

*Tender Reference: NPTEL/ANDR/064/2019*

# Request for Proposals for Cloud PAAS Provider for SWAYAM 2.0

Indian Institute of Technology Madras

Through National Programme on Technology Enhanced Learning (NPTEL)

## **Disclaimer**

*The information contained in this document or subsequently provided to Bidder(s), in documentary form by the Institute, shall be subject to the terms and conditions set out in the Terms of Reference Document and all other terms and conditions subject to which such information is provided. The purpose of this document is to provide the Bidder(s) with information to assist the formulation of their Proposals. This document does not purport to contain all the information each Bidder may require. This document may not be appropriate for all persons, as it is not possible for the Institute, to consider the investment objectives, financial situation and particular needs of each Bidder who uses this document. Each Bidder should conduct its own homework and analysis and should check the accuracy, reliability and completeness of the information in this document and wherever necessary obtain independent advice from appropriate sources. The Institute makes no representation or warranty and shall incur no liability under any law, statute, rules or regulations as to the accuracy, reliability or completeness of this document. The Institute may in its discretion, but without being under any obligation to do so, update, amend or supplement the information in this document.*

*This Tender is not an offer by the Indian Institute of Technology Madras but an invitation to receive bids from vendors. No contractual obligation whatsoever shall arise from the tender process unless and until a formal contract is signed and executed by duly authorized office bearers of the NPTEL organizing team of Indian Institute of Technology Madras with the vendor.*

# Summary and Tender Notice

## **Indian Institute of Technology Madras (NPTEL)**

Tenders are invited from reputed Agencies based in India to act as a Cloud PAAS Provider (CPP) for the SWAYAM 2.0 MOOC application.

Interested Bidders eligible as per qualification criteria may submit their response to the RFP latest by **14/03/2019 till 02:00 p.m** by Courier or In Person to the following address:

Senior Manager,  
Project Purchase section  
IC&SR building (2nd floor)  
IIT Madras  
Chennai 600036

The detailed RFP document can be obtained from <https://tenders.iitm.ac.in/> and <https://eprocure.gov.in/epublish/app>

Yours sincerely,

**V. Sathyanarayanan**

# Important Dates

**Date, Time and Venue of Pre-Bid Meeting:**

28.02.2019 – Thursday, 3pm IC&SR building (Annex hall), IIT Madras

**Deadline for submission of tender**

14.03.2019 – Thursday, 2pm IC&SR building, IIT Madras

**Date, Time and Venue of Opening of Technical Bids:**

14.03.2019 – Thursday, 4pm IC&SR building, IIT Madras

**Date, Time and Venue for Demonstration/Presentation/Testing:**

**(Eligible and shortlisted vendors only will be invited)**

28.03.2019 – Thursday, 10am IC&SR building (Annex hall), IIT Madras

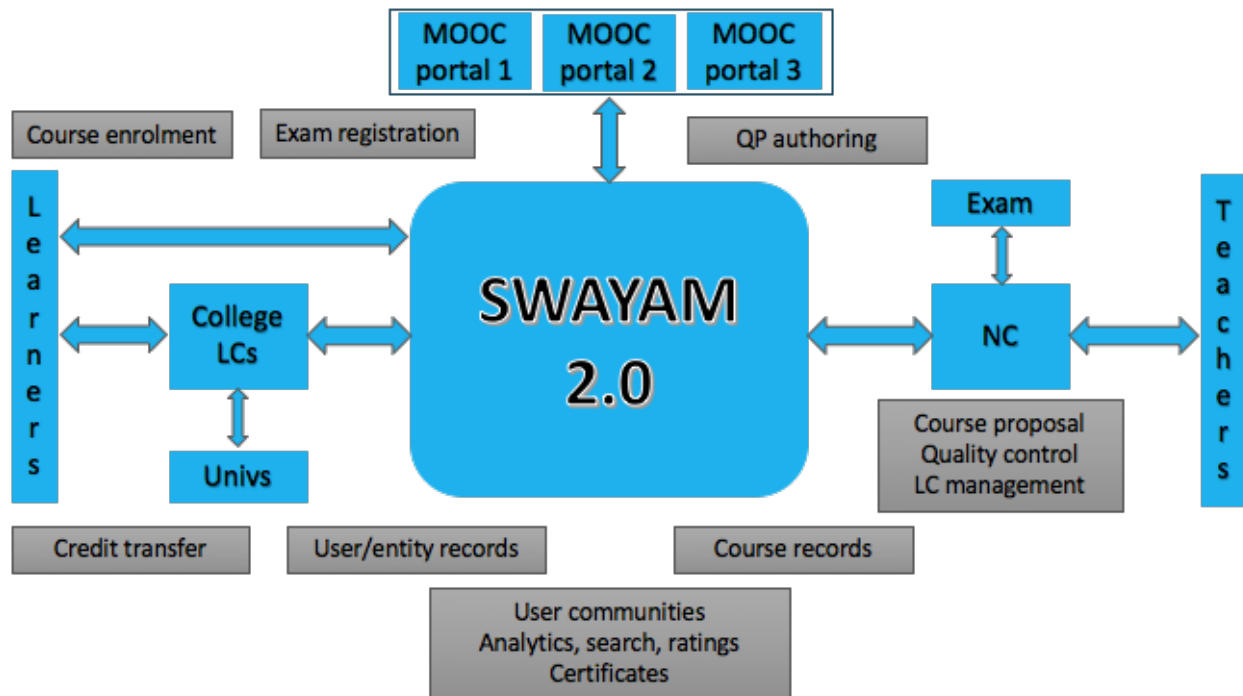
# 1. Introduction

## 1.1 Background

The vision of SWAYAM is to build a national MOOCs portal for India on which learners from school level to post-graduate level can learn. The current SWAYAM portal is at [swayam.gov.in](http://swayam.gov.in). The next generation of SWAYAM is called SWAYAM 2.0. SWAYAM 2.0 will have a single portal for users to enter the system and for record keeping, while allowing a choice of different backend MOOC platforms for different courses.

