEMENTS - SIGNIFICANT ACCOUNTING POLICIES

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 was as at the end of the reporting period was 95.

Basis of preparation

a) 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.

b) Basis of measurement

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

c) Comparative Information

Comparative information including quantitative, narrative and descriptive information 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.

d) Functional and presentation currency

The financial statements are presented in Sri Lankan Rupees, 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.

e) Use of estimates and judgments

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.

Assets and the bases of their valuation

Property, plant and equipment

a) 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.

b) 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 capitalised. Other subsequent expenditure is capitalised 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 Higher Education and transferred to Ministry of Science and Technology 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.

c) 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.

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

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

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.

Receivables

Receivables are stated at the amounts they are estimated to realise.

Investments

Investments in Treasury Bills have been stated at cost. Income from such investments has been accounted on accrual basis.

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. Investments with short maturities i.e. three months or less from the date of acquisition are also treated as cash equivalents.

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.

Employee Benefits

a) Defined Benefit Plans

The Defined Benefit Obligation- Gratuity and the related charge for the year are determined using assumptions required under actuarial valuation techniques. The actuarial valuation involves making assumptions about discount rates, future salary increases, staff turnover rates etc. Due to the long term nature of such obligations these estimates are subject to significant uncertainty. Further details are given in Note 11 to these Financial Statements.

b) Employees' Provident Fund

The Institute and employees, contribute 15% and 10% respectively, on the salary of each employee to the approved provident fund.

c) Employees' Trust Fund

The Institute contributes 3% on the salary of each employee to the Employee's Trust Fund.

Trade and other payables

Trade and other payables are stated at cost.

Taxation

The Institute is exempt from Income Tax under Section 7 (b) (ii) of the Inland Revenue Act. No. 10 of 2006. The Institute is registered for Value Added Tax (VAT). The income received from projects and other earnings are liable to VAT payments except income generated from courses.

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.

Accounting for Grants

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

Revenue Recognition

Revenue is recognised 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 recognised as revenue on accrual basis.
- b) Project income, consultancy income are recognised as revenue on accrual basis
- c) Interest income is recognised on accrual basis.
- d) Grants related income is recognised when control of the contribution or right to receive the contribution is confirmed.
- e) Other income is recognized on accrual basis.

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

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.

Cash Flow Statement

The cash flow statements have been prepared in accordance with SLPSAS 2.

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 accounts.

(2) Cash & Cash Equivalents

	Rs.
Bank of Ceylon - C/A 7054733	50,546,118.09
Bank of Ceylon - C/A 307144	11,378,343.25
FINDS Bank A/c - S/A 326764	99,207.43
NASDA Bank A/c - S/A 328391	6,133.78
Directors Fund Bank A/c - C/A 307399	49,221.76
Revolving Fund Bank A/c- C/A 2479737	1,928,079.12

	64,007,103.43
	=====

(2a) Short Term Investments

Invest. of surplus funds in Treas.Bills - Projects/Courses Fund	6,731,703.46
Invest. of surplus funds in Treas.Bills - Directors Fund	966,992.05
Invest. of surplus funds in Treas.Bills - Revolving Fund	1,888,449.33
Invest. of surplus funds in Treas.Bills - FINDS Grant	5,023,641.86
Fixed Deposit 01(76387182)-Revo.Fund	506,744.37
Fixed Deposit 02(76387290)-Revo.Fund	506,744.37
Fixed Deposit 03(76387299)-Revo.Fund	506,744.37
Fixed Deposit 04(76387310)-Revo.Fund	506,744.37
Fixed Deposit 05(76387322)-Revo.Fund	506,744.37
Fixed Deposit 06(76387328)-Revo.Fund	506,744.37
Fixed Deposit 07(76387343)-Revo.Fund	506,744.37

	18,157,997.29
	=====

(3a) Trade and Other Receivables

Rs.

Staff Debtor - TG	302.00	(Schedule 3a.1)
Insurance Corporation Debtor	9,700.00	
Accounts Receivable - TG	341,529.84	(Schedule 3a.2)
Accounts Receivable - P/C	9,377,214.18	(Schedule 3a.3)
Debtor - Miss K.N.Lakmali	129,784.11	
Debtor - Mr P T Fernando	4,000.00	
Debtor - Miss K.G.Lakmali	90,750.23	
Debtor - Mr.Jayathu Fernando	106,894.72	
Debtor - Mr B R P Perera	61,028.46	
Debtor - Miss T V Jayasinghe Arachchi	243,626.74	
Debtor - Mr T Jayakody	81,823.24	
Other Deposits	155,315.00	
R.S.Debtor	14,434.91	
Elections Dept	8,159.60	
Ministry Debtor - Dish TV Package	33,381.50	
Festival Advance	83,500.00	(Schedule 3a.4)
Staff Loans	7,293,476.00	(Schedule 3a.5)
Motor Cycle Loan	270,325.00	(Schedule 3a.6)
Motor Vehicle Loan	1,768,892.00	(Schedule 3a.7)
LC Margin Control A/c	4,321,376.00	
SLIC Receivables	5,179,550.00	
Guarantee A/c	200,000.00	
PC Control	566,288.86	

30,341,352.39

=====

**(3b) Trade and Other Receivables
Work-In-Progress**

Rs.

