Request for Proposal

Selection of Service Provider for Design, Development, Implementation, Training and Maintenance Support of Unified Automation System (UAS) for Odisha School Education Programme Authority (OSEPA), Government of Odisha

RFP No.: OCAC-TE-15/2022/ENQ/23018

Vol-II	Terms of Reference

OCAC

ODISHA COMPUTER APPLICATION CENTRE

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Abbreviations

ATS	Annual Technical Support
CPU	Central Processing Unit
CBT	Computer Based Training
CV	Curriculum Vitae
DIC	District Industries Center
DO	Dismissal Order
DRDA	District Rural Development Agencies
EMD	Earnest Money Deposit
FRS	Functional Requirement Specification
HLD	High Level Design
HR	Human Resource
ICT	Information Communication Technology
ISO	International Organization for Standardization
IT	Information Technology
KB	Kilobytes
LLD	Low Level Design
LOI	Letter of Intent
MIS	Management Information System
Nos	Numbers
OCAC	Odisha Computer Application Center
OSDC	Odisha State Data Centre
OSIC	Orissa small Industries Corporation Ltd
OSU	Operational Support Unit
OSEPA	Odisha School Education Program Authority
PBG	Performance Bank Guarantee
PMU	Project Management Unit
PSU	Public Sector Undertaking
QCBS	Quality & Cost Based Selection
QR Code	Quick Response Code
RFP	Request for Proposal
ROC	Registrar of Companies
RTI	Right to Information
SDLC	Software Development Life Cycle
SI	System Integrator
SLA	Service Level Agreement

1   Background

The National Education Policy (NEP) 2020 caters to a multitude of requirements along with many schemes and programs run by Ministry of School & Mass Education that benefit different facets of education & it's stakeholders. However, implementation of these schemes faces challenges due to lack of proper tracking by officials. In view of the challenges, an all-encompassing system is envisaged to track progress of the schemes implemented for various education initiatives.

Focus of School & Mass Education is to bring academic excellence in educational institutions, and provide best of education through free quality education to the students, especially from semi-urban and rural areas, across the state.

The program aims to promote talent by inculcating 21st century learning skills through a holistic and integral approach for physical, psychological and social development. Need of the hour is to devise a central system at state level for tracking student enrolment, progress in their learning levels, monitoring learning outcomes, gather information on child labor, out of school children, textbook delivery, support required for teachers and schools etc.

Odisha as a state has made great stride in the field of Universalization of Primary Education. Odisha School Education Program Authority (OSEPA) is an autonomous and independent body for implementation of Odisha School Education Program (Class – I to XII). OSEPA is managing various software applications catering to the three important pillars of the education ecosystem i.e. School, Teacher and Students. With time OSEPA has implemented 11 e-Governance applications in Education comprising Student Record, Teacher Profile, and School Details etc.

Further, OSEPA intends to create a unified Web Portal needs to be designed for **High School Transformation (HST)-5T projects** that will be used for Task Force recommendation implementation. Further, all activities of High School Transformation under 5T shall be routed through this **Unified Automation System (UAS) for School Education**, which will also have mechanism for report generation, monitoring and evaluation, along with centralized dashboard and provision for drill down reporting keeping in view the objectives of Quick Access, Data Security, Quick Reporting, Efficient Storage etc.

a) Improved Academic Achievement
b) Enhance Mental and Emotional Well-Being
c) Increased Problem-Solving Ability
d) Reduced Impact of Inequities

Stakeholders include:

- Students
- Teachers
- Parents
- Non-Teaching Staffs
- School Management
- Block, District Education Office
- Education Department

1.1 Existing Modules

The following applications are in use by OSEPA for different purposes. Since most of the applications have been developed in various technologies, they have operational challenges and contain limited features to meet OSEPA's current requirements, OSEPA envisages to develop a single framework to cater to the relevant features of all the relevant applications under **"Design, Development, Implementation and Training of Unified Automation System (UAS) for Odisha School Education Programme Authority (OSEPA), Govt. of Odisha"**.

During the System study time, OSEPA will share all relevant project artifacts of the existing applications such as SRS, System Design, Databases, Source code etc. with the selected Service Provider. OSEPA will demonstrate the existing applications / databases to the selected Service Provider for assessment and devising a strategy to integrate with Integrated Portal. Service Provider will be explained about the existing applications, identify the features that need to be developed/ customized in the new portal.

Following are the existing applications:

#	Modules	Functionalities/ Features
a)	**Odisha School Monitoring App (OSMA)**	The monitoring activity based on a set of parameters, facilitates improvement in classroom practice, helps resolve issues.
b)	**District Scorecard**	District Scorecard provides a high-level overview of the district based on benchmarks that describe performance in several key areas.
c)	**Extended MIS**	It encompasses data of all Government Schools in Orissa through an effective and efficient mechanism of data capture, processing, storing and disseminating MIS to relevant stakeholders
d)	**Teacher Portal**	It contains personalized calendars of Teachers, information about Grade Books, Assessments etc. Additionally, it has a provision for communication with students and parents, tracking of attendance, viewing reports etc.
e)	**Teacher Transfer Portal**	Online Portal to assist teachers in applying for transfer, track status of application in compliance with the policies and procedures
f)	**e-Attendance System**	Tracking of Student and Teacher Attendance at School as well as during Online Classes. It generates necessary MIS Reports for viewing by Management.
g)	**Private School Management**	It includes Student & Teacher Information, Attendance, Online Assignment & Assessment, Fee Management, Transportation, Library etc. It generates Report Card of Students. It also allows Schools to download Recognition Certificate.