Multiple National MOOCs Coordinators (NMCs) have been identified to coordinate the offering of courses targeting specific group of learners such as school students, UG/PG students in engineering, UG students in arts/science/humanities/management, PG students, school teachers, college teachers etc. The NMCs identify faculty (Course Coordinators) who create course content, load the content onto the portal and run the course. Learners from across the country (or anywhere in the world) register in the portal and enrol to the courses for learning. Colleges establish SWAYAM local chapters for interacting with the NMCs during the course run and afterwards. NMCs conduct exams for their online courses and provide certificates to learners. Students in universities can earn credit for their registered degree programme through SWAYAM.

The picture below captures the major users of SWAYAM and their interaction with the proposed SWAYAM 2.0 from a high level.

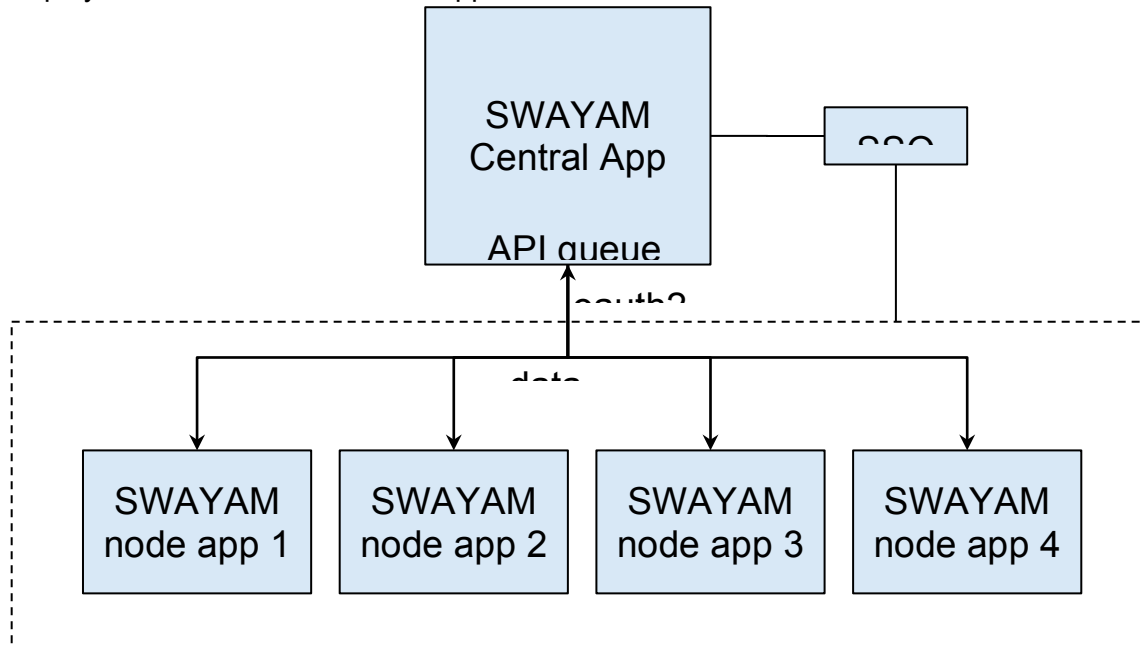


Some highlights:

- Number of registered users:
- Number of courses currently offered every semester:

## 1.2 SWAYAM 2.0 application

The SWAYAM 2.0 application consists of a SWAYAM Central Application and multiple deployments of SWAYAM Node Applications that are connected as shown below.



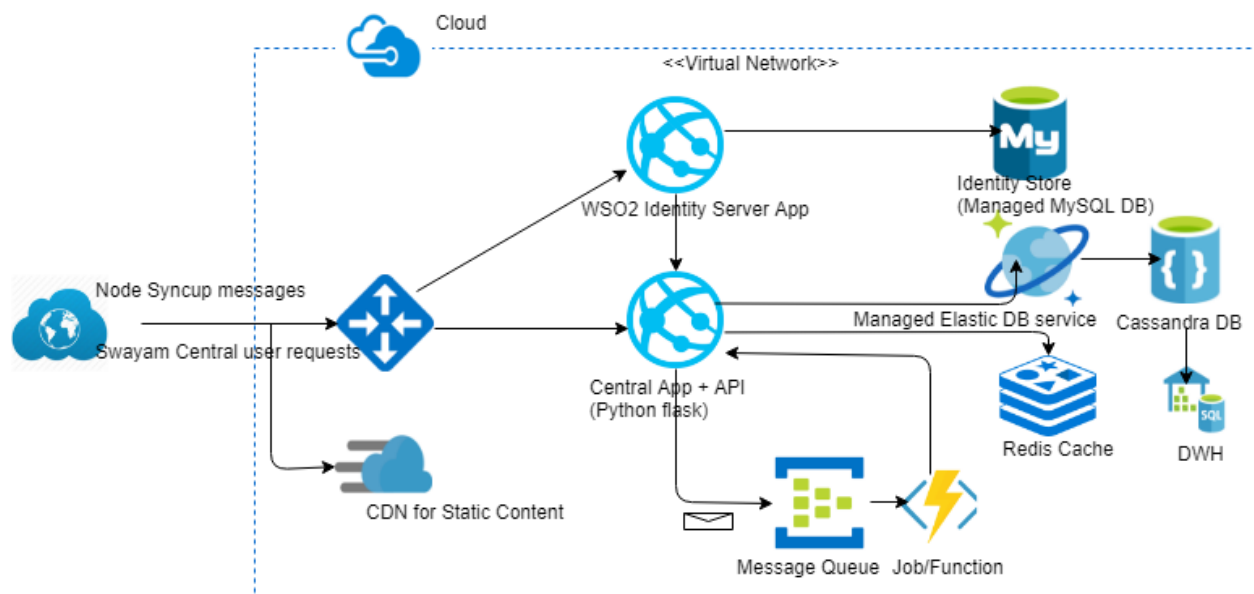
All users are authenticated against a single sign-on (SSO) service. The node applications and central application communicate through data sync and API queue modules with authentication.