Courses

CNLA 2014/02 (IT Division)	180,127.96
2014 - 26 - SL Navy	71,128.00
RS GIS Course (SAD)	160.00
	244,564.93
E C S 23	-----
	495,980.89
	=====

Projects

RS - GIS Project	2,050.00
Traffic Light System	2,797.57
Telescope Project	2,751.10
Tea Colour Separator Project (Comm Div)	4,073,046.63
National Astronomical Observatory	5,872.00
LED Lamp testing (ISD)	7,971.00
Callisto Radio Spectrometer	72,104.55
Robotics Laboratory Project (Comm Div)	99,973.62
RFID Library Automation - ACCIMT (Comm Div)	88,034.36
Wireless Irrigation Automation Project (Electronic Div)	55,567.23
Traffic Light System (Inhouse) (Electronic Division)	614,580.40
Hardware Recovery of Jingle Boxes HRJB	53,590.19
Sri Lanka Railway RM 9 2012- 12 (Comm Div)	2,425,171.26
2014- 01 NWSDB	55,489.88
2012 Peoples' Bank CCTV Project	31,670.00
Project 2012/ 2013 - SS - CCTV - NWSDB	3,377,845.30
2014 - 27 - SLR Project	6,215.70
2014 - 07 - CEB (Kukuleganga)	7,200.00
2014 - 03 - SLR Project	65,840.35
2013 - 24 CEB	64,438.95
Agriculture Dept Project Gannoruwa (ISD)	30,933.69

	11,143,143.78

Total (3a+3b)	41,980,477.06
	=====

(4) Inventories/Stocks

Electronic Components	4,100,996.34
Stationery	967,462.01
Others	37,692.76
Electrical & Mechanical	79,715.49
Welfare	46,341.10
Accessories -TG	199,218.03
Inventory Items - TG	518,035.98
Inventory Items - Projects (P/C)	1,990,378.52
Tools - TG	1,369,819.64

	9,309,659.87
	=====

(5) Prepayments

	Rs.	
Pay-in Adv - TG	1,832,432.41	(Schedule 5.1)
Pay-in Adv - P/C	126,529.26	(Schedule 5.2)
Withholding Tax	4,171.30	
S D B Books	18,514.78	
S D B Projects	26,707.02	
Stamp Imprest	43,256.00	

	2,051,610.77	
	=====	

(6) PROPERTY, PLANT & EQUIPMENT

	Cost as at	Additions	Disposals	Total as at	Cum Dep as at	Depn during	Prov. For	Cum Dep as at	W D V as at
	01.01.14	during the year	during the year	31.12.14	01.01.14	the year	Depn. For Disposals during the year	31.12.14	31.12.14
Buildings	96,975,641.50	11,750,594.54		108,726,236.04	18,717,718.37	5,015,384.18		23,733,102.55	84,993,133.49
Satellite Antenna	2,959,797.83	-		2,959,797.83	2,899,166.09	60,612.74		2,959,778.83	19.00
Computers	48,916,898.24	5,864,659.48		54,781,557.72	42,351,128.05	(1,071,157.54)		41,279,970.51	13,501,587.21
Lab Equipment	130,843,899.14	18,093,697.07		148,937,596.21	96,191,388.39	7,042,354.13		103,233,742.52	45,703,853.69
Office Equipment	22,443,428.95	3,936,186.15	168,600.00	26,211,015.10	14,865,856.55	1,666,905.41	112,440.00	16,420,321.96	9,790,693.14
Furniture & Fittings	14,379,211.48	293,650.65		14,672,862.13	7,509,870.34	923,884.76		8,433,755.10	6,239,107.03
Motor Vehicles	28,323,389.00		6,254,900.00	22,068,489.00	17,913,389.00	3,170,000.00	6,254,900.00	14,828,489.00	7,240,000.00
Library Books	23,363,484.15	239,589.00		23,603,073.15	22,514,100.90	281,300.86		22,795,401.76	807,671.39
	368,205,750.29	40,178,376.89	6,423,500.00	401,960,627.18	222,962,617.69	17,089,284.54	6,367,340.00	233,684,562.23	168,276,064.95

Depreciation has been provided on original cost or valuation on a straight line basis consistent with that of previous year and is calculated to write off the assets over their estimated useful lives.

Rates at which the depreciation provided are as follows.

Buildings	5%
Satellite Antenna, Lab Equipments	10%
Office Equipment, Furniture & Fitting	10%
Library Books	15%
Computers, Motor Vehicles	20%

(7) Work In Progress - Construction		
	Rs.	
W I P - Cafeteria	130,554.24	
W I P - Telescope Room	8,329,950.00	
W I P - Library Building	3,909,069.63	
	<u>12,369,573.87</u>	
(8) Payables		
	Rs.	
Accounts Payable -TG	1,826,017.92	(Schedule 8.1)
Salaries & Wages Control	96,585.30	
E.P.F.Control	1,017,245.49	
E.T.F.Control	122,069.43	
Welfare Society Control	24,033.98	
Creditor - General Treasury	1,208,197.95	
Refundable Deposit	167,500.00	
VAT Payable on receipts - T.G	10,771.20	
VAT Payable on receipts - P/C	1,462,937.84	
NBT Payable - TG	1,760.00	
NBT Payable - P/C	234,004.50	
Creditor - R M T M Dhanapala	26,903.40	
Stamp Duty Payable - TG	8,125.00	
Stamp Duty Payable - PC	550.00	
Paye Tax Payable - TG	103,525.89	
Disbursement Control	3,656,628.67	
Buildings Dept Creditor	1,150,703.00	
Arpico Interiors - Creditor	166,790.27	
TG Control	566,288.86	
Retention	688,173.04	
	<u>12,538,811.74</u>	
(9) Accrued Expenses		
	Rs.	
Treasury Fund	3,193,885.10	(Schedule 9.1)
Projects/Courses	42,069.00	(Schedule9.2)
	<u>3,235,954.10</u>	
(10) Deferred Revenue	Rs.	
	<u>10,447,732.15</u>	(Schedule 10)