#	Modules	Functionalities/ Features
h)	**SARALA App**	It is an Online Education Platform having provisions like e-Content, Online Assessment, Live Classes, Student and Teacher Assessment
i)	**Control & Command Center**	Acts as Dispatch Center, Surveillance Monitoring Center, Co-ordination office, and Alarm Monitoring Center all-in-one, which is manned by Technical Staff
j)	**Text Book Monitoring System.**	Monitor distribution of Text Books to the beneficiaries through Text Book Coordinator
k)	**Odisha Project Monitoring App**	Monitoring of Work Progress as well as expenditure incurred for Civil Work sanctioned, along with report generation for the works, inspection, project reallocation etc.

1.2 Objective

Through **Unified Automation System (UAS),** OSEPA envisages to bring together all applications into one framework using latest technologies and achieve the following objectives:

a) Deploy an Integrated Platform which encompasses all relevant functional requirements of OSEPA

b) Master Data about all key entities should emanate from one source without no offline transportation of data from one system to another

c) Accessibility to users should be strictly governed through RBAC (Role Based Access) process

d) Audit Trail should be an embedded design element of the platform.

e) Smart Card Interface for all school-based transactions, to be used by Teachers and Students

f) It should generate dynamic real-time information based on the workflow established in the system.

g) It should track student enrollment, learning outcomes, transitions, retentions, repeaters, dropouts etc.

h) Monitoring of Attendance, Mid-day Meal, DBT transactions etc.

i) Tracking of health parameters which can lead to timely intervention by the government.

j) Monitor real-time status of various projects/ activities

k) Monitor and track academic and non-academic activities at schools and empower administrators and teachers to take data driven decisions.

l) Enable improved academic performance of students by monitoring learning level outcomes

m) Track Work Responsibility of teachers in schools

n) Monitor utilization of available resources.

o) Set up centralized helpdesk to facilitate better turnaround time for issue resolution.

p) BI Analytics / Dashboard to provide real-time performance indicators of Schools, Teachers and Students.

q) Provide 24x7x365 access to relevant users with different roles and responsibilities for relevant functions

r) Provide 'view' access to relevant stakeholders for past years (from the year of implementation onwards) without depending on technical personnel

s) Parents should be able to access information about their wards across academic years for all features implemented for students

t) Establish Unified Platform for various applications under Design, Development, Implementation and Training of Unified Automation System for Odisha School Education Programme Authority (OSEPA), Govt. of Odisha.

u) The High School Transformation Initiative aims to achieve the set objectives through 6 Task Forces, who would be primarily responsible for Asset Management, Content and Curriculum Aspects, Awards & Incentives to Schools/ Teachers, Merger/ Integration of SSD Schools, OAV Schools and Urban HST with 5T Schools.

2   Scope of work

2.1   Overview

a) OSEPA will take care of existing applications till Unified Automation System is operational. OSEPA will ensure smooth knowledge transfer of all applications along with necessary artifacts subject to the challenges as enumerated above.

b) Extended MIS Application will integrate with the new Unified Web Portal for relevant functions. It is envisaged that going forward, the Integrated Web Portal should be the only application for OSEPA. Service Provider will handle the integration and transition to the Unified Web Portal.

c) Study, development and implementation of new modules/ features as per requirement of OSEPA, based on agreeable terms and complying with Change Management Procedures.

d) Application Maintenance Support of the new version of the application portal after it's go-live.

e) Analytics to provide prudent insight about the School Ecosystem.

f) Integration with BSE (O) Application, SAMS, State Scholarship Portal etc.

g) Set up operation of Support unit to provide technical and functional support.

2.2   Requirement Study

2.2.1   *Prerequisites*

Service Provider to follow and ensure following prerequisites before the requirement study

a) Consultation meeting with Representative End Users, OSEPA and OCAC teams

b) FRS/ SRS document templates

c) Project Traceability Matrix

2.2.2 *Understand the Existing Applications*

Service Provider to study the existing applications, identify the relevant functionality and features that need to be included in the Integrated Web Portal.

The responsibility of Service Provider during this phase includes the following :

a) Submit a detailed Knowledge Transfer plan, listing all the activities from it's end, including the expectations from OSEPA as per Checklist, mutually agreed upon.

b) OSEPA will facilitate training of existing applications.

c) Service Provider shall assess and validate the existing IT assets and inventories.

2.2.3 *New Modules/ Features for Unified Automation System Portal*

Service Provider shall study the existing applications with the support of OSEPA in view of the proposed new modules/ features. Service Provider shall prepare the FRS/ SRS documents, submit with OCAC for necessary approval.

2.3 Deployment and Configuration of Unified Automation System Portal on State Data Centre

2.3.1 *Hardware infrastructure*

a) Post award of contract, Service Provider will be expected to submit detail hardware sizing. Based on sizing of the hardware by Service Provider, additional hardware (if required) will be arranged/procured separately by OCAC.

b) Service Provider shall provide necessary support for configuring the hardware / licenses provided by OCAC to host the new version of the application.

c) Recommended physical and IT infrastructure (Hardware & Network etc.) at the schools, blocks, districts and central headquarter for smooth working environment will be provided by OCAC / OSEPA.

2.3.2 *Cyber Security Audit*

a) Service Provider needs to ensure that the solution is in compliance with the CERT-In Security Policy and Guidelines.

b) Service Provider shall appoint CERT-In empaneled auditor who shall be responsible for performing the security audit of the solution.

c) The cost of audit & rectification of non-compliances shall be borne by the Service Provider.

d) Carry out security audit before go-live of application and obtain the safe-to-host certification

e) Carry out the annual periodic audit & certification as per the OSDC policy.