### 1.2.1 SWAYAM node application

A SWAYAM node application is a MOOC portal - used by teachers to create and deliver content, by learners to enrol and consume courses. Each node instance will be used by one or more national MOOCs coordinator of SWAYAM.

### 1.2.2 SWAYAM central application

The SWAYAM central application has the following architecture.



SWAYAM central is available as a Python flask application with various components and modules as shown above. The icons are from the Azure public cloud service and used for representational purpose only. The names of the individual components are generic and expected to be available as PAAS on cloud.

### 1.3 SWAYAM 2.0 deployment

SWAYAM 2.0 will be a fully PAAS deployment on cloud. This tender is for identifying the cloud service provider for hosting and running SWAYAM 2.0 central application.

### 1.4 SWAYAM Application Service Provider

M/s Persistent Systems is the Application Service Provider (ASP) for SWAYAM and will be in charge of the SWAYAM 2.0 application and its deployment. The ASP works under the guidance of the SWAYAM-NPTEL team at IIT Madras.

## 2. Background and definitions

MOOC: Massive open online course, typically offered through an online portal

SWAYAM (Study Webs for Young Active Minds) is the national MOOC portal of India.

NMC (National MOOCs Coordinator) is an entity organizing, creating and offering MOOCs on SWAYAM.

ASP: Application Service Provider, a company that manages the SWAYAM 2.0 application

CSP: Cloud Service Provider, a company that provides hardware and software cloud infrastructure for public use

NPTEL: National Programme on Technology Enhanced Learning (nptel.ac.in) - a project of the IITs and IISc funded by the Ministry of Human Resource Development. NPTEL is an NMC under SWAYAM.

Institute or IITM or IIT Madras: Indian Institute of Technology Madras, which is an institution of national importance started by the IIT Act of Parliament.

### 3. Eligibility criteria

In this tender document, Vendor, Bidder, Bidding agency and Cloud Service Provider (CSP) mean one and the same. The bidding agency shall be a single point of contact with the SWAYAM-NPTEL office at IIT Madras and shall be solely responsible for the execution and delivery of the work.

The basic eligibility of a cloud service provider shall be assessed based on following pre-qualification criteria.

1. The Cloud Service Provider (CSP) should offer a public cloud service with assured disaster recovery mechanisms. Both the data center and the disaster recovery sites should be geographically inside India and subject to Indian laws. All data of SWAYAM should be stored/replicated only in data centers in India.
2. The CSP should be offering similar PAAS Service to at least two organisations in India during the last two years where the monthly billing is not less than Rs.10 lakhs. The proof of the same with contact details to be provided.

A second-level eligibility criteria is based on the services offered under PAAS in the CSP's public cloud. SWAYAM 2.0 needs to be deployed using PAAS on a highly scalable and highly available cloud platform. The specific PAAS requirements for eligibility are in the following table.

1. App service (Example: Google App Engine, Azure App service) for Python applications
2. Managed SQL as a service (Example: Google Cloud SQL, Azure SQL)
3. No SQL database for any scale with inbuilt support for Cassandra
4. Cloud function service for serverless code (Example: Google/Azure Cloud Functions)
5. Kubernetes service
6. User identity management services with OAUTH2 support
7. Queue services based on AMQP standard
8. AI & Machine Learning services, Data analytics
9. Search and Redis cache service

Other than the above, the following requirements are standard and expected to be available for usage in the CSP's public cloud.

1. Virtual machines
2. Cloud storage



3. API management of resources and cost
4. Networking and security
5. Developer tools

The above are only the criteria for eligibility. Only eligible bidders will be considered for technical evaluation. Please fill Form A for this section.

## 4. Components of tender and bidding

### 4.1 Current deployment and migration requirements

SWAYAM 1.0 is a live portal with about 30 lakh users. User and application data needs to be migrated as a one-time activity. The CSP is expected to assist the ASP in the migration effort.

### 4.2 Hosting, development and maintenance

The entire hosting of the MOOC application, all services related to the application and its deployment will be managed by the ASP with active help from the CSP. The CSP is expected to have a strong technical support team that works closely with clients for helping with performance tuning of the application in the long run.

The bidder should fill Form B to provide details on the support team that will be made available to the SWAYAM ASP for migration and maintenance.