	Rs.	
(11) Retirement Benefit Liability		
As at 1 January	15,718,154,.00	
Recognition of Transition Liability	-	
Charge for the year	11,039,821,.64	
Payments made during the year	<u>(2,257,926.00)</u>	
As at 31 December	<u>24,500,049.64</u>	(Schedule 11)

(11.1) Assumptions

	2014
Discount Rate	5%
Salary Increment	8%
Staff Turnover	15%
Retirement Age	60 Years

(12) Net Assets /Equity

	2014		2013
	Rs.		Rs.
Government Capital Grant			
Opening Balance	211,419,650.59		175,181,564.90
Grants received	86,781,668.00		52,426,936.00
	-13,919,284.54		-16,188,850.31
Amortization	-----	*	-----
	284,282,034.05		211,419,650.59
	=====		=====
Non Monetary Government Capital Grant **			
Opening Balance	9,510,000.00		12,680,000.00
Grants received			
	-3,170,000.00		-3,170,000.00
Amortization	-----		-----
	6,340,000.00		9,510,000.00
	=====		=====
Reserves			
	2014		2013
	Rs.		Rs.
General Reserve	272,721.64		272,721.64
Celltel Donation	213,333.34		213,333.34
Research & Consultancy Fund	1,341,446.90		1,341,446.90
Foreign Grant	3,464,295.25		3,464,295.25
Re - valuation Surplus	27,582,504.54		27,582,504.54
Other Grants Donation			
Opening Balance	25,114,626.24		25,706,407.00
Fixed Assets received	174,497.13		100,500.00
	(212,692.54)		(692,280.76)
Depreciation	-----	**	-----
	25,076,430.83		25,114,626.24
	=====		=====

Revolving Fund

Opening Balance	4,968,456.39	3,610,120.96
Receipts	2,395,282.65	1,358,335.43
Expenses		
	<u>7,363,739.04</u>	<u>4,968,456.39</u>

Directors Fund

Opening Balance	764,220.86	739,090.00
Receipts	266,992.95	30,000.00
Expenses	(15,000.00)	(4,869.14)
	<u>1,016,213.81</u>	<u>764,220.86</u>

FINDS Grant

Opening Balance	3,764,630.20	3,821,958.47
Interest Income	1,558,522.95	25,806.73
Expenses	(200,303.86)	(83,135.00)
	<u>5,122,849.29</u>	<u>3,764,630.20</u>

NASDA Grant

Opening Balance	5,334.89	442,503.96
Interest Income		128,660.93
Expenses	(5,334.89)	565,830.00
	<u>0.00</u>	<u>5,334.89</u>
	<u>70,553,534.64</u>	<u>67,491,570.25</u>

	2014 Rs.	2013 Rs.
Accumulated Surplus/(Deficit)		
Opening Balance -TG	(105,567,035.02)	(101,661,494.56)
Opening Balance - P/C	22,907,076.56	21,614,923.60
Adjustments - TG	(12,269,328.61)	
Adjustments - PC	(1,472,160.02)	
Excess of income over expenditure	(4,698,290.80) -----	(2,613,387.50) -----
	(101,099,737.89) =====	(82,659,958.46) =====
	-	-
TOTAL NET ASSETS / EQUITY	260,075,830.80 =====	205,761,262.38 =====

Capital grant received has been amortized according to the Sri Lanka Accounting Standard No.24.

Depreciation on items received on donations/grants

Depreciation on item received under donations/grants have been adjusted to the donations/grants accounts as per the instructions given by the Treasury.