2.3.3 *SSL Certification*

The Service Provider shall carry out SSL certification.

a) Secure connection between Client and Server through Secure protocol HTTPS

b) Encryption of Data during transmission from server to browser and vice versa

c) Encryption key assigned to it by Certification Authority (CA) in form of a Certificate.

d) SSL Security in the application server

2.3.4 *Application Deployment:*

Service Provider shall deploy new version of the application over the hardware infrastructure along with provision of DR as provided by OCAC, along with end-to-end management of hosting and deployment of the application, configuration and installation in High Availability mode. Service Provider should also submit Monitoring Logs of the Compute periodically.

Service Provider to submit Application access credentials post deployment for relevant Stakeholders with OCAC.

2.4   Integration to Unified Automation System Portal

Following applications will be integrated in the proposed solution. The Service Provider will be assisted by OSEPA for understanding below mentioned applications. In the future if OSEPA will plan to integrate with any other application then that also be integrated with the proposed solution. The number of maximum external integration should be **15** and that is inside the scope of the SP.

#	Name of the Application	User Department
a)	BSE (O) Application	S&ME and BSE(O)
b)	SAMS	S&ME, HE, SD&TE and Sports
c)	Odisha Scholarship Portal	S&ME, HE, SD&TE, Sports, L&ESI and ST&SC
d)	UDISE +	GOI
e)	Odisha One	E & IT, OCAC
f)	Command control Centre	S&ME, OSEPA
g)	HST Portal	S&ME, OSEPA

2.5   Data Migration

During development/ customization/ configuration of the new application, Service Provider needs to migrate master data from the existing databases to the proposed new database, based on agreed conditions for the type, period and volume of data that needs to be migrated. Data migration performed by Service Provider shall be preceded by an appropriate Data Migration Strategy and Methodology which should be prepared by Service Provider and approved by OCAC/ OSEPA.

Data migration should be carried out as per industry standard practice and all care must be taken to log in each error. The following activities will be carried out as part of the data migration:

a) Service Provider will be provided access to the databases of the existing systems. Service Provider will be responsible for data extraction, normalization & migration of master data to the new system.

b) Ensure accuracy and completeness of the migrated data.

2.6 Capacity Building & Go-Live

a) Service Provider is required to undertake training in Train-the-Trainer mode.

b) 2 days Overview Training to be conducted at State Headquarter, District Headquarter & Block Headquarter for respective officials and application users

c) OCAC/ OSEPA will facilitate the training space & related logistics i.e. Physical and IT infrastructure for attendees during the Capacity Building Session

d) The schedule / training calendar and the training material for imparting training shall be developed by the Service Provider in consultation with OCAC and OSEPA.

e) The Service Provider shall submit a copy of the Training material to OCAC before training session.

f) If required, Service Provider may conduct the training on virtual mode as well.

2.6.1 *Online Help / Reference with Search Option*

a) It is also proposed that **the training contents / user manuals be made available to users in downloadable (PDF) format** so that the users may refer / download for their own personal reference as and when needed.

b) It is required that the downloadable training content should have proper indexing and internal references, mapped with key words, in order to allow any user to search and reach the desired content with the help of key words.

c) Training Content may also be available online so as to keep the Users abreast with the latest changes in the application from time to time.

2.7 Software Tools and Licenses

Service Provider shall procure the necessary Data Analytics tool for the project in name of OSEPA. Renewal of Licenses (if any) after completion of project tenure shall be taken care by OSEPA.

2.8 Operations Unit for Training, Capacity building and Handholding: Onsite at OSEPA office.

Service Provider shall deploy a dedicated operation and capacity building unit at the head quarter of OSEPA for training, capacity building, and handholding support. **One Program Manager and Six (6 nos.) Trainers-cum-Support Executive to be deployed for a period of 2 years from the date of UAT**. This unit will provide necessary support capacity building training to school users as well as other end users. This team can travel to different districts as well to provide necessary training. This resource shall be the first point of contact for the concerned stakeholders for resolving all application related incidents through service requests. It aims to restore normal service operation as quickly as possible and minimize the adverse effect on business operations and ensuring best possible levels of service-quality and availability.

The above resource will function in all government working days/hours or as desired with mutual agreement. Typical responsibilities of Service Provider to include

a) Provide training / refresher training to the users.

b) Attend user queries about application on functionality issues

c) Co-ordinate with backend support team for all types of issues / redressal in relation to the application software.

d) Provide administrative support for creating and maintaining user profiles, granting user access and authorization, providing ongoing user password support

e) Furnish periodic report on number of issues received and resolved, related to software

f) Provide support to users through coordination of OCAC/ OSEPA

g) Troubleshooting through remote support for smooth functioning of the application

2.8.1 *Capacity Building Team structure:*

#	Resource Type	Place of deployment	Qty	Duration
1	**Program Manager:** Lead the team, plan the training and capacity building plan, coordinate with stack holders for smooth execution.	State Head Quarter	one	24 Months
2	**Trainer-cum-Support Executive:** Provide training, Coordination with Cluster, Data Entry Status, Issue Resolution Status, Process Training, Implementation Status, Visit to Clusters to monitor progress/ Issues and Training, Periodical Block Status Report	State Head quarter and also travel to district as and when required.	six	24 months

2.8.2 *Team – Qualification & Experience for Capacity Building*

#	Resource Type	Qualification	Work Experience (no. of years)
1.	**Program Manager**	MCA/MBA/BE/ B. Tech	Minimum 5 years of work experience on the same field and domain as a Program / Project Manager.
2.	**Trainer-cum-Support Executive:**	Any Graduate/ Post Graduate/ MCA/ MBA/ BE/ B. Tech	Minimum 2 years of work experience on the same field and domain as a trainer.