### 4.3 Bidding for SWAYAM 2.0 central

As a result of the tender evaluation, the following will be identified:

1. Cloud Service Provider for SWAYAM 2.0 central for three years from date of purchase order.
2. SWAYAM-NPTEL retains the rights to extend the contract for up to two more years based on mutual agreement with the successful bidder at the same or lower cost.

### Demonstration of SWAYAM 2.0 central

As part of the bidding process, the CSP is expected to demonstrate the deployment and successful running of the SWAYAM 2.0 central application on their infrastructure under PAAS. The ASP and SWAYAM-NPTEL team will provide the code repository of SWAYAM 2.0 central (under a suitable confidentiality and restricted use agreement to only eligible bidders). The CSP should successfully deploy the code on the CSP's public cloud. Limited support for queries from the CSP will be provided by the ASP and SWAYAM-NPTEL team. The nature of this support will be discussed in the prebid meeting. The demonstration is an important and mandatory part of

the evaluation. A bidder who fails to demonstrate will not be considered in the next stage of evaluation.

The bidder will be deploying only the central application for deployment. SWAYAM-NPTEL will provide node deployments that the bidder's central deployment should be connecting to for demonstration purposes.

The SWAYAM ASP will run tests both for performance and correctness of the bidder's deployment, and these will be used for evaluating the demonstration.

## 4.4 Cloud usage costs

The demonstration deployment of the bidder will be on an account that will be fully viewable by SWAYAM-NPTEL and the ASP. The deployment will be run for a load generated under a standard load test run by the SWAYAM ASP. All the details of this load test will not be shared with the bidder, but a general idea of the nature of these tests will be described during the prebid meeting. The billing generated during this load test will be used as the estimate for the cloud usage costs of the CSP for the SWAYAM 2.0 application. Form C will be filled for eligible bidders who deploy the SWAYAM 2.0 central application.

The CSP will have to provide a detailed and complete rate card in INR for all its cloud services. Any discounts provided or fluctuations in rate over time should be clearly mentioned. Form D will need to be filled by the CSP to provide information on the rate card for all its services, and additional discounts offered by CSP directly or through any partner. Form D is part of the financial bid.

Certain costs - such as storage and networking - may not appear in the load test. For all such costs, a suitable computation with a commonly agreed unit will be done and added to the financial costing. The details of this costing will be discussed in the prebid meeting.

The rates in Form D are to be valid for 3 years. Any discounts that are offered for current line items will continue to apply for new line items that are either introduced or utilised for the first time.

The actual cloud costs of SWAYAM 2.0 central after the release of Purchase Order will be directly paid by SWAYAM-NPTEL to the CSP on actual invoices raised by the CSP or its authorized representatives.

Any costs for compliance of technical specification including the demonstration deployment are deemed to be absorbed by the vendor or considered as free.

## 4.5 Service Level Agreements and Penalties

1. The CSP is expected to maintain 99.999% uptime for the application infrastructure under any concurrent user scenario.
2. Downtime of the portal - For every hour of cumulative portal downtime attributed to the CSP in a calendar month, a penalty of Rs. 1 lakh will be imposed on the CSP.
3. Any issue that is classified as critical by SWAYAM or ASP needs to be fixed within 2 hours.
4. Any issue that is classified as serious by SWAYAM or ASP needs to be fixed within 24 hours.
5. Any other issue needs to be fixed within 3 days.
6. The CSP will forego payment for the period of time for which the above 3 service level requirements are violated.
7. On days when high usage is expected (like an exam day or assignment deadline day totalling to about 50 days per year), online support is expected from the support team of the CSP.

## 4.6 Schedule of work (after acceptance of PO)

SWAYAM currently has a running live MOOC portal with more than 50 lakh users and more than 1000 course instances. The entire migration should happen without any break in service.

Date from award of contract	Activity	Remarks
1 week	<ul style="list-style-type: none"> <li>- Deploy the application on the CSP infrastructure</li> <li>- Testing for functionality and performance by SWAYAM</li> </ul>	The application is demonstrated and ready at the time of bidding. So, 1 week is a reasonable time.
4 weeks	<ul style="list-style-type: none"> <li>- Migrate data from SWAYAM 1.0 and NPTEL's portal</li> <li>- Test of migrated data by NCs</li> <li>- Test of the deployment for concurrency</li> </ul>	<ul style="list-style-type: none"> <li>- All user and course data, both archived and current, need to be migrated</li> <li>- Code for migration will be developed by ASP and SWAYAM-NPTEL with some input from CSP</li> </ul>
5 weeks	<ul style="list-style-type: none"> <li>- Go live on the CSP's deployment</li> </ul>	<ul style="list-style-type: none"> <li>- Make suitable DNS changes, if necessary</li> </ul>

## 5. Submission of bids

### 5.1 General Terms and Conditions

The Bidder is expected to read and examine all the terms and conditions, specifications and instructions, in the RFP Document with full understanding of its implications. Failure to furnish all information required or submission of a bid not substantially responsive in every respect will be at the Bidder's risk and may result in outright rejection of the bid.

#### 5.1.1 Format for submission of bid

All the forms given as part of the tender document should be filled and submitted along with any other relevant documentation. All the pages of the document should be signed and stamped.

#### 5.1.2 Enclosures

The bidder must attach the suitable supporting documents for the claims made. All the enclosures attached with the bid shall also be signed and stamped.

#### 5.1.3 Two Bid system

The technical bid and commercial bid must be separately submitted.

