KERALA INFRASTRUCTURE AND
TECHNOLOGY FOR EDUCATION

ANNUAL REPORT 2022-23

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1. Introduction

Kerala Infrastructure and Technology for Education (KITE) www.kite.kerala.gov.in is a Kerala State Government enterprise, setup to foster, promote and implement modernisation of educational institutions in the State of Kerala. Through its operation spanning two decades, KITE has revolutionised the education system of the State. Its spectrum includes Information & Communication Technology, Capacity Building, Content Development, Connectivity, e-Learning, Satellite based education, Support and Maintenance mechanism, e-Governance or also physical infrastructure upgradation of schools. KITE pioneered use of FOSS (Free and Open Source Software) in Education. Through the Rs.493.50 Cr Hi-Tech School in 4752 Secondary schools and Rs.300 Cr Hi-Tech Lab in 11275 Primary schools, KITE has transformed the public schools into Centres of Excellence, benefitting to 16026 schools and covering 4.5 million students from classes 1 to 12. The mandate of KITE goes beyond IT & School education and now include general infrastructure building in Higher education also.

KITE VICTERS is the complete educational channel of KITE which is operational since 2006. VICTERS was inaugurated by H.E. A P J Abdul Kalam the President of India on 28th July, 2005 in Thiruvananthapuram and the channel was inaugurated by Hon. Chief Minister of Kerala on 3rd August 2006. The channel which is telecast for 24X7, is unique in the sense that it caters to students & teachers on a need-based manner, and programs are aired on demand, sensitive to school curriculum and even timetable. KITE VICTERS covers over 93% of entire households in the State. VICTERS is now available in all DTH networks in addition to Cable networks, Live streaming via www.victers.kite.kerala.gov.in and even as a Mobile App which is available in PlayStore and Apple Store.
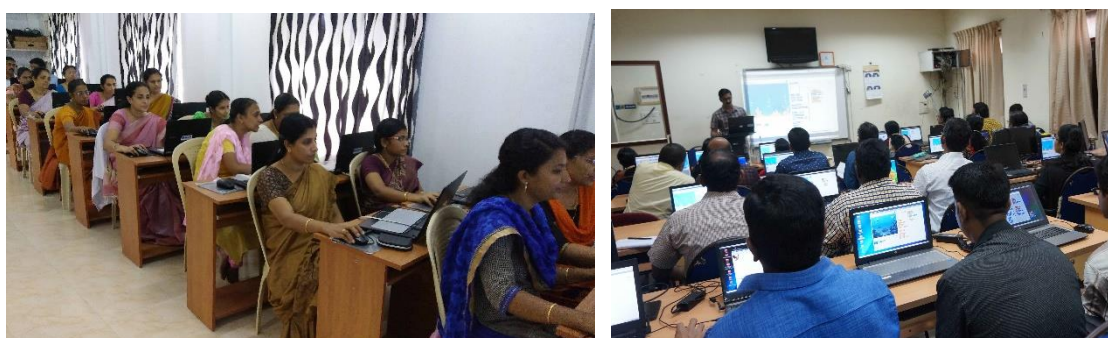
KITE has its State Office at Thiruvananthapuram, which also houses the Main Studio and Uplinking Station of KITE VICTERS. It also has district offices in each of the 14 districts, which also act for Content Production for the channel.

2. Important programmes implemented in 2022-23

A. Capacity Building for Teachers through the KOOL platform

KITE had introduced KOOL (KITE's OPEN ONLINE LEARNING) platform for teacher trainings, which is the first Official MOOC Course by Government of Kerala. The Government vide Order GO (Rt.) No.5068/2018/G.Edn dated 01.12.2018 has sanctioned the implementation of KOOL platform for teacher trainings. Through KOOL, the teachers can select the training course of their choice without actually losing academic days and by availing the services of an expert faculty. Besides the compulsory 45 hours of computer course for teachers in order to clear their probation, the idea of KOOL raised with the State's schools becoming Hi-Tech, requiring teachers and students to be trained on different domains simultaneously. KOOL uses the Samagra portal for registering for the courses. Through the KOOL platform, over 10,000 teachers have completed various courses during 2022-23.