2.9 Post Implementation Support

a) Service Provider shall provide annual support for a period of **3 years** during Post Implementation Phase after Go-Live. And that can be extended for another 2 years upon satisfactory performance on the same derived rate on approval.

b) Application support includes monitoring, troubleshooting and addressing the availability and performance issues, implementing the change management etc.

c) Service Provider shall keep the application software in good working order, perform changes (as per change management) and upgrades to applications as requested by OSEPA, S&ME and OCAC.

d) Service Provider shall address all errors / bugs of the solution implemented (vis-à-vis the approved FRS) without any additional cost during the support phase.

e) All patches and upgrades of OEM licenses (if any) supplied by the Service Provider under this project shall be implemented by the Service Provider ensuring customization done in the solution is as per OCAC's requirements.

f) Issue log for errors and bugs identified in the solution and any change done in the solution shall be maintained by Service Provider and periodically submitted with OCAC.

g) Periodical Report about Progress in the Project to be submitted with OCAC/ OSEPA highlighting Tasks Accomplished, In Progress, Not Started, Expected Time of Completion, Issues faced during the period and resolution status thereof, Risks/ Assumptions/ Mitigation points, Lessons learnt etc. This report to be submitted with OCAC/ OSEPA periodically. Key Contact Persons involved in the Project should be recipients of the Periodical Progress Report.

2.10 Team Structure During development, implementations and O&M period: ONSITE / OFFSITE

The SI need to follow Following Team structure during the project period:

#	Resource Type	Onsite/ Offsite	Qty	Duration
1.	Program Manager	Onsite at OSEPA office	1	36 months
2.	System Analyst	Onsite at OSEPA office	2	12 months
3.	Business Analyst	Onsite at OSEPA office	2	12 months
4.	Technical Solution Architect	Offsite	1	36 months
5.	Database Architect	Offsite	1	36 months
6.	Database Programmer	Offsite	2	12 months
7.	Network Specialist	Offsite	1	12 months
8.	Sr. Developer	Offsite	3	12 months
9.	Testing Executive	Offsite	3	12 months

2.11 Team – Qualification & Experience

#	Resource Type	Qualification	Work Experience (no. of years)	Remarks
1.	Program Manager	BE/ B. Tech/ MCA	20	Qualification (Non-Computer Science) with higher relevant work experience will be considered
2.	Technical Solution Architect	BE/ B. Tech/ MCA	16	Qualification (Non-Computer Science) with higher relevant work experience will be considered
3.	Database Architect	BE/ B. Tech/ MCA	12	Qualification (Non-Computer Science) with higher relevant work experience will be considered
4.	Database Programmer	BE/ B. Tech/ MCA	6	Qualification (Non-Computer Science) with higher relevant work experience will be considered
5.	Network Specialist	BE/ B. Tech/ MCA	10	Qualification (Non-Computer Science) with higher relevant work experience will be considered
6.	Sr. Developer	BE/ B. Tech/ MCA	10	Qualification (Non-Computer Science) with higher relevant work experience will be considered
7.	Testing Executive	BE/ B. Tech/ MCA	6	Qualification (Non-Computer Science) with higher relevant work experience will be considered

2.12 Adherence to Standards

The system shall comply with relevant defined industry standards wherever applicable. This will apply to all relevant aspects of the solution including but not limited to its design, development, security, installation, and testing. The suggested architecture must be scalable and flexible for modular expansion. It should ensure ease of integration with software / applications developed using common industry standards since the solution may be linked and connected to other sources (websites, contents, portals, systems of other user departments etc.) including loose/ tight integration with backend systems of other departments depending on individual service processes. The solution architecture should thus have provision to cater to the evolving requirements of OSEPA.

A reference list of the minimum industry standards which the system components should adhere is mentioned below:

Component	Standards
Information Access / Transfer Protocols	SOAP, HTTP/HTTPS
Interoperability	Web Services, Open Standards
Portal Development	W3C Specifications
Document encryption	PKCS specification
Information Security	ISO 27001 certified System
Operation	ISO 9001 Certified
Service Management	ISO 20000 specifications or latest
Project Documentation	IEEE/ CMM/ ISO Specifications for documentation
Data Standards	All-important data entities should be in line with standards published by MeiTY.

2.13 Security, Integrity & Confidentiality

a) *Web Services Security:* System shall comply with all the Web Services including routing, management, publication and discovery which should be carried out in a secured manner. Data Encryption at Application level and SSL security at Server level is essential.

b) *Data Integrity and Confidentiality:* Data integrity techniques need to be deployed to ensure that information has not been altered, or modified during transmission without detection. Audit Trail should be embedded in the application for all bona fide users

c) *Transactions and Communication:* With respect to the Data Transactions and Communication, system needs to ensure that the business processes are executed properly and flow of operations are executed as per configured workflow, application accessed by bona fide users with valid signatures.

d) *Non-Repudiation Security:* The application shall have the non-repudiation security services to protect a party to a transaction against false denial of the occurrence of that transaction by another party. End-to-End Integrity and Confidentiality of Messages. The integrity and confidentiality of messages must be ensured even in the presence of intermediaries.

e) *Database Controls:* The database controls for online transaction processing systems such as direct access to database, access to database through application, access to log files, access by the remote terminals, DBA controls, Backup / restore policies and procedures.

2.14 Change Management Procedure

The purpose of Change Management is to ensure the agility of the newly developed applications to embrace the business changes in hassle free manner. Following are the indicative scope for change request.

  a) Application enhancement that will impact the business process and database
  b) Development of new forms and reports
  c) New integration features
  d) Maintaining version of the code & artifacts for configuration management, audit and future reference.
  e) Provide refresher training if needed for the change implemented in the system

OSEPA shall nominate a single point of contact who will coordinate with the Service Provider for changes or suggestions received from end users. Required servers, software licenses, network, computing infrastructure etc. for creation of development environment, staging environment and production environment will be the responsibility of the Service Provider with the necessary support of OCAC.