#### **Marking on Technical Bid**

1. The technical Specification for this tender is given in this document and the Annexures. The bidder shall go through the specification and submit the technical bid.
2. The technical bid documents of the various items should be put into one big cover **superscribed "Technical Bid"**.
3. All technical bid should have the page-wise **heading as "Technical Bid" and page no.** in all pages with seal and signature of authorized signatory. The total no. of pages should be mentioned at the last page of the documents.
4. The technical bid should consist of all technical details along with catalogue, and relevant terms and conditions.
5. For all numbered items in the technical specifications (both in this document and Enclosure 1), compliance should be stated in a tabular form to include page number and the documentary evidence for reference. The form enclosed is for minimal compliance but it is the responsibility of the vendor to ensure completeness by addressing all the items in the technical specification.

#### **Marking on Commercial/Price Bid**

1. The tenderer shall go through the specification and submit Form D as the Commercial bid.
2. Price bid should be submitted in the prescribed proforma as per **Form D**.

3. The price bid documents of the various items should be put into one big cover **superscribed “Commercial Bid”**.

All Price bid should have the page-wise **heading as “Commercial Bid” and page no.** in all pages with seal and signature of authorized signatory. The total no. of pages should be mentioned at the last page of the documents.

**The actual running costs are determined through the running of the testing harness. Other heads such as storage and networking will be costed suitably. Any discounts mentioned in the commercial bid will be applied on the cost generated by the test suite.**

#### **EMD and Performance guarantee**

1. EMD of Rs. 1,00,000/- has to be paid by means of DD only along with the tender.
2. Demand Draft may be drawn in favour of **“The Registrar, IIT Madras”** payable at Chennai.
3. **The EMD should be put in a separate cover and should be enclosed in the technical bid cover only, else the bid will be rejected.**
4. This Earnest Money will be returned to the unsuccessful tenderers after the final disposal of the tenders. **EMD will not carry any interest.**
5. The EMD along with Performance Guarantee will be retained in the case of successful tenderers till the warranty period.
6. EMD will not be waived under any circumstances.
7. EMD will be forfeited in the case of non-execution of the order within the due date.
8. **Non submission of EMD will lead to rejection of tender at the opening stage itself.**
9. Performance guarantee for Rs. 5,00,000/- has to be submitted in addition to above EMD by way of DD/ bank guarantee **by the successful bidder only.**

The envelopes super scribed TECHNICAL BID and COMMERCIAL BID should again be sealed in a third bigger envelope super-scribed **“Cloud PAAS Provider for SWAYAM 2.0 Central Application”**.

The technical bid will be opened on the date of tender opening.

#### **5.1.4 Performance Security**

Within 15 days of the receipt of work order, the successful Bidder shall furnish a Performance Guarantee of Rs. 5,00,000/-. Failure of the successful Bidder to comply with this requirement can constitute sufficient ground for the annulment of the award and forfeiture of the EMD in which event the Institute may make the award to the next lowest evaluated Bidder or call for new bids. Performance Guarantee submitted shall be from a Scheduled Commercial Bank only. Performances guarantee in the form of Demand Draft, Fixed deposit receipt/Bank Guarantee in the standard format from a scheduled commercial bank shall only be acceptable.

### 5.1.5 Closure and commissioning

The CSP will be deemed to have started service as soon as the work schedule mentioned in Section 4.6 is completed. Payment will begin from the day of “go live” of the application on the CSP cloud.

## 5.2 Amendment in RFP

At any time before the submission of bids, SWAYAM-NPTEL may amend the tender by issuing an addendum in writing or by standard electronic means. The addendum will be put up on the <http://tenders.iitm.ac.in> website and will not be communicated through the newspaper and bidders will have to check the website for any updates. The addendum will be binding on them. If the amendment is substantial, Bidder(s) shall be given reasonable time to make amendment or to submit revised bid and the deadline for submission of bids will be extended by the SWAYAM-NPTEL Coordinators and this will be decided by the SWAYAM-NPTEL coordinators.

## 5.3 Bid Disqualification

The proposal is liable to be disqualified in the following cases:

- Proposal not submitted in accordance with this document and in proper formats.
- During validity of the proposal, or its extended period, if any, the bidder changes his quoted prices.
- Proposal is received in incomplete form.
- Proposal is received after due date and time.
- Proposal is not accompanied by all requisite supporting documents
- Information submitted in technical proposal is found to be misrepresented, incorrect or false, accidentally, unwittingly or otherwise, at any time during the processing of the contract (no matter at what stage) or during the tenure of the contract including the extension period if any.
- Bidder fails to deposit the Bid security or fails to enter into a contract within specified date of notice of award of contract or within such extended period, as may be specified by Institute.

## 5.4 Queries and Clarification

The queries and clarification in this RFP must be addressed to “NPTEL - IIT Madras” and the same must be sent through conventional mail as well as e-mail to [murali@nptel.iitm.ac.in](mailto:murali@nptel.iitm.ac.in), in the format below:

S. N.	Clause no. (as per the RFP)	Your understanding/interpretation	Clarification from NPTEL

Queries will be entertained up to 7 days before the close of tender.

## 5.5 Right to Accept/Reject Bids

NPTEL reserves the right not to accept any bid and to annul the tender process and reject all bids at any stage, without thereby incurring any liability to the affected Bidders or any obligation to inform the affected Bidders of the grounds for such action.