B. eCube English eLanguage Lab

The E3 (Ecube) English eLanguage Lab programme for improving the English language proficiency of students was introduced last year. The Language lab digital interactive multimedia software was developed by KITE in accordance with the prevailing curriculum and learning processes helping students to learn English in the edutainment format. E3 English have three components, viz e-Library, e-Language Lab and e-Broadcast. The e-library is a digital library of international quality English books on the Samagra portal. Digital

copies of books that children can enjoy and improve their language are made available in this library. Next is e-Language lab, which has the language lab software developed by KITE in Moodle platform that provides opportunities for students to hear English, talk, read, and write depending on their learning capability. The third component is the e-Broadcast, which includes programmes on KITE Victers educational channel that helps students learn how to use English in practical situations through interactive mode. In 2022, 60,751 Primary teachers were imparted with eCube Language Lab training.

C. Satyameva Jayathe- Digital Media and Information literacy training

As part of the Digital media literacy campaign, specific training programmes and refresher trainings were conducted for students and training modules were developed. During 2022-23, training has been given to 19,10,374 students, who in turn provided the training for parents.

D. Little KITES IT clubs expanded to 2164 schools

The Little KITEs IT Clubs have been expanded to 2164 schools. Over 3.85 lakh students have been part of this programme so far. Little KITEs members are selected from Std-8 through an aptitude test. These students are given training in Hardware, Animation, Electronics, Malayalam Computing, Cyber Safety, Mobile App development, Programming, Robotics, eGovernance etc.

The trainings are provided during non-class hours and on holidays without affecting the normal school working. Best Performing IT Clubs were recognized and awards distributed. School level camps, followed by District level camps and State Camps were conducted for Little KITEs, in which the best performing students were provided with advanced trainings.

E. Cyber Safety training for Mothers by Little KITES members

The Cyber-safety awareness programmes for over 4 lakh Mothers, was conducted during May- August 2022, as part of the 2nd 100 days programme of the State Government. The training was imparted by Little KITES members, focusing on new technologies comprising of smart phones, internet, safety of passwords, identifying and preventing fake news, Cyber-attacks and precautions to be taken while undertaking online transactions etc

F. Plus One Revision classes & Live Phone-in programme in KITE VICTERS channel

In May 2022, as part of First Bell 2.0, KITE started the telecast of Revision classes for Plus One through its KITE VICTERS educational channel. One subject was taken across four classes during the revision schedule to prepare students for the public examinations. Live Phone-in programmes to clear students' doubt was also telecast ahead of the examinations.

G. Young Innovators Program for school students

Govt authorised KITE to provide training on Young Innovators Program (YIP) for Students of Class 8 to 12 (Little KITEs members) in association with KDISC. YIP is an attempt to nurture innovative solutions for social issues. Accordingly, KITE is implementing the YIP training programme for Little KITES members. The training module has been prepared and RP training has been completed to all Master Trainers. Further to the training of teachers, 14 lakh students from Class 8 to 12 were trained during Oct 2022- Jan 2023.

H. School Wiki Awards

The 2nd edition of K.Sabarish Memorial School Wiki State Awards for best data updation in School Wiki portal were declared in June 2022. M.M.U.P.S.Makkoottam in Kozhikode district won 1st prize while G.L.P.S, Olakkara in Malappuram district bagged the 2nd prize and G.H.S, Karippoor in Thiruvananthapuram district won the 3rd prize. The prize money was Rs.1.50 lakhs, Rs.1 lakh and Rs.75,000/- respectively. The district level winners were given a prize money of Rs.25,000, Rs.15,000 and Rs.10,000

respectively. The winners are finalized by a Committee after evaluating 20 parameters including accuracy of info box, images, unique activities, clubs, school maps etc. The winners were selected from 1739 schools who competed on various levels.

I. New programmes in KITE VICTERS educational channel

KITE VICTERS have been phenomenal in creating new educational video programmes for the benefit of lakhs of students in the State, despite having very limited resources and space in the Studio complex. Some of the major programmes created in KITE VICTERS during 2022 included Story time, Science Week, We the People, Cartoon making classes, Art Box, Conversantly Yours etc. During December 2022, KITE also has facilitated the Live Telecast of State School Sports Fest through its KITE VICTERS educational channel, its Web and Mobile platforms which were accessed worldwide.