Deployment/ Customization/ Configuration of the application will be done as per approved FRS/ SRS. Thereafter, any change requests received from OSEPA during the Support period will be implemented by the Service Provider at extra cost based on agreed terms and conditions.

There should be a Web based Ticketing Tool to raise, execute, monitor and close through the application. It should be accessible to the relevant stakeholders during the tenure of the project.

2.15 Exit Plan

  a) The selected firm will provide systematic Exit Plan and conduct proper knowledge transfer process to handover operations to Technical Team in Production Environment at least three months before project closure. All knowledge transfers should be documented.
  b) Service Provider will ensure capacity building of Technical Team nominated by OCAC/ OSEPA on different documentation on maintenance of the application software and IT infrastructure (if any) provided under this contract.

2.16 Project Documentation

The Service Provider will share below list of documents to OCAC during the project contract period.
  a) Latest version of Source Code
  b) Functional Requirement Specification (FRS)
  c) Software Requirement Specification (SRS)
  d) Project Plan
  e) Safe-to-host certificate
  f) Issue Logs
  g) Data Migration Report
  h) User Training Manual
  i) Application Installation & Configuration Manual
  j) Report of Security Audit & Safe-to-Host Certificate
  k) Project Management documents defined under Timeline & Tentative Deliverables
  l) Project Progress Report

All the above documentation should be done as per IEEE/ISO/CMM Standard

3   Functional Requirements

The application is aimed at leveraging data and technology to bring a big leap in learning outcomes. This can cover data from various schools, other entities and analyze those meaningfully using big data analysis, machine learning etc. to enhance overall monitoring of the education system and thereby improving the learning outcomes. Below are the functional requirements for the proposed application. The below mentioned list of functionalities is indicative in nature and may change during the requirement study phase.

School

- School Registration
- Infrastructure
- Project Monitoring
- School Monitoring
- Exam Result (Board)
- Admissions (SAMS)
- Asset Tracking
- Inventory

- School Evaluation
- Grant & Fund Management
- Grievance Redressal
- Mid-Day Meal Management
- Event Management
- Social Audit
- e-Learning

Student

- Student Registration
- Student Profile
- Student Health
- Student Attendance
- Library
- Student Leave
- Student Dropout
- Examination

- Student Transfer
- Student Promotion
- Student Exit, Transfer Certificate
- School Leaving Certificate
- Parent Portal

Teacher

- Teacher Registration
- Teacher Profile
- Teacher Attendance
- Leave Management

- Transfer
- Promotion
- Training & Development
- Time Table

Indicators

- Classroom – Student Ratio
- Teacher-Pupil Ratio
- Student Gender Ratio
- Teacher Gender Ratio
- Dropout Statistics
- Student Transition
- Mid-day Meal Attendance vs. Class Attendance
- DBT Reports
- Learning Level Outcomes – Subject level, Performance across Academic Years

3.1.1 *School Registration*

#	Features/ Requirement
a)	School Information, Login by School Headmaster, View Access to District Education Officer
b)	Allocation of School Registration No. to each School, School ID generated by the System
c)	The system shall have the provision for capturing geo location of the establishment of the school in different location.

3.1.2 *Admission Process*

#	Features/ Requirement
a)	This module will cover the admission process of student's enrolment / registration of students, uploading of student's documents / certificates etc., allocate unique student id, provision to generate ID Card
b)	The proposed admission process should also have a provision to upload the bulk master data of students captured in the excel sheet.

3.1.3 *Examination Process*

#	Features/ Requirement
a)	Prepare an examination schedule for every classroom, send notification to parents, keep evaluation / result records, and help class teachers to prepare a progress report at the end of academic year. Unit tests periodically and record results.

3.1.4 *Asset Management*

#	Features/ Requirement
a)	System should be able to capture the infrastructure details available at every School like number of classrooms, number of benches, IT lab (if any), Computer System, Number of Girls Toilet and Boys Toilet, stationary details etc. It should generate Analytical Reports regarding Assets available at Schools. Asset should be tracked from Procurement till Depreciation Statement is generated

3.1.5 *Inventory Management*

#	Features/ Requirement
a)	System should be able to maintain the Inventory Register for items like ICT Labs/Smart Class, Library Books, Furniture for Teacher and Student Benches, Almirah, Bookshelves, Black board, etc. Inventory module should include capturing details of the Invoice, prepare MRN, Issue items, maintain Stock, perform Annual Stock checking etc. Basic classification of Capital and Revenue Items should be available in the system.

3.1.6 *5T High School Transformation*

#	Features/ Requirement
a)	Asset Management
b)	Science Laboratory Management
c)	Computer Laboratory Management
d)	Sports Management
e)	Green School Management
f)	Drinking Water Facility Management
g)	Smart Classroom Management
h)	Co-curricular and Extra-curricular Information System
i)	Blended Learning
j)	e-Library Management
k)	Student Project Work Management
l)	Integration with MadhuApp and Siksha Darpan
m)	Hostel Management
n)	House System
o)	Facility Management
p)	PTM Management
q)	Alumni Management
r)	School Awards and Incentives Management
s)	Dashboards for relevant Stakeholders

3.1.7 *Grievance Redressal System*

#	Features/ Requirement
t)	System should have a provision for students / parents to register grievance and School can see the dashboard of such grievances and take an appropriate action, along with tracking of grievance. MIS for the same should be generated which includes Action Taken on Grievance raised till disposal of the same.