## 5.6 Other Conditions

All relevant information as specified in the Technical and Commercial Proposals including the contingency plans, and Annexures should be furnished by the bidders. The bidder is advised to attach any information that is necessary with regard to the capabilities to establish that the bidder is capable in all respects to successfully complete the envisaged work. The bidders are cautioned that not giving complete information called for or deliberately suppressing the information may result in the bidder being summarily disqualified.

The Tenders should be typewritten. The name and signature of bidder’s authorized person should be recorded on each page of the application. All pages of the tender document shall be numbered and submitted as a package along with forwarding letter on agency’s letter head.

The offer must remain open for a minimum period of **90 days** from the date of opening of the tender, within which the bidders cannot withdraw their offer.

Reference, information and certificates from the respective clients certifying technical, delivery and execution capability of the bidder should be signed and the contact numbers of all such clients should be mentioned. The NPTEL coordinators may also independently seek information regarding the performance from the clients.

Even though the bidder may satisfy the qualifying criteria, the bidder is liable to disqualification due to record of poor performance or not being able to understand the scope of work etc.

The bid documents must be complete in all respects. Use the format given in this document for the preparation of bid response. The response should be brief and up to the point. Failure to comply with any of the instructions or conditions stated in this document or offering unsatisfactory explanations for non-compliance will likely to lead to rejection of offer. Further the Client reserves the right to reject all the bids without assigning any reason.

In the event of the date of opening of tender being declared a closed holiday for the Indian Institute of Technology Madras the due date for opening will be following working day

FAX/Email/Telegram quotations will not be accepted.

Please mention the GST number failing which your quotation will be rejected. All of your future correspondences including Invoices should bear the GST number.

**Quotations should be submitted in Sealed Cover** only. Unsealed/improperly sealed covers will be summarily rejected. Quotes given by the tenderers in their own format/letter heads will not be considered at all.

**Signing of Tender:**

The Tender is liable to be rejected if complete information is not given therein or if the particulars and date (if any) asked for in the schedule to the Tender are not fully filled in or not duly signed/authenticated. **Each page of the tender documents required to be signed and bears the official seal of the tenderers.**

**Opening of Tenders:**

You are at liberty to be present or authorize a representative to be present at the opening of the tender at the time and date specified in this document.

**Right of Acceptance:**

Indian Institute of Technology Madras, Chennai 600 036 does not pledge itself to accepting the whole or any part of the Tender or portion of the quantity offered.

**Communication of Acceptance:**

Acceptance by the Purchaser will be communicated by Post, and the Company's acceptance should be communicated to us formally in writing.

**Tenderer shall submit along with his Tender:**

- I. Name and full address of the Banker and their swift code and PAN No.
- II. Proof of registration with GST authorities like registration number etc. in clear terms.



**Period of Service:**

The period of service is for three years starting from the commissioning as mentioned in Section 5.1.5.

## 5.7 Deviations

Any deviations from the scope of work as outlined above should be mentioned clearly with suitable justification by the vendor in a separate sheet under the heading '**Deviations**'. **This sheet should be included in the technical proposal.** If no deviations are mentioned, then it will be assumed that the vendor has accepted the scope of work in its entirety as mentioned in the tender document and is bound to deliver the same.

## 5.8 Mode of Payment and penalty clauses

The payment to the CSP shall be made in Indian rupees and shall be paid at the end of every month only after satisfactory completion of the work as per the service level agreements in Section 4.4.3. **No advance payment shall be made.** The successful bidder has to **sign an agreement** on non-judicial stamp paper which shall contain **penalty clauses** related to **liquidated damages** on account of **delays, errors, cost, downtime and time overruns** etc. If the bidder fails to execute the contract, the NPTEL committee shall have the liberty to get the work done through any other agency with full cost recoverable from the bidder in addition to damages and penalty.

## 5.9 Confidentiality

The Bidder and their personnel shall not, either during the term or after expiration of this work order, disclose any proprietary or confidential information relating to the services, agreement or the Institutes business or operations without the prior written consent.

## 5.10 Force Majeure

During the pendency of the service agreement if the performance in whole or part thereof by either party is prevented/delayed by causes arising due to any war, hostilities, civil commotion, act of public enemy, sabotage, fire, floods, explosion, epidemics, non-availability of raw material, and other consumables, or any other causes including breakdown of equipment beyond their reasonable control neither of the two parties shall be made liable for loss or damage due to delay or failure to perform the contract during the pendency of forced conditions provided that the happenings are notified in writing within 7 days from the date of occurrence. The work shall be resumed under the contract as soon as possible after the restoration of normalcy.

## 5.11 Termination for Default

The Institute may, without prejudice to any other remedy for breach of agreement, may terminate the work order in whole or in part, by written notice of default sent to the Bidder, and the performance guarantee shall stand forfeited if,

- The Bidder fails to deliver any or all of the obligations within the time period(s) specified in the work order/agreement, or any extension thereof granted by the Institute.
- The Bidder fails to perform any other obligation(s) under the work order/agreement and fails to rectify it within the notice period for the rectification of the same.

## 5.12 Termination for Insolvency

The Institute may at any time terminate the work order by giving written notice to the Bidder without compensation, if the Bidder becomes bankrupt/insolvent, provided that such termination shall not prejudice or affect any right of action or remedy which has accrued thereafter to the Institute.

## 5.13 Suspension

The Institute may by a written notice of suspension to the Bidder, suspend all payments to the Bidder under the work order, if the Bidder fails to perform any of its obligations under this work order/agreement, (including the carrying out of the services).