Analysis of Income & Expenditure Appropriation Account 2014

No	Name of the Course/Project	Division	Duration	Income	NRI/VAT/Stamp Duty	Net Income	Expenditure	Surplus	% of the Surplus Disbursed	Surplus				Total
										General Treasury	Utilities	Direct Share	Indirect Share	
										20%/25%	5%	60%/40%	15%/30%	
1	Modern Electronic Test & Measurement	Elec	29-07-02-08-2013	117,550.00	-	117,550.00	-	117,550.00	-	23,510.00	5,877.50	70,530.00	17,632.50	117,550.00
2(i)	University of Buddhisat Pail Homagama Pro	IT	01-05-2010-31-12-2013	746,170.00	96,170.00	650,000.00	72,073.50	500,000.00	-	100,000.00	25,000.00	300,000.00	75,000.00	900,000.00
2(ii)	University of Buddhisat Pail Homagama Pro	IT	01-05-2010-31-12-2013	-	-	-	-	77,936.50	-	19,481.63	3,896.33	31,170.60	23,377.95	77,926.50
3	Modern Power Electronics Course 2013	Elec	12-03-14-03-2013	290,000.00	100.00	289,900.00	79,449.22	210,450.78	-	42,090.16	10,522.54	126,270.47	31,567.62	210,450.78
4(i)	Battery Testing 2nd Quarter 2013	Elec	01-04-14-30-06-2013	1,087,564.80	186,264.80	951,300.00	157,212.00	500,000.00	-	100,000.00	25,000.00	300,000.00	75,000.00	900,000.00
4(ii)	Battery Testing 2nd Quarter 2013	Elec	01-04-14-30-06-2013	-	-	-	-	294,088.00	-	73,522.00	14,704.40	117,032.20	88,226.40	294,088.00
5(i)	Battery Testing 3rd Quarter 2013	Elec	01-07-14-30-09-13	1,161,820.80	145,595.80	1,016,225.00	203,723.66	500,000.00	-	100,000.00	25,000.00	300,000.00	75,000.00	900,000.00
5(ii)	Battery Testing 3rd Quarter 2013	Elec	01-07-14-30-09-13	-	-	-	-	312,501.34	-	78,125.34	15,625.07	125,000.54	93,750.00	312,501.34
6(i)	Battery Testing 4th Quarter 2013	Elec	01-10-14-31-12-13	710,572.80	92,696.40	617,876.40	67,223.00	500,000.00	-	100,000.00	25,000.00	300,000.00	75,000.00	900,000.00
6(ii)	Battery Testing 4th Quarter 2013	Elec	01-10-14-31-12-13	-	-	-	-	50,643.40	-	12,460.85	2,512.17	26,257.36	15,193.03	50,643.40
7	Calibration Jobs 2013	ISD	01-01-31-12-2014	397,372.06	32,448.46	364,923.60	25,000.00	169,963.80	50% of Surplus	33,992.36	8,498.09	101,977.88	25,494.27	169,963.80
8	TMC	Elec	29-07-13-02-08-2013	40,000.00	1,225.00	38,775.00	-	38,775.00	-	11,755.00	2,938.75	35,265.00	8,816.25	38,775.00
9	2013-26 SL NAVY	Com	27-11-13-22-12-13	350,000.00	7,025.00	342,975.00	129,598.19	213,376.81	-	42,675.36	10,668.84	128,026.09	32,006.52	213,376.81
10	PSDN Phone Testing	Elec	24-03-30-03-2014	285,600.00	35,625.00	249,975.00	10,000.00	239,975.00	-	47,995.00	11,998.75	143,985.00	35,996.25	239,975.00
11	CPD-MPE 2014	Elec	03-03-05-03-2014	220,000.00	4,500.00	215,500.00	49,542.00	165,958.00	-	33,191.60	8,297.90	99,574.80	24,903.20	165,958.00
12	MEC 2014	Elec	31-12-04-04-2014	645,000.00	12,925.00	632,075.00	154,277.00	477,798.00	-	95,559.60	23,889.90	286,678.80	71,699.70	477,798.00
13	Battery Testing Project 2014-1st Quarter	Elec	01-01-14-31-03-2014	596,904.00	74,754.00	522,150.00	118,049.00	404,101.00	-	80,820.20	20,205.05	242,460.60	60,615.15	404,101.00
14(i)	2014-02 UGC HETC Project	Com	05-02-14-21-02-2014	2,456,600.00	254,382.00	2,202,218.00	1,134,998.00	500,000.00	-	100,000.00	25,000.00	300,000.00	75,000.00	900,000.00
14(ii)	2014-02 UGC HETC Project	Com	05-02-14-21-02-2014	-	-	-	-	567,230.00	-	141,805.00	28,361.00	226,888.00	170,166.00	567,230.00
15	Calibration Jobs	ISD	01-01-14-30-06-2014	396,678.58	43,228.05	353,450.53	26,547.85	163,451.34	-	32,690.27	8,172.57	98,070.80	24,517.70	163,451.34
16	2013-18 SLR project	Com	July 2013 - 31-03-2014	1,670,760.00	208,285.00	1,462,475.00	1,210,982.18	251,492.82	-	50,296.56	12,574.64	150,895.69	37,723.92	251,492.82
17	Battery testing 4th Quarter 2013	Elec	01-10-14-31-12-13	30,273.00	-	30,273.00	-	30,273.00	-	6,054.60	1,513.65	18,163.80	4,540.95	30,273.00
18	CNLA 2014-01	IT	01-03-2014-19-07-2014	456,000.00	9,145.00	446,855.00	143,681.30	303,173.70	-	60,634.74	15,158.69	181,904.22	45,476.06	303,173.70
19	PLC 2nd 2014	ISD	July August 2014	416,000.00	8,470.00	407,530.00	65,291.00	342,239.00	-	68,447.80	17,111.95	205,343.40	51,335.85	342,239.00
20	PLC 3rd 2014	ISD	September 2014	397,150.00	8,018.00	389,132.00	68,499.75	320,632.25	-	64,126.45	16,031.61	192,379.35	48,094.84	320,632.25
21	Repair of Instruments for Road Dev Authority	ISD	October 2013 to March 2014	139,372.80	17,422.80	121,950.00	70,897.15	51,052.85	-	10,210.57	2,552.64	30,631.71	7,657.93	51,052.85
22	PEC 21	COM	25-02-2014-16-08-2014	896,000.00	17,945.00	878,055.00	486,504.52	391,550.48	-	78,310.10	19,577.52	234,930.29	58,732.57	391,550.48
23	ECS 22	COM	-	842,000.00	17,140.00	824,860.00	495,026.40	329,833.60	-	65,968.72	16,491.68	197,900.16	49,475.04	329,833.60
24	PEC Week shop 2014	COM	23-08-2014-31-08-2014	190,000.00	3,800.00	186,200.00	47,097.85	139,102.15	-	27,820.43	6,955.11	83,461.29	20,865.32	139,102.15
25	2011-08 SLR	COM	20-05-2011-28-11-2011	1,970,640.00	245,665.00	1,724,975.00	1,258,829.04	466,145.96	-	93,229.19	23,307.30	279,687.58	69,921.89	466,145.96
26	2011-07 SLR	COM	20-05-2011-28-11-2011	3,884,160.00	484,710.00	3,399,450.00	1,295,218.80	500,000.00	-	1,604,731.20	401,182.80	80,236.56	641,892.48	481,419.36
27	2013-21SLR	COM	-	285,600.00	35,650.00	249,950.00	121,361.22	128,588.78	-	25,717.76	6,429.44	77,153.27	19,288.78	128,588.78
28	PSDN Phone Testing (4th Sep to 12th Sep)	Elec	4th sep to 12th sep 2014	428,400.00	53,500.00	374,900.00	17,940.00	356,960.00	-	71,392.00	17,848.00	214,176.00	53,544.00	356,960.00
29	CPD TMC	Elec	07th July to 11th July 2014	319,800.00	6,450.00	313,350.00	93,629.63	219,720.37	-	43,944.07	10,986.02	131,832.22	32,958.06	219,720.37
Testing 24% in surplus										-	-	-	-	-
30	Battery Testing (Q1-Q4 2014)	Elec	01-04-2014-31-12-2014	2,193,751.20	270,251.20	1,923,500.00	633,107.30	809,494.25	24% of Surplus	61,938.85	15,484.71	185,816.55	46,454.14	809,494.25
31	Surge testing (Q2-Q4 2014)	Elec	01-04-2014-31-12-2014	241,274.88	30,124.88	211,149.99	39,800.00	41,122.08	24% of Surplus	8,224.42	2,056.10	24,672.25	6,188.31	41,122.08
32	RCC/Chk/ and other testing (Q2-Q4 2014)	Elec	01-04-2014-31-12-2014	509,510.40	63,660.40	445,850.00	96,475.00	83,850.00	24% of Surplus	16,700.00	4,192.50	50,310.00	12,577.50	83,850.00
33	Other Testing (Q2-Q4 2014)	Elec	01-04-2014-31-12-2014	280,220.40	34,867.25	245,353.15	31,143.52	51,410.31	24% of Surplus	10,282.06	2,570.52	30,846.19	7,711.55	51,410.31
				24,672,745.70	2,451,544.04	22,221,201.66	8,403,196.68	11,945,349.76	-	2,534,625.47	597,267.49	6,585,787.77	2,227,869.03	11,945,349.76