3.1.8 *Grant & Fund Management*

#	Features/ Requirement
a)	The system shall have the provision to add, view and edit the grants and types of grants by the designated authorized user
b)	The System should be able to record the grants received and discussed or utilized for each school. Details of grant utilization should be maintained by the System

3.1.9 *Scholarship*

#	Features/ Requirement
a)	It will help to keep track students who are receiving any scholarships from the government or any other organization. Analytical Visualization should be generated

3.1.10 *Mid-Day Meal Management*

#	Features/ Requirement
a)	School Level Department should be able allocate the food items to school students in the system, schedule meal management as well as track status of consumption for daily meals

3.1.11 *School Events and Award Management:*

#	Features/ Requirement
a)	Inter school and intra school events can be managed from registration till conclusion of the events covering all academics and non-academics awards and recognitions. Ex: CM award for education at state / District / Block / Scholl level. The system should have the provision to set the rubrics and indicators.

3.1.12 *School Evaluation*

#	Features/ Requirement
a)	The System should generate student results, school infrastructure details, student attendance, teacher attendance and necessary parameters used for evaluation of school by OSEPA
b)	The System should facilitate in assigning composite score to each school basis a pre-defined arithmetic on weighted scores associated with each audited/inspected parameter as per OSEPA requirements as well as award Grade / Ranking of Schools based on KPIs

3.1.13 *Teacher Registration*

#	Features/ Requirement
a)	The system shall have provision to login for both teaching FC/ NC/ Non-teaching staff and new teacher registration.
b)	The system shall have provision to encompass information about all teachers working in the state of Odisha, either in govt. or govt. aided or unaided or partially aided or self-finance Schools across the state. The said information should be verified in the secured and authenticated system for use by OSEPA.

3.1.14 *Teacher Allocation module*

#	Features/ Requirement
a)	The system shall have provision to perform various administrative tasks like teachers' mapping with School, teacher deployment block wise, cluster wise, district wise, division wise collaboratively on the go

3.1.15 *Teacher Training and Development module*

#	Features/ Requirement
a)	The system shall have provision for teacher to enroll for training as per his/ her choice
b)	The system shall have provision to analyze the progress path and compatibility of the teacher as per his/ her latest academic skills. It should allow teachers to request for domain training and accept training feedback too. It should have provision to access e-content platform

3.1.16 *Teacher Leave Management*

#	Features/ Requirement
a)	This module shall act as a repository of all the service records of the employees/ teacher of government, in aided and partially aided School.
b)	Employee shall login using his/ her user id and password for various functions related to his/ her service like, an employee may apply for leave, approve leave (for administrators) or send their reports, requests, or grievances
c)	The system shall have the option for managing and tracking leaves type, view leave entitlement, apply leave, and leave status and approval.
d)	This module shall automatically prepare all accounts and registers of an employee, like Service Book, Leave Account, Loan Account, Salary Account, Incumbency Chart etc.

3.1.17 *Teacher's Development/ In-service training*

#	Features/ Requirement
a)	The System shall have provision for teachers to raise a Training Request
b)	The System should allow administrator / OSEPA to select FC / NC / Nominate teacher for training
c)	The system shall have provision for Self-Assessment form for teachers as well as generate list of promotes.

3.1.18 *Time Table Module*

#	Features/Requirement
a)	The system shall have the functionality to manage multiple timetables at a time (Class/ Exam) with the following views, namely, Class View, Teacher View, Headmaster View

3.1.19 *Student Admission/ Enrolment*

#	Features/ Requirement
a)	The system shall allow Headmaster to enroll a student, Add/ Update/ View Student Details and Delete Student. Once added, headmaster should approve to add the Student in the system
b)	Teacher/ Headmaster should be able to search and get the list of New Student Entries every Academic year
c)	The system shall have the functionality to upload, download and fill the form.

3.1.20 *Student Profile Management*

#	Features/ Requirement
a)	There shall be option to Manage Student Records (Add/ Edit/ View)

3.1.21 *Attendance and Leave Management system*

#	Features/ Requirement
a)	The system shall maintain an Online Attendance Status and Leave Management to track the attendance
b)	Reports shall be available every month for every student and teacher

3.1.22 *Student Transfer*

#	Features/ Requirement
a)	This module will help School and students to de-register a student from one School and reregister in another School
b)	Necessary information of students can be transferred from the old School to new School
c)	However, the system should keep track of such transfers and both the Schools should be able to fetch the student's records. It should also provide search on Unique ID / Aadhar No.
d)	The system shall have provision for managing and generation report for Mid-session transfer, Transfer Certificate for Dropout

3.1.23 *Exam Result*

#	Features/Requirement
a)	The system shall have the provision for capturing Examination Details of Students, category-wise

3.1.24 *Student Promotion*

#	Features/ Requirement
a)	The school administration will be able to promote the students to next class, with auto promotion for Classes I through VIII and based on performance for Classes IX through XII

3.1.25 *Student Exit and Issuance of Transfer certificate*

#	Features/ Requirement
a)	SLC (School Leaving Certificate) should be generated by the System and given to the Students
b)	System should have records of such students for life time along with the LC issued to student.

3.1.26 *Parents Management Module*

#	Features/ Requirement
a)	The system shall allow parents to register in the system with Aadhaar, Email id and Mobile number and get insight on Assignment/ Homework/ Parent-Teacher meetings, attendance, view notifications, fee receipt downloads, important dates etc.
b)	Student/ Parents should have the provision for uploading the Homework Answer sheets in the portal which can be validated by teachers.