## 5.14 Jurisdiction of Courts

All disputes arising out of this process shall be subject to the jurisdiction of Madras High court, **Chennai, Tamil Nadu**. The Chairperson, Centre for Continuing Education (CCE), IIT Madras reserves the right to award the work or cancel the award without assigning any reason whatsoever. In case of differences, if any, the decision of the Chairperson, CCE, IIT Madras, shall be final.

# 6 Bid Evaluation Process

The evaluation of bids shall be done in three stages, namely, Eligibility Evaluation, Technical Evaluation and Financial evaluation. The final evaluation shall be based on Combined Quality Cum Cost Based System (CQCCBS), the weightage for Technical and Financial criteria are 30% and 70%, respectively.

## 6.1 Eligibility Evaluation

The bidders will be evaluated for eligibility based on their responses in Form A and Form B. The bidders who are found eligible will qualify for the next stage of evaluation.

## 6.2 Technical Evaluation

**Only those bidders who have qualified under the eligibility criteria (Form A and B) shall be considered for Technical evaluation by the Technical Evaluation Committee.**

The eligible bidders will be asked to provide a public cloud account that is fully viewable by SWAYAM-NPTEL and the SWAYAM ASP. This account will be called the demonstration account and will be billable with credits provided by the bidder. The SWAYAM 2.0 code repository (with cloud-neutral components) will be made available to the eligible bidders under a confidentiality and restricted use agreement. The bidders will be given 21 days to deploy the SWAYAM 2.0 application using PAAS services on the CSP public cloud on the account shared with SWAYAM-NPTEL and the SWAYAM ASP. Limited assistance will be provided by the SWAYAM ASP. Before 21 days, the bidders should send the URL for their SWAYAM 2.0 deployment to SWAYAM-NPTEL by email to [murali@nptel.iitm.ac.in](mailto:murali@nptel.iitm.ac.in) with subject line "SWAYAM 2.0 Central Application Deployment".

The SWAYAM ASP will run a test harness on the URL sent by the bidder. The harness consists of a series of loads created on the bidder's deployment. The tests will generate traffic that is typical for costing purpose and will generate very high traffic for performance testing. The results of the test will be studied for correctness, performance and costing. The results of the testing will be filled in Form C by the SWAYAM ASP and SWAYAM-NPTEL.

**If the percentage of tests that passed is less than 90%, the bidder fails the technical evaluation. The 90 percentile response time from the tests will be used as a metric for comparing the performance of different deployments. Only those bidders who pass the technical evaluation will be considered for the next stage of financial evaluation.**

## 6.3 Financial Evaluation

**The financial configuration of the demonstration account will be retained (or made less expensive, possibly after negotiation) in the actual and final SWAYAM 2.0 central deployment, if the CSP wins the tender.**

The cloud cost incurred by the test harness run on the demonstration deployment (from Form C) will be taken as the actual cost in the financial evaluation. Any discounts given in Form D will be applied on the cost obtained in Form C.

The evaluation of bids at this stage will be based on Combined Quality Cum Cost Based System (CQCCBS) criteria as per the following table:

<b>Criteria</b>	<b>Score</b>	<b>Multiplying Factor</b>	<b>Weighted Score</b>
Technical (90 percentile response time for tests in harness)	(Lowest-90 percentile response time/Bidder's 90 percentile response time) * 100	0.25	X
Financial (cloud cost of test harness)	(Lowest-cost/Bidder's cost ) * 100	0.75	Y
	Final score		(X+Y)

## 6.4 Final Evaluation: Combined Quality Cum Cost Based System (CQCCBS)

The Bidder with the highest total score will be recommended to the Institute by the Committee. In case of a tie between two or more bidders, the bidder with the highest technical score will be recommended. The Committee will invite the recommended Bidder for further discussion on terms and conditions of the contract.

## 7. Annexures

Form A	Eligibility criteria
Form B	Support
Form C	Test on demonstration deployment
Form D	Commercial bid: Rate card and discounts
Annexure 0	Acknowledgement
Annexure 1	Financial and other bidder information
Annexure 2	Details regarding works of similar nature executed in the past 2 years
Annexure 3	Projects of similar nature currently under execution
Annexure 4	Performance Report for works referred in Annexures-2 and 3
Annexure 5	Structure of the Organization
Annexure 6	Checklist

**Form A: Eligibility Criteria**

S No	Service	Availability (yes/no)	Top 3 applications on bidder's cloud that use this service	Public URL of documentation
1	Data center and disaster recovery location inside India			
2	App service for Python			
3	Managed SQL			
4	No SQL database for any scale			
5	Serverless code			
6	Kubernetes			
7	Search and Redis cache			
8	User identity management			
9	Queue			
10	Machine Learning			
11	Virtual machines			
12	Cloud storage			
13	Resource management and cost			
14	Networking and security			
15	Developer tools for Python applications			

Bidder is eligible only if all answers in "Availability" column are "yes".

(Signature of Bidder)

**Organizations billing more than Rs. 10 lakhs and using PAAS from bidder's cloud**

SNo	Name of organization	Contact in organization

(Signature of Bidder)

**Form B:** Support provided for deployment and hosting

S No	Nature of issue	Nature of support from CSP	Public URL for documentation
1	Application is down		
2	Deployment issue		
3	New features		
4	Cost optimization		
5	Performance optimization		
6	Migration		

(Signature of Bidder)



**Form C: Results of test on demonstration deployment**  
(to be filled by SWAYAM ASP and SWAYAM-NPTEL for eligible bidders)

SNo	Remarks on test	No of tests	No of tests passed	Total cost of tests	URL of deployment

(Signature of authorized person at SWAYAM ASP)

Print-out of cost estimates from the demonstration account to be included for justification.

