

प्रौद्योगिकी स्थानांतरण के लिए पसंद की अभिव्यक्ति
**EXPRESSION OF INTEREST FOR RESELLING OF
SOFTWARE PRODUCTS**

"वनएम2एम एप्लीकेशन आधारित सॉफ्टवेयर फ्रेमवर्क - सामान्य स्मार्ट आयवोटी
कनेक्टिव (कॉस्मिक)"

**Desktop based Driving Simulator software for non-
lane based mixed traffic system**



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Issued by

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1. Introduction

The Centre for Development of Advanced Computing (C-DAC) is seeking "Expression of Interest" (EOI) from Indian companies who are interested in the marketing and sale of "**Desktop-based Driving Simulator Software for non-lane based mixed traffic system**" designed and developed by CDAC with the support of Ministry of Electronics & IT (MeitY). This Reseller partnership is available on non-exclusive basis, allowing companies to acquire licenses to market, sell, implement and support the product for on-premise deployment on perpetual licensing model.

CDAC is inviting interested companies to respond with their company details, collaboration details, sales projections, and financial details to C-DAC. The rates for the reseller registration fee to become a Reseller Partner and software product fee have been approved by the Competent Authority of C-DAC after evaluating the development cost of the products.

Expressions of Interest (EOI) are being solicited on behalf of M/s Technology Promotion Centre (TPC), C-DAC, Thiruvananthapuram, from reputable firms/companies registered in India. These firms/companies should possess relevant experience and insights in marketing, implementation, or similar products through reselling. C-DAC has designed and developed "**Desktop-based Driving Simulator Software for non-lane based mixed traffic system**". These solutions are now available for reselling, enabling the industry to effectively market and implement them for various client projects.

This document provides comprehensive information regarding the products, different license details of products, terms and conditions for companies to submit their Expression of Interest and establish a Reseller Partnership with CDAC, in accordance with the terms outlined herein. Any further technical details / inputs required for the marketing & sale of products can be had directly from CDAC.

2. Brief about C-DAC

Centre for Development of Advanced Computing (C-DAC) is the premier R&D organization of the Ministry of Electronics and Information Technology (MeitY), Govt. of India for carrying out R&D in IT, Electronics and associated areas. It is a national Centre of Excellence, pioneering application oriented research, design and development in Electronics and Information Technology.

The Centre has contributed significantly to the growth of the industry in general and the electronics sector in particular through the indigenous development of commercially viable systems and products, foreign technology absorption, adaptation and upgrades, consultancy and training and turnkey implementation of contract projects. The Centre has several firsts to its credits and is the recipient of prestigious national level awards for excellence in application-oriented R & D.

The different technology verticals of C-DAC include High Performance Computing (HPC), Quantum Computing, Artificial Intelligence (AI), Strategic Technologies, Digital India RISC-V (DIR-V), Software Technologies, e-Governance, Healthcare & Educational Technologies, Cyber Security, Automotive and Communication Technology, Power Electronics & Renewable Energy, Intelligent Transportation Systems (ITS) and others.

3. Brief description about the Products

The use of driving simulators to address several aspects of transport, including driving behaviour, road safety, and driver training, testing ITS applications, has gained a lot of traction. Transportation researchers and engineers have been using two different simulators for different purposes. Driving simulators still suffer from a lack of traffic authenticity in terms of traffic patterns and different vehicle compositions and interactions. On the other hand, in a traffic simulator, the dynamic pattern of the traffic flow closely resembles the real pattern, considering all aspects of traffic engineering, but it lacks driver behaviour realism. To overcome this limitation, integration of both driving simulator & traffic simulators is necessary, especially in countries such as India where non-lane based mixed traffic conditions prevail. The integration of both systems provides a more realistic driving environment for the drivers to improve their road driving awareness and perceiving hazardous situations through driver training and testing.

In order to calibrate traffic simulator traffic data such as classified vehicles count; speed other driving behaviour related parameter needs to be collected from the field as an input for co-simulation development. Based on the calibrated SUMO models a two-way interaction between SUMO and Unity has been developed. Moreover, several driving modules of various scenarios are developed for proper training of drivers under different situations consisting of choice of vehicles as a Car or Truck, weather conditions, congestion levels, rural and urban roads, etc.

The driving performance of each driver is evaluated by extracting various driver behavioral and vehicular parameters at the end of the run by trainee drivers. The authorities can evaluate the competence of the driver using the results and graph generated based on their performance in each scenario and suggest improvement for better performance. This desktop-based driving simulator will definitely be a valuable resource to the authorities responsible for issuing driver licenses and driver training centers.