3.1.27 *e-Learning Platform for Student*

#	Features/ Requirement
a)	The proposed application should have an in-built e-learning platform for the students.
b)	System should allow the teachers to upload content that can be referred by students
c)	The e-learning platform should have access control mechanism for publication of contents
d)	Any kind of Content (in form of Text, Audio & Video) should be upload-able in the e-learning platform

3.1.28 *Library Management*

#	Features/Requirement
a)	Manage the library online for registration, issue, receive, maintain stock etc. with easy access to books, magazines etc. and generate customized reports for library inventory and fines

3.1.29 *Student Assessment Result*

#	Features/ Requirement
a)	The system shall have the option to maintain Examination records, Examination Schedule and Generation of Examination Report Card, Student's Exam Report Cards along with Performance Analysis of Students after each exam
b)	Students shall be able to attempt scheduled class tests as well as get notified for the schedule and marks obtained along with corrected answer sheet

3.1.30 *Student Health Checkup*

#	Features/ Requirement
a)	The system shall have provision to capture health check-up data of Students
b)	System should allow to capture status if any Nutrition Counselling or Blood Test of Student is done at School

3.1.31 *Student Dropout*

#	Features/ Requirement
a)	The system shall have the provision to track Dropout status of Students
b)	The system shall have the provision to allow dropout students to continue their studies later in case required after a gap as per policy

3.1.32 *Social Audit*

#	Features/ Requirement
a)	System shall have the option to record performance of school, school assets status, and other aspects through social audit template.
b)	System shall have provision to schedule and organize quarterly/ half-yearly social audit activity.
c)	System shall have option to linkages to analytics tool to generate school performance score card on periodic basis.

3.1.33 *Mobile Application*

The system should have a comprehensive mobile application which will be accessed by the stakeholders to achieve following functionalities.

#	Features/ Requirement
a)	The system shall have the provision for multiple operations in mobile application for teachers as well as students / parents. It should enable a better workflow for users to manage the system in a better way. Features such as attendance, leave application, result entry, school inspection etc., that enable users to access information to assist in decision making and make the system more efficient
b)	Provision for accessing mobile app in both Android and iOS Platform
c)	Relevant User should be able to view various dashboards and reports through mobile application

3.1.34 *Chatbot*

#	Features/ Requirement
a)	Help public and OSEPA users for faster query and response of the FAQs
b)	Capability for analyzing requests and prepare its response
c)	Should understand user requests and extract structured information from their message.

3.1.35 *Analytical Dashboard*

The Service Provider shall provide an analytical tool to perform various analytics on the data available in the application. The analytical dashboard should enable state as well as OSEPA authorities to view dynamic reports in graphical and tabular manner. The tool should have the capability to perform following type of analysis:

a) School Analytics for Student Strength, Boys vs. Girls Ratio, Classroom Pupil Ratio, Infrastructure etc.

b) Student Analytics for category, gender ratio, attendance, events, health, exam performance etc.
c) Teacher Analytics for attendance, timetable, leaves, student performance, training etc.
d) Analytics on Education Indicators
e) Multi-year Analytics
f) Mid-day Meal and other Schemes

The proposed tool shall cater to the below functionalities:

Data Analytics

#	Functional Requirements
a)	Provision to generate turnaround time wise report, department wise report etc.
b)	The solution should provide easy-to-use ad hoc query and analysis.
c)	Users should be able to drill, pivot, and filter their data directly on a dashboard, while a rich set of prompts and powerful intuitive interactions.
d)	Users should be able to see information filtered and personalized based on their identity, function, or role processed via predefined security rules.
e)	The Analytics tool should generate dynamic report
f)	The Analytics platform should provide a powerful, near-real-time, multistep alert engine that can trigger workflows based on business events and notify stakeholders via their preferred medium and channel.

3.1.35.1 Dashboard

#	Functional Requirements
a)	System shall have the provision to classify the dashboard based on User Profile / Role and governance hierarchy. Option to customize to the level of Teachers, Head Teachers and various stakeholders of OSEPA.
b)	System shall also have the provision for public dashboard for student and parents with control on data access through respective login IDs
c)	The system shall have the option to generate the Statistics/ Graphical overview of functional and Key Performance Indicators.
d)	System shall have the option to display Key Performance Indicators (KPIs), Key highlights and announcements – Department wide or School-specific i.e. State level to school level.
e)	System shall have the provision to showcase the dynamic report of Performance Grading Index (PGI) and Sustainable Development Goals (SDGs) indicators (state level to school level).
f)	System shall have the provision to display the current status of the infrastructure facility in the school.

3.1.35.2 MIS Reports

#	Functional Requirements
a)	The system shall have the provision to generate login-based MIS report across the hierarchy for decision making and monitoring the progress of school/ dept. for performance and implementation of interventions.
b)	System shall have the option to generate **Static MIS Reports** for standardized templates and generate reports.
c)	System shall have the provision to generate **Dynamic MIS Reports** as required for officials of governance hierarchy and will be accessible by the Control & Command Center.