J. Sahitham mentoring portal launched.

The Sahitham mentoring portal developed by KITE with academic support from SCERT was launched in June 2022, with the objective of mentoring the students by teachers so as to know them better and contribute to their development. The portal allows teachers to track the learning progress of students, including their social skills, numerical ability, social awareness, aptitude for science and record these online. Teachers will be able to understand the learning difficulties experienced by students and plan remedial measures in their role as mentors.

K. Broadband connectivity speed in schools increased to 100 Mbps

In July 2022, KITE and BSNL signed a MoU for providing 100 Mbps Broadband Internet connectivity in High Schools, Higher Secondary Schools and Vocational Higher Secondary schools in the State. The existing 8 Mbps FTTH (Fibre to the Home) connections in schools were upgraded to 100 Mbps which is 12.5 times faster. The enhancement of 100 Mbps Broadband Internet connectivity would benefit 45000 classrooms in 4685 schools included in the Hi-Tech school project, with faster ICT enabled education.

L. District Camps and Sub-District camps for Little KITEs members

KITE organised a 2- day residential district camp for Little KITES members in July 2022, to familiarise the children with latest technological innovations like Students trained in Robotics, Home automation, 3-D Modelling, IOT, Raspberry Pi, 3 D Character modelling, Character rigging, 3D animation using Blender etc. Similarly, in December

2022, KITE also organized sub-district camps for Little KITEs members which was attended by 1200 students. These camps included activities for developing games focused on spreading a message against drug abuse. Further, as part of Animation, the students also developed games based on short stories using OpenToonz software.

M. Software Freedom Day celebrated State-wide

To commemorate Software Freedom Day, KITE conducted FOSS (Free Software) based technical classes in all the 14 districts, in association with Democratic Alliance for Knowledge Freedom (DAKF) in September 2022. The highlight of the programme was that each of the 14 districts catered a different FOSS theme for the class. Along with this, public awareness programmes & Install Fests were also conducted along, wherein latest version of KITE GNU Linux 20.04 were freely installed for public. KITE VICTERS also telecasted specific Free Software based trainings.

N. 'KITE Board' released for Hi-Tech classrooms

In October 2022, KITE launched 'KITE Board' - a multi-purpose, device independent, FOSS based, interactive tool for Digital Education. With the new application, laptops in schools transform as Interactive Boards. The application also facilitates video recording of classes and black board writings, was provided to schools as a simple upgrade to FOSS based KITE / GNU Linux OS suite. By using a KITE Board, teachers would be able to write and type using a laptop and can also project them in classrooms using the projector, similar to using a Black board. The teachers could also pre-load the resources such as video, images and presentations from Samagra portal in the KITE Board, which can then be used either Online or Offline as needed. The Board also facilitates usage of Online resources such as Wikipedia. The KITE

Board's also facilitates storage of content written in Black board by the teacher in PDF format, a feature which would also benefit students who are unable to attend a class. It also enables recording of activities done in the Board using Screen Recording. The classroom activities such as science experiments can be captured using the built-in camera of Laptop which can then be shown through the KITE Board.

O. Deployment of 9000 Arduino Kits for Little KITEs Units

In December 2022, Chief Minister inaugurated the deployment of 9000 Arduino Robotic Labs through Little KITEs, which facilitates innovative ways for increasing the knowledge skills of students through fun learning. Robotics is an important training component under the Little KITES program, through which students in public schools would get an opportunity to get hands-on training in latest technologies areas such as Robotics, IoT, Artificial Intelligence etc. Moreover, the programming training as part of this would help in the enhancement of creative thinking and problem-solving ability of students, which would help them in the learning of all subjects. Each Robotic Kit deployed to school comprises of Arduino Uno Rev3, LEDs, SG90 Mini Servo Motor, LDR Light Sensor Module, IR Sensor Module, Active Buzzer Module, Push Button, Bread Button, Jumper wires and Resistors. Using these kits, students are trained in various activities including development of Traffic Signal,

Automatic Street light activated through light sensing, Electronic Dios, Automatic Door, Security Alarm etc at school level.