The product details are listed below

- The Desktop based Driving Simulator Software provides the features including test tracks, parking scenarios, urban and rural road driving modules, evaluation reports, and more. It also offers various weather conditions such as sunny, fog, and rain, as well as hazardous perspectives.
- Desktop based simulator software for non-lane based mixed traffic system includes all the features of the first product along with a non-lane-based traffic simulator that offers low, medium, and high congestion traffic scenarios.

The Driving Simulator Software is licensed into multiple versions, each offering unique features to the user.

- The Lite version allow users to experience driving on rural roads with moderate traffic.
- The Standard version includes all training tracks and can be used for basic driving test preparation.
- The Advanced version offers driving and training scenarios for both rural and urban roads, excluding certain traffic conditions but still including medium traffic on rural roads.
- The premium version encompasses all driving and training scenarios, including various weather and traffic conditions.

The different software modules of Driving Simulator are as follows

- Test Tracks:
 - 8 Track
 - H Track
 - S- Track
 - T- Track
 - 60-degree parking
 - 30-degree parking
 - 45-degree parking
 - Parallel and Perpendicular Parking
- Rural Road
- Urban road
 - Weather conditions(Fog and Rain)
 - Day and Night
 - Traffic conditions(low, Medium and High)
- Evaluation Reports of driving behaviour for grading of driver

The simulation environment for the Driving Simulator is created using Unity, a cross-platform tool for designing 3D apps and SUMO is utilized to develop the traffic simulator with non-lane based traffic system. Both software requires at least minimal domain knowledge to create fresh scenes and environments for the future advancement or updating of the product.

Please refer product brochures (refer Annexure II) and Hardware Requirements of Driving Simulator Software (Annexure III)

4. Field demonstrations

The Driving Simulator Software is a standalone software demonstrated in various exhibitions and also to Road Transport Authorities involved in issuing Driving License

5. Invitation for Expression of Interest

- 5.1. C-DAC invites “Expression of Interest” (EOI) in the format given in Annexure-I. Companies can become Reseller partner of C-DAC based on the information furnished in Annexure – I, subject to the assessment by C-DAC.
- 5.2. Expression of Interest (EOI) sought from interested industry vendors for marketing the technology/products of Desktop-Based Driving Simulator Software for non-lane based mixed traffic system developed by CDAC through the Reseller Partners.
- 5.3. The cost for the Desktop-Based Driving Simulator Software and Desktop based simulator software for non-lane based mixed traffic system products has been finalised by the Competent Authority of C-DAC.
- 5.4. This invitation of EOI will be kept open till 30/06/2024. No companies can apply for this EOI after the EOI closure date. However, C-DAC reserves the right to extend the date at the same/ revised terms and conditions after the due date.
- 5.5. Interested companies may submit the expression of interest as per the guidelines stated in this EOI (see section 7.0 and section 8.0)
- 5.6. The companies must have a clear understanding of the terms and conditions stated in the EOI. They should then submit the EOI, duly signed. CDAC shall assess the information provided by the companies and will intimate the company if they qualify to become reseller partner within 14 days of sending the application. The company

months from the effective date of signing the EOI. If the Reseller Partner is unable to resell within 12 months due to unavoidable circumstances and causes beyond his control, the Reseller Partner shall make a request in writing for extension of the time limit with detailed reasons. This request will be carefully examined and considered by C-DAC. The decision of C-DAC in this regard shall be final and binding on the Reseller Partner.

- 8.9. Right of the IPR generated by C-DAC on the applications used with the products shall remain with C-DAC.
- 8.10. The Reseller Partner shall employ his best endeavor to commercialize the said technology/product on a commercial scale within India and abroad at prices to be fixed by him.
- 8.11. The Reseller Partner is required to provide progress reports on their reselling activities to C-DAC every six months, specifically regarding the number of software sold.
- 8.12. The Reseller Partner must obtain written permission from C-DAC before introducing any necessary modifications or improvements during the reselling process covered by this agreement. These modifications and improvements will then become an integral part of the software.
- 8.13. The Reseller Partner shall notify to C-DAC the change, if any, in its Registered Office within 15 days of such changes and shall also notify the changes in agreement within the aforesaid stipulated period.
- 8.14. The Reseller Partner shall not on its own name or in the name of any third party, file any patent / copyright Application for the grant of patent/ copyright of the said technology/products hereby licensed and shall also not oppose at any time any patent application made by C-DAC.