**Form D (Commercial bid): Rate card for cloud services and discounts**

Provide a detailed rate card for all billable services offered in the public cloud. The format and line items are as per the bidder's terminology.

S No	Line item	Unit	Cost per unit

Describe any discounts provided by the CSP or its authorized representatives.

SNo	Cost of monthly cloud usage or part thereof	Nature of discount	Discounted cost

(Signature of Bidder)

## **Annexure - 0: Acknowledgement**

### **ACKNOWLEDGEMENT**

It is hereby acknowledged that I/We have gone through all the points listed under “Specification, Guidelines, Terms and Conditions” of tender document. I/We totally understand the terms and conditions and agree to abide by the same.

**SIGNATURE OF TENDERER ALONG  
WITH SEAL OF THE COMPANY WITH  
DATE**

### Annexure - 1: Financial Information

Details furnished below are to be supported duly by figures in Balance Sheet, Profit & Loss Account for the last 5 years as certified by the Chartered Accountant and submitted by the bidder to the Income Tax Department

Details	2012- 2013	2013- 2014	2014- 2015	2015- 2016	2016- 2017
1) Gross annual turnover for works of similar nature					
2) Profit/Loss					
3. Financial position					
a. Cash					
b. Current assets					
c. Current liabilities					
d. Working capital					
e. Current Assets to Liabilities Ratio					

Documents to be attached along with the above statement:

- a. Up-to-date Income Tax Clearance Certificate
- b. Certificate of Financial soundness from the bankers of the Bidders
- c. Financial Arrangements for carrying out the proposed work
- d. Any other relevant documents

(Signature of Bidder)

**Annexure - 2: Details regarding works of similar nature executed in the past 2 years**

Sl. no	Name of the work	Client	Cost of work (in Crores)	Start date	End date	Details of officer to whom reference can be made	Remarks

Documents to be attached along with the above statement:

- a. Purchase orders
- b. Any other relevant documents

(Signature of bidder)

**Annexure - 3:** Projects of similar nature currently under execution

Sl. no	Name of the work	Client	Cost of work (in Crores)	Start date	Expected date of completion	Details of officer to whom reference can be made	Remarks

Documents to be attached along with the above statement:

- a. Purchase orders
- b. Any other relevant documents

(Signature of bidder)

**Annexure - 4: Performance Report for works referred in Annexures - 2 and 3**  
(Please furnish the following details for each individual project from the Client)

1. Name and location of project:
2. Agreement No.:
3. Estimated Cost
4. Tendered Cost:
5. Date of Start:
6. Date of Completion
  - a. Stipulated date:
  - b. Actual date:
7. Performance report by client:
  - a. Quality of Work: (Excellent/Very Good/Good/Fair/Poor)
  - b. Approach to problem solving: (Excellent/Very Good/Good/Fair/Poor)
  - c. Resourcefulness: (Excellent/Very Good/Good/Fair/Poor)

Date:  
(Signature of the client with seal)

## **Annexure - 5: Structure of the Organization**

1. Name and address of bidder:
2. Telephone No./Fax No./Email address :
3. Legal status (Attach copies of original document defining the legal status).
  - a. An Individual/ Consortium:
  - b. A Proprietary/ Partnership agency:
  - c. A Trust:
  - d. A Limited Company or Corporation:
4. Particulars of Registration with various Government bodies & Statutory Tax Authorities (attach attested photocopy)
  - a. Registration Number:
  - b. Organization/Place of registration:
  - c. Date of validity:
5. Names and titles of Directors & Officers with designation to be concerned with this work with designation of individuals authorized to act for the organization.
6. Were you or your company ever required to suspend the work for a period of more than six months continuously after you commenced the works? If so, give the name of the project and reasons for not completing the work.
7. Have you or your constituent partner(s) ever left the work awarded to you incomplete? If so, give name of the project and reasons for not completing the work.
8. Have you or your constituent partner(s) been debarred/black listed for tendering in any organization at any time? If so, give details.
9. Area of specialization and Interest
10. Any other information considered necessary but not included above.



## Annexure - 6: Checklist

1. Annexures 0 to 6 have been filled completely. yes/no
2. All supporting documents for Annexures 1 to 8 have been obtained. yes/no
3. Forms A, B and D have been filled completely and attached. yes/no
4. The documents for the technical bid (Annexures 0 to 6, Forms A and B and all their supporting documents) have been put into one cover superscribed "Technical bid".  
yes/no
5. Deviations from the requirements, if any, have been indicated in a separate document in the technical bid.  
yes/no
6. The documents for the commercial bid (Form D and all supporting documents) have been put into a separate cover, sealed and superscribed "Commercial bid".  
yes/no
7. No document pertaining to the Commercial bid in any manner has been included in the technical bid cover.  
yes/no
8. The technical bid cover and commercial bid cover have been put inside a bigger sealed cover superscribed "Proposals for Cloud PAAS Provider for SWAYAM 2.0 Central".  
yes/no
9. The EMD demand draft for Rs. 2 lakhs in favour of "Registrar, IIT Madras" has been included in the technical bid cover.  
yes/no

### Support documents in Technical bid:

1. Company registration certificate
2. Proof of registration with GST authorities like registration number etc.
3. The application needs to be hosted in a data center physically located in India. Mention the list of data centres available within India.