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கணக்காய்வாளர் தலைமை அதிபதி திணைக்களம்
AUDITOR GENERAL'S DEPARTMENT



මගේ අංකය
எனது இல. }
My No. }

LS/H/ACCIMT/01/14/20

මගේ අංකය
உமது இல. }
Your No. }

දිනය
திகதி }
Date }

18 September 2015

The Chairman

Arthur C Clarke Institute for Modern Technologies

Report of the Auditor General on the Financial Statements of the Arthur C Clarke Institute for Modern Technologies for the year ended 31 December 2014 in terms of Section 14 (2) (c) of the Finance Act, No.38 of 1971

The audit of financial statements of the Arthur C Clarke Institute for Modern Technologies for the year ended 31 December 2014 comprising the statement of financial position as at 31 December 2014 and the statement of financial performance, cash flow statement and the statement of changes in equity for the year then ended and a summary of significant accounting policies and other explanatory information 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 Section 13(1) of the Finance Act, No. 38 of 1971 and Section 40(3) of the Science and Technology Development Act, No. 11 of 1994. My comments and observations which I consider should be published with the Annual Report of the Institute in terms of Section 14(2)(c) of the Finance Act appear in this report. A detailed report in terms of Section 13(7)(a) was issued to the Chairman of the Institute on 31 March 2015.

1.2 Management's Responsibility for the Financial Statements

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





1.3 Auditor's Responsibility

My responsibility is to express an opinion on these financial statements based on my audit. I conducted my audit in accordance with Sri Lanka Auditing Standards consistent with International Standards of Supreme Audit Institutions (ISSAI 1000-1810). Those Standards require that I comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatements.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Institute's preparation and fair presentation of the financial statements 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. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of financial statements. Sub-sections (3) and (4) of Section 13 of the Finance Act, No. 38 of 1971 give discretionary powers to the Auditor General to determine the scope and extent of the Audit.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my audit opinion.

1.4 Basis for Qualified Opinion

My opinion is qualified based on the matters described in paragraph 2.2 of this report.



2. Financial Statements

2.1 Qualified Opinion

In my opinion, except for the effects of the matters described in paragraph 2.2 of this report, the financial statements give a true and fair view of the financial position of the Arthur C Clarke Institute for Modern Technologies as at 31 December 2014 and its financial performance and cash flows for the year then ended in accordance with Sri Lanka Public Sector Accounting Standards.

2.2 Comments on Financial Statements

2.2.1 Sri Lanka Public Sector Accounting Standards

Instances of non compliance with the standards are as follows.

Sri Lanka Public Sector Accounting Standards

Sri Lanka Public Sector Accounting Standard 03

Non compliances

The Accounting Policy followed by the Institute in respect of writing off of bad debts and provisions for doubtful debts amounting to Rs.5,354,108 in the year under review had not been disclosed in the financial statements.