P. 3rd Edition of Haritha Vidyalayam Educational Reality Show for schools

The 3rd edition of Haritha Vidyalayam Educational Reality Show for schools was conducted during December 2022 to March 2023, which aimed at bringing out the best performing schools on a global platform, a first of its kind in India. The unique show is a platform for schools to showcase their unique initiatives to the public and were evaluated on parameters focusing on academic and co-curricular activities, basic facilities, social participation, digital education, in-campus cleanliness, recognitions won, activities during COVID-19 pandemic etc. Out of the 753 schools applied state-wide, 109 schools made it to the 1st round. A 30-minute video of each of these schools was prepared featuring their unique initiatives and best practices, which was then scrutinized by the Jury. Post this, 20 schools were shortlisted to the 2nd round. The eminent jury reviewed all the applications and visited the schools and evaluated their performance over the set parameters. Shortlisted schools also had a face-to-face interaction with the Jury at the Studio. The programme which was telecast on KITE VICTERS channel on a daily basis, showcased the unique initiatives of schools in detail and also provided the entire schooling community of the State to view the best practices that they could also adapt in their schools. Odappallam Govt High School (Wayanad) & Purathoor Govt UP School (Malappuram) shared the 1st Prize of Rs.20 Lakhs, while GLPS Eravipuram (Kollam) & GOHSS Edathanattukara (Palakkad) shared

the 2nd Prize of Rs.15 Lakhs. Similarly, GVHSS Kadakkal(Kollam) & GLPS Kadakkarapalli (Alappuzha) district shared the 3rd Prize amounting to Rs.10 lakhs.

Q. Digital Literacy training programme piloted.

In March 2023, KITE released the Digital Literacy Training Module for equipping everyone to use digital equipment and ability to get hands-on experience in internet, in order to acquire Complete Digital Literacy in the State. The 10-hour training (5 days with 2 hours each) will have 5 sections titled Smartphone facilities, Internet World, Online money transactions, Social media and Email services. KITE has also developed a detailed presentation with 264 slides and short videos highlighting practical models which can be used along with the training module. KITE piloted the Digital Literacy Training at Thalipramba Constituency in Kannur District. KITE would also be partner with Kerala State Literacy Mission for the e-Muttam Digital Literacy programme.

R. Impact study on Little KITEs by RIESI, Bangalore and IT4change

Government vide GO (Rt.) No.3942/2022/GEDN dated 06.07.2022 had directed KITE to undertake an impact study on eCube English eLanguage labs by engaging RIESI, Bangalore and IT4change. Accordingly, RIESI & IT4change has undertaken the visit in 10 experimental schools in each of the 14 districts twice. The baseline study was conducted in September 2022 and the end line study was undertaken during February-March 2023. The study highlighted the effectiveness of storytelling-based pedagogy and innovative implementation strategies, leading to notable improvement in students' performance.

3. Status of Funds- IT Division

An amount of ₹ 30 Cr was earmarked for KITE (IT) under the Plan Funds of State Govt under the Head of Account- 4202-01-202-80 for 2022-23. Out of which an amount of Rs.19.40 was released to KITE in installments. The expenditure incurred was as follows;

Sl. No.	Component	Budget Provision	Amount Received	Expenditure
1	ICT Hardware Deployment & Maintenance	3,00,00,000		2,18,38,816
2	Content Development	6,00,00,000		3,14,51,303
3	Infrastructure upgradation	5,00,00,000	19,40,00,000	1,44,92,236
4	Monitoring & Capacity Building	10,00,00,000		7,28,92,879
5	Best ICT Practices, Project Management & eGovernance	6,00,00,000		5,41,04,973
	Total	**30,00,00,000**	**19,40,00,000**	**19,47,80,207**
	Rs.1,89,10,505/- was resumed by Government on 31.03.2023 limiting the actual fund release to KITE to Rs.17,50,89,495/-.			