4 Expected Project Timeline:

Sl#	Activity	Tentative Deliverables	Timeline
a.	System Study & Prototype Design	− Detailed Project Plan with Team Structure − Point of Contact − FSR/SRS Document − Screen prototypes	T+4 Weeks
b.	Design, Development & Deployment on Staging	− Hosting in staging environment	T+ 16 Weeks
c.	Users Training & UAT	− Test Plans & Test Cases − Training to users and provide training completion report. − UAT certificate − Operation Manual − FAQs − Load Testing report	T + 20 weeks
d.	Go-live	− Movement of application from Staging to Production environment − Safe to host certificate issued by Cert-in empaneled firm − SSL Incorporation	T+ 24 Weeks
e.	Operation & Maintenance	− Issue Logs − Quarterly Activities report	Three years from the date of Go-live
f.	Hand holding and Capacity Building Team deployment	− Monthly Attendance Sheet	Two years from the date of UAT

5   Payment Terms:

Sl#	Milestone	Deliverables	Payment Terms
a)	Study	– Submission of Project plan, System Requirement Study document, SRS Approval	20% of the development cost
b)	Design, Development & UAT	– UAT Certificate by OSEPA	30% of the development cost
c)	Go-Live	– Completion of training – Security audit certificate by CERT-In empaneled auditor – Uploading of FAQ and ICT material in the website – Hosting of application on the production server	30% of the Development cost
d)	Successful Implementations	– Activity report from the date of Go-live. – Report of successfully running on all Schools.	20% of the Development cost After Successfully running of **6 months** from the date of Go-Live
e)	Cyber Security Audit	– Safe to Host Certificate	100% payment on submission of Safe-To-Host Certificate
f)	SSL certificate	– Configuration Report	100% payment on submission of configuration report
g)	Application Maintenance Support	1. Quarterly Project Status Reports 2. Issue Logs 3. Exit Plan Documentation	100% of the Application Maintenance Support cost equally divided by 12 quarters
h)	Resource cost	– Monthly activity report for that particular billing cycle	Quoted cost equally divided by 8 quarters.

OEM License

Sl#	Milestone	Deliverables	Payment Terms
a)	Supply of tool and license with 1st year Annual Technical Support	OEM License certificate in name of OSEPA	100% of the quoted cost
b)	2nd, & 3rd, year Annual Technical Support of the supplied tools and license	Documentary evidence on support of renewal	100% of the yearly quoted cost at the beginning of respective year

6   Service Level & Penalty:

Only the following clause is valid for Service Level & Penalty.

If the selected bidder fails to achieve the below scope of work within the corresponding Delivery Period and any extension thereof, unless such failure is due to force majeure situation or due to OCAC's default, penalty shall be imposed by OCAC on the selected bidder.

If at any time during the Contract, the selected bidder should encounter conditions impending timely performance of service, the selected bidder shall promptly notify to OCAC in writing of the fact of the delay and its likely duration along its cause(s). As soon as practicable after receipt of the selected bidder's notice, OCAC shall evaluate the situation and may at its discretion waive the penalty on the request of the selected bidder.

Sl#	Major Area	Parameter	Requirements	Penalty
a)	Development & Implementation	Major milestone during development and implementation as per project timeline.	As per project timeline	Rs. 500/- per day delay
b)	Response time for bug fixing	Time taken (after the request has been informed) to acknowledge problem	Within 24 hours from the time the bug is reported.	Rs. 100/- per hour delay
c)	Resolution Time (Only for Bug fixing)	Time taken by the service provider to fix the problem	Problems with severity within 48 hours from the time of reporting.	Rs. 500/- per hour delay
d)	Resource Deployment	Start of service	As per project timeline	Rs. 200/- per day delay

In case, the delay is more than 24 weeks and the cause of delay is attributable to Service Provider, authority reserves right to increase the penalty value and/ or take appropriate action against the bidder such as cancellation of contract etc.

<u>**Application Availability:**</u>

The Application covering all the features shall remain operational during the scheduled operation time

Measurement	Reporting Period	Target	Penalty
Daily	Monthly	> 98%	Nil
		> 95% but <98%	0.5% of Quarterly billed value of Application Maintenance Support
		> 90% but <95%	1.0% of Quarterly billed value of Application Maintenance Support
		<90%	2.0 % of Quarterly billed value of Application Maintenance Support

a) Performance of system refers to the proper and timely functioning of the system's functionalities. The application should be available and performing as per functionalities

b) The non-availability for application service is measured on monthly basis and excluding the scheduled maintenance shutdown and incidents.

c) Application availability and performance will be monitored and reports will be generated as per the monitoring system deployed at OSDC.

6.1 General Conditions

a) Payment schedule - Payments to the bidder/authorized partner, after successful completion of the target milestones (including specified project deliverables), would be made as under: -

b) The supplier's/ selected bidder's request for payment shall be made to the purchaser in writing, accompanied by invoices describing, as appropriate, the goods delivered and related services performed, and by the required documents submitted pursuant to general conditions of the contract and upon fulfilment of all the obligations stipulated in the Contract.

c) Approved Project Plan/ Schedule, Change Request Log, Issue Log should form the basis of release of payments. Any impediment foreseen in smooth release of payment should be covered under Risks and Assumptions. Any deviation from the agreed terms and conditions should be communicated by either party in writing so as to build trustworthy relationship during and after the course of the project

d) Due payments shall be made promptly by the purchaser, generally within thirty (30) days after submission of an invoice or request for payment by the supplier/ selected bidder/authorized partner, and the purchaser has accepted it.

e) The currency or currencies in which payments shall be made to the supplier/ selected bidder under this Contract shall be Indian Rupees (INR) only.

f) All remittance charges will be borne by the supplier/ selected bidder/authorized partner.

g) In case of disputed items, the disputed amount shall be withheld and will be paid only after settlement of the dispute. Resolution of the dispute should be as per agreed terms, preferably recorded and made part of Project Documentation

h) Any penalties/ liquidated damages, as applicable, for delay and non-performance, as mentioned in this bidding document, will be deducted from the payments for the respective milestones.

i) Taxes, as applicable, will be deducted/ paid, as per the prevalent rules and regulations at the time of billing. Legitimate payment shall be made within 30 working days of the receipt of invoice along with supporting documents subject to penalties, if any.