Sri Lanka Public Sector Accounting Standard 09

Action had not been taken to disclose in the accounts, the fair value in respect of accessories, minor equipment and other stock items valued at the cost of Rs.4,077,452 from a long period.



2.2.2 Accounting Policies

The following observations are made.

- (a) Even though it was disclosed that the accrual basis had been followed by the Institute in the preparation of financial statements, there were unusual variances between the project income of each year due to following the cash basis in the identification of project income.
- (b) It was observed that the policy of writing off of bad debts and provisions for doubtful debts introduced by the Institute could not be followed continuously and consistently.
- (c) In the adjustment of gratuity allowances based on actuarial valuation, the basic assumptions made had not been disclosed adequately in the financial statements. In the computation of gratuity provisions, the incomplete years as well had been computed as completed years. As such, the annual provisions had been over-computed by Rs.2,298,954 due to over-computation of the period of service of every employee by one year and the Management had not taken steps to adopt an appropriate accounting policy in the computation of gratuities.

2.2.3 Lack of Evidence for Audit

Stocks amounting to Rs.9,309,659 existed in the financial statements of the year under review and the stock verification reports relevant to those stocks were not presented to audit.



2.4 Non-compliances with Laws, Rules, Regulations and Management Decisions

Reference to Laws, Rules,
Regulations and Management
Decisions

Non-compliance

(a) Public Finance Circular
No.380 of 19 January
2000

(a)Even though the plant and machinery required for the projects should be purchased using the surplus of the project, contrary to that, plant and machinery had been purchased from the Treasury provisions.

(b)The over income generated from surplus of projects such as the battery test and RCCB test not covered by the Circular, had been disbursed among the direct and indirect staff related to the projects. Accordingly, a sum of Rs.2,588,339 had been so disbursed.

(b) Nation Building Tax Act,
No.09 of 2009

Nation Building Tax amounting to Rs.150,592 had not been remitted to the Department of Inland Revenue.

(c) Payment of Gratuity Act,
No.12 of 1983

The financial result had deteriorated by Rs.9.7 million as the gratuities had been computed in considering the allowances contrary to the Act and a sum of Rs.444,395 had been paid as arrears of gratuity payments in the year



under review to officers who retired and left the service in the years 2013 and 2012 being erroneously computed once again.

(d) Chapter XXVIII of the Establishments Code of the Democratic Socialist Republic of Sri Lanka

Even though office hours should be from 8.30 a.m. to 4.15 p.m., it had not been complied with.

3. Financial Review

3.1 Financial Results

The financial result of the Institute for the year under review had been a surplus of Rs.7.2 million as compared with the corresponding surplus of Rs.5.9 million of the preceding year, thus indicating an improvement of Rs.1.3 million in the financial result. The increase of external project income by Rs.11 million and Government grants by Rs.18 million had mainly attributed to the improvement of the financial result.

3.2 Analytical Financial Review

Liquidity Ratios	2014	2013
Current Ratio	8.3:1	6.4:1
Liquidity Ratio	7.6:1	5.8:1

It was observed that an idle working capital remains in the Institute in analyzing the current and liquidity ratios.



4. **Operating Review**

4.1 **Performance**

The following observations are made.

- (a) Even though it was planned to perform 50 activities by 05 Divisions of the Institute according to the Action Plan, it was observed that the number of activities not performed and performed halfway were only 27.
- (b) In comparing the progress of each Division of the Institute with the Action Plan, it was observed that the progress had not been at a provable level and the progress could not be analyzed in the absence of including the activities of the Administration and Finance Divisions in the Annual Action Plan.

4.2 **Operating Inefficiencies**

The following observations are made.

- (a) In the preparation of estimates for the projects carried out by the Institute, very high profit margins had been added and as such, it was observed that an unnecessary expenditure has to be incurred by the Government, particularly in respect of projects of Government Institutions.
- (b) It was observed that during the past few years only similar projects had been carried out by each Division of the Institute and no attention had been paid towards carrying out new projects.
- (c) Even though a Residual Current Circuit Breaker machine had been purchased by spending a sum of Rs. 12 million without preparing even a project feasibility report in the year 2013, the income earned in the year under review amounted to Rs.445,850 and that amount could not cover even the depreciation value of machines amounting to Rs.1,200,000.



5.3 Budgetary Control

The following observations are made.

- (a) The budgeted income statement, the statement of financial position and the cash flow statement had not been presented in terms of Section 5.2.1 of the Public Enterprises Circular No. PED/12 of 02 June 2003.
- (b) Significant variances between the budgeted expenditure and the actual expenditure ranging from 11 per cent to 388 per cent were observed, thus indicating that the Budget had not been made use of as an effective instrument of management control.

6. Systems and Controls

Deficiencies in systems and controls observed during the course of audit were brought to the notice of the Chairman of the Institute from time to time. Special attention is needed in respect of the following areas of control.

- (a) Accounting and Stock Control
- (b) Project Management
- (c) Fixed Assets Control
- (d) Budgetary Control
- (e) Planning and Progress Control

W.P.C. Wickramaratne
Acting Auditor General

2.2 Comments on Financial Statements

2.2.1 Sri Lanka Public Sector Accounting Standards

1. As writing-off of bad debts is an accounting estimate it has not been revealed as an accounting entry.
- li These stocks consist of electronic accessories. Accessories required for the repair of old equipment, are at times not available in the market. At such instances the accessories from these stocks are utilized for the repair work and hence a definite time period cannot be identified for the use of the same. Therefore it has become necessary to maintain the stocks and hence it is not practical to estimate a depreciating value specifically for these stocks.