4. Infrastructure Division:

The Infrastructure development of Schools entrusted with the SPV KITE under the Public Education Rejuvenation Scheme of General Education Department, Govt. of Kerala has obtained remarkable progress.

Schools (GED projects)

KITE has been entrusted with the materialization of projects under the Public Education Rejuvenation Scheme viz. Upgradation of one school in each Constituency [141 schools under 5 Cr Scheme] & Betterment of Infrastructure facilities [96 Schools under 3 Cr Scheme]. Due to the inordinate delay in the execution of projects 2 projects under Rs.5 Cr Scheme the works were been terminated and has transferred to SPV-KITCO Ltd. vide G. O. (Rt.) No. 3564/2022/GEDN dated 14.06.2022 for completion of balance works. Further due to the non-commencement of works of 3 nos of projects under Rs.3 Cr Scheme viz. GHSS Thirurangadi, GHSS Mangalam & GVHSS Chelari citing various issues were assessed in detail and have requested the Government for the cancellation/change of SPV. Order has been published assigning M/s KITCO Ltd as the SPV by Government vide G.O.(Rt.)No.2046/2022/GEDN dated 26.03.2022 for continuing the works of GHSS Thirurangadi & GHSS Mangalam. In 2022-23, KITE was entrusted with the 139 Schools under Rs.5 Cr Scheme & 93 Schools under Rs.3 Cr Scheme.

Colleges (HED projects)

Out of the 11 HED projects funded by KIIFB, the works of 10 nos of projects were carried out in a fast pace with the completion and handing over of 8 nos. Due to the extraordinary delay occurred in finalizing the design proposal and the non-commencement of works at Govt. Arts College, Thycaud, Thiruvananthapuram, vide order dated 10.02.2022, M/s KITCO Ltd. has been the assigned as the SPV for implementing the KIIFB funded HED project.

KITE Project - Govt. Arts & Science College Nattakom

Plan funded HED project for the Construction of Library Block, at Govt. Arts & Science College Nattakom, Kottayam, KITE has successfully completed the works. The physical progress of the project works has achieved 97% and the status of the projects up to 31.03.2023 was as follows:

Category	5 Cr	3 Cr	HED	Total
Total Projects	139	93	11	243
Handed over	127	87	5	219
Balance projects	12	6	6	24
Inaugurated projects	135	89	4	228
To be inaugurated	4	4	7	15

5. Status of Funds- Infrastructure division

With the physical progress attained for the infrastructure projects of 243 KIIFB funded projects, an overall payment released to Contractors till 31.03.2023 amounts up to ₹872.87Cr. The Revised Estimate of total projects comes up to ₹1002.16 Cr and the overall financial progress of the projects has attained 87.10%.

Financial Progress up to 31.03.2023					
Category	Schools/ Colleges	KIIFB funding	Revised Estimate Amounting to	Amount Released	Financial Progress
GED projects	234	984	927.69	813.65	87.71%
HED projects	10	75.06	74.47	59.22	79.52%
Total	244	1059.06	1002.16	872.87	87.10%

Highlights of Financial year 2022 - '23.

Govt. Sanskrit College, Thrippunithura

Govt. Arts & Science College, Thavannur

Panampilly Govt. College, Thrissur

Govt. College Kottayam, Nattakom

KKTM Govt. College, Thrissur

KKTM Govt. College, Thrissur

GGHSS Mavelikkara, 5 Cr, Alappuzha

GHSS Kattilangadi, 3 Cr, Malappuram

GBHSS Kayamkulam, 5 Cr, Alappuzha

GHSS Pezhakkappilly 5 Cr, Ernakulam

GHSS Thirunelloor, 3 Cr, Alappuzha

GHSS Othukkungal, 3 Cr, Malappuram

GHSS Big Bazar, 5 Cr, Palakkad

GHSS Peruvallur, 5 Cr, Malappuram

GGHSS Malappuram, 5 Cr, Malappuram

6. Recognition for KITE

During 2022-23, KITE received several accolades including the Technology Sabha Awards for Online Classes and Samanwaya Online Software, World Education Summit Award, Chief Ministers' Award for Innovations in Public Policy.