2.2.2 Accounting Policies

- a) Project income is accounted on accrued basis. However as certain other income and expenditure has been accounted on cash basis an unusual variance in the income has occurred. In future as all project income will be accounted on accrued basis, action will be taken to rectify the matter.
- b) Since allocation of doubtful debts is an accounting estimate, action will be taken to make the necessary adjustments appropriately.
- c) Computing of Gratuity has been carried out in accordance with software developed by the Sri Lanka Institute of Chartered Accountants.

2.2.3 Lack of evidence for Audit

This value has been reflected in the accounts as Rs.9, 309,659/-. This stock has been valued based on the Goods Received Note (GRN) submitted by the procurement Division and the relevant Consumable Stock Sheets made available by the Store Keeper. Action will be taken to ascertain the value through the physical stock verification from next year.

2.4 **Non-compliance with Laws, Rules, Regulations and Management Decisions**

- a) For projects carried out under the Public Finance Circular No.380, the usage cost of main equipment is included in the project estimate as specified in the Circular guidelines. As observed by the Auditor, no mention has been made by us that purchase of plant and machinery required for projects carried out under PF 380 Circular should be based on the surplus of the project income.
- b) The two projects namely, Battery Testing and the RCCB Testing are categorized as projects under PF 380 circular based on the initial nature of the project. The research activities related to these projects are carried out in accordance with international standards and are being tested by using complex equipment under subjection to a specialized research methodology. Expert knowledge is required to carry out the testing of this type of equipment. Facilitating the localization of the services, maintaining quality standards and certification of service efficiency are some of the essential specialised work related to this initially. Hence at a particular period, it was appropriate to identify the above projects under PF Circular 380, as per circular instructions due to its specialised nature. Once the specialised nature of work is complete this will be considered as a normal activity.
- c). The sum of Rs. 150,592/- shown as not been sent to the Department of Inland Revenue, is an amount payable as Nation Building Tax on an invoice. On receipt of payment for same, action will be taken to remit this amount of Nation Building Tax to the Department of Inland Revenue.
- d). The gratuity payments have been computed and accounted in accordance with the Sri Lanka Accounting Standards and payments have been made in terms of the Gratuity Act No. 12 of 1983.
- e). The institute had been practising a flexible working hour method for the staff subject to a maximum time limit from 8.30am upto 9.30am based on a decision taken by the Board of Governors. Attention will be given to the observation made by the Auditor and action will be taken by the Management to reconsider the decision taken in this regard.

3. **Financial Review**

3.1 **Financial Results**

3.2 **Analytical Financial Review**

During the last quarter, depending on the receipt of allocated funds from the Treasury the liquidated value of assets increases. Thereafter during the 1st quarter of the next year, these allocated funds are utilized for the relevant activities. Accordingly the ratio analysis of the funds, shown by the Auditor as an idle working capital can be considered as a short –term condition.

4. **Operating Review**

4.1 **Performance**

a **Communication and Robotics Division**

The number of projects carried out by the Communication Division is 11 and according to observations made by the Auditor it is incorrect to show the number of projects as 4. A more productive project; Bearing Temperature Monitoring has been substituted in place of the project; Research Survey on Radio Frequency Radiation out of which 07 have been completed already. More than 2/3rd of another project; ACCIMT Library Function Automation has been completed. Another 2 projects while the ACCIMT part was successfully completed, the relevant client could not complete the work on their part successfully and therefore this project could not be completed. It is expected to complete the same during this year. However with the time available due to the delays occurred from the clients end for this project, it was possible to complete another project; Semaphore Light for Sri Lanka Railway during this time, although not included in the action plan. The remaining project, Tea Colour Separator included in the Action Plan consists of the following two main segments.

i. Industrial System

ii. Electronic System

In order to process the industrial system external expertise is essential. Our attempts to obtain this specialised service on several occasions have been unfruitful. It is expected to complete this project in the near future by obtaining the expert services. The prototype work of the project ; Automatically guided vehicle for all terrain-Normal quantum of work an activity under Robotic Technology, has been completed.

b. Space Division

The number of projects included in the Action Plan under the Space Division is 18 of which 12 have been completed by now. Of the remaining 6, 2 are categorized under construction related activities for which action has already been initiated and the work is in progress. Out of the balance 4 projects, 01 is a Sky Observation Workshop and due to climatic conditions prevailed at that time, it was not possible to conduct the same. The other project Astronomy Workshop could not be completed due to the delay in the construction work of the building. RSGIS Course could not be completed due to the difficulty in finding resource personnel. The other project had to be stopped as priority had to be given to some other projects. However an average of 90% of the activities have been completed according to the main planned activities of the Space Division .

c. Electronic Division

11 projects have been completed by the Electronic Division during the year. Of the remaining projects, 01 project had to be temporarily stopped due to the engineer in-charge of the project resigning from the Institute. The project “Mobile Telephone Repair “ had to be discontinued as the project needed to be updated in keeping with the technologies of the new mobile phones used and continuing of the same was found uneconomical. One of the projects was an activity proposed by a Client and as there was no interest shown from the relevant client it could not be proceeded further. However by utilizing the time allocated for the said project the division was able to initiate and complete another new activity. Other activities planned were a repair related to a complex electronic equipment and repair of 45nos of small scale electronic equipment. As there was no request for the repair of the main equipment the division was able to repair 53 nos of the small scale equipment exceeding the initially planned quantity. On the whole it can be stated that the Electronic Division has completed 85% of its planned activities.

d. Industrial Services Division

Out of the 7 projects, the division has completed 4 during the year. Of the 4, 2 projects have been partly completed. Due to difficulties encountered in importing relevant items on time, one project could not be completed. An 85% progress is seen in the projects (partly or fully) undertaken by the Industrial Services Division.

The main focus in the Annual Action Plan is given to the activities related to Technical Divisions. Most of the activities of the Administration and Finance divisions are activities of a stereotype nature. However among the variance of quality annually in the activities it has been possible to include the activities such as development of capitalized assets and purchase of capital items in to the action plan. In future attention will be given to the special application of the administration and financial activities and action will be taken to study the relevant matters pertaining to the action plan.

4.2 **Inefficient Operations**

- a. In the preparation of cost estimates for provision of services, the Institutes' know-how on the relevant services and the market prices are taken into consideration. Most of our services are provided for non-Governmental Institutions in the case of state Institutions, the contract is awarded to us only after a reasonable cost evaluation is carried out by the relevant state Institution. Our observation is that the quotations submitted to state institutions are far below the market prices.
- b. Some of the projects implemented by the institute, as continuing projects, although with similar project names, are projects different to each other. Due to delays beyond control, in providing infrastructure facilities It has not been possible to complete some of the projects within the targeted time period. Same project has not been implemented over and over many years, although it appears to be visible. Further the projects falling under Research Services from its nature are implemented as continuing projects.

- c. The Sri Lanka Standards Institution having recognized that the ACCIMT is an Institute that possess the human resource skill in the relevant field for testing of the standard of the lightning protection equipment both imported and manufactured in Sri Lanka, has awarded the testing work to ACCIMT. It is our evaluation that this research activity is a national level project due to its importance towards national productivity and consumer protection process. Therefore as a National Research Institute, our evaluation was focused on the higher socio-economic value that could be gained on a national level, rather than the cost of this item and the income that could be generated from the same. Further according to the information provided by the Sri Lanka Standards Institution it has been revealed that there is considerable number of manufacturers and importers awaiting to obtain such services.

4.3 **Matters of Contentious Nature**

Surplus of all project courses have been deposited in a separate account with the approval of the Treasury. When difficulties arise in releasing the allocated funds to the Treasury, these funds are utilized. However on receipt of the allocated funds it is reimbursed. By maintaining these reserves, during financial crisis that occur from time to time, as a remedial measure, the funds have been utilized. On an observation made by the Auditor previously, the funds have been invested on fixed deposits with the approval of the Board of Governors, while protecting its liquidity level.

4.4 **Personnel Administration**

In 2014 vacancies in the technical categories, were advertised in the press in all three languages viz; Sinhala, Tamil and English. No suitable applications were received for the categories of Senior Manager (HM 1-3) and Senior Academic Research (AR 2) in keeping with the qualifications stipulated in the scheme of Recruitment and promotion. Recruitments were made in respect of Academic Research (AR 1) and Management Assistant Technical (MA 2-2) categories according to the advertisement. In 2014 the number of new recruitments have been 27 of which 15 positions have been executive grades. However during the year the total number resigned has been 16, out of which 10 have been in executive grades.

5 **Accountability and Good Governance**

5.1 **Internal Auditor**

Once the percentage of overall recruitments increase substantially, action will be taken to recruit adequate staff to the Auditor Unit.

5.2 **Procurement Plan**

The Procurement Plan of the institute is prepared at the commencement of the year in accordance with the Action Plan. However there are instances where purchases planned initially are not required to be purchased. Further there are instances where more important activities are included in to the plan by deviating from the already planned activities. In both these instances items which are not included in the procurement plan have to be purchased. As observed by the Auditor, the purchase of items during the year to the value of Rs. 7,549,000/- can be cited as one such instance of deviating from the procurement plan. However these expenditures have been incurred within the allocated funds for the year and procurement of such items which are not included in the Plan can be referred to as a decision taken by the Management considering the productivity of the Institute. In future action will be taken to submit the edited version of the procurement plan to the audit.

Procurement of equipment required for the Communication division has been made within the annual budget allocation in accordance with the Procurement Plan. What is reflected in the procurement plan is the cost estimate of the main equipment. With the procurement of the main equipment the allocation is utilized to purchase required items and its accessories as well.

5.3 **Budgetary Control**

- a Due to various reasons prevailing in the uncertainty of income, Budgeted Statements, Financial Position and Cash Flow Statements could not be prepared todate, A suitable strategy for Research Institutes will have to be formulated to forecasts such situations. Attention will be given to this effect and it will be noted to take action accordingly, in future.

- b. Every step will be taken to minimize the variances that have taken place between forecasts and the actual expenditure due to various reasons.

6. **Systems and Control**

Attention will be given by the Management to the weak areas in the systems and control as shown by the Auditor and it is expected to recommend suitable steps for implementation.

A handwritten signature in black ink, appearing to read 'Sanath Panawennage', written over a horizontal line.

Engineer Sanath Panawennage
Director General /CEO