9. Reselling license, Validity & Renewal

- 9.1. The company (MSME/Start-ups/others) must pay a reseller registration fee of Rs 25000.00, plus applicable taxes, submit copy of Company Profile, Technical Collaborations, Locations of offices, Strength of company – Marketing & Technical (for Pre sales & Post-sales support) etc. to qualify and become a Reseller partner.
- 9.2. As a Reseller partner, the company shall have the authority to market and implement the technology/products mentioned in the EOI for a period of three (3) years, starting from the date of signing the EOI.
- 9.3. On successful Payment of Reseller Registration fee grants the partner validity for a period of 3 years from the date of signing of the EOI.
- 9.4. After three years a new reseller partnership is to be taken by the company based on the EOI conditions prevailing at that time.
- 9.5. The partner should have a valid Reseller Partnership for providing any technical support on the reselling deliverables made by C-DAC.
- 9.6. Any customisation requirements of the Reseller Partner shall be entertained by C-DAC only if a valid reseller partnership exists. Such customisations shall be undertaken by C-DAC at cost basis on mutually agreed terms and conditions in contract mode.



10. Deliverables

- 10.1. On payment of Reseller Registration Fee and become the reseller partnership with CDAC, the following list of deliverables shall be provided by C-DAC to the Reseller Partner for product marketing support of Desktop-Based Driving Simulator Software and Desktop based simulator software with non-lane based mixed traffic simulator.
 1. Reseller Partnership certificate
 2. Brochure softcopy
 3. Technical Manual-(Hardware and Software Specification to run the applications)
 4. User Manual
 5. Product Training
- 10.2. Driving Simulator trial service offered by CDAC for demo purpose shall have valid for a period of 1 month. This service is accessible to companies that possess a valid Reseller partnership with CDAC.

11. Training for Reseller Partners

- 11.1. Upon 100% payment of reseller registration fee (and 40% in case of startup companies), training for product marketing, software installation, configuration and administration shall be provided up to two working days.
- 11.2. The training shall be conducted at C-DAC (T) premises.
- 11.3. The travel boarding and lodging expenses of the trainee(s) during the period of training shall be borne by the Reseller Partner.
- 11.4. For training requested outside C-DAC (T) premises air travel, boarding and lodging charges of C-DAC (T) officials shall be borne by the Reselling Partner. C-DAC shall also charge manpower per day as per C-DAC rules prevailing at the time of training for any outstation training requested by the Reseller partner. Nomination of the C-DAC trainers and period of stay for outstation training will be decided by C-DAC on mutual consultation, depending on the type of training requested.
- 11.5. Additional training may also be given by C-DAC either at the premises of C-DAC (T) or at the location identified by the Reseller Partner on payment basis at mutually agreed terms and conditions.

12. Technical support

- 12.1. During the license period, C-DAC shall offer remote assistance to the Reselling Partner for the implementation process. This installation support will be provided to the Reseller Partner up to a maximum of two sites.
- 12.2. If any onsite support is requested by the Reseller Partner, C-DAC shall support on mutually agreed terms and conditions.
- 12.3. For onsite support outside C-DAC premises travel, boarding and lodging charges of C-DAC officials shall be borne by the Reseller Partner. C-DAC shall also charge manpower per day as per C-DAC rules prevailing at the time of support request for outstation support. Size of the C-DAC team and period of stay for outstation support shall be decided by C-DAC on mutual consultation, depending on the type of support requested



13. Cost for Registration of Reseller

- 13.1. The products shall be commercialized through Reseller Partners by paying a reseller registration fee for obtaining the Reseller Partnership certificate and then subscribing the deployment license from CDAC during the period of validity of the partnership.
- 13.2. The cost for Desktop-Based Driving Simulator Software and Desktop based simulator software with non-lane based mixed traffic simulator can be had from CDAC on submitting the response to the EOI.
- 13.3. The Reseller Partnership with CDAC requires reseller partners to pay a reseller registration fee plus applicable taxes, for the marketing and implementation of Desktop-Based Driving Simulator Software and Desktop based simulator software with non-lane based mixed traffic simulator software. Only reseller partners who have a valid partnership with CDAC are eligible to subscribe to the software product license for Desktop-Based Driving Simulator Software and Desktop based simulator software with non-lane based mixed traffic simulator.
- 13.4. Any MSME/Startup that expresses interest in sales and marketing, installation, and O&M support to become a Reseller Partner of CDAC for Driving Simulator Software. By paying a fixed Reseller Registration Fee of Rs. 25000.00, companies can join as Reseller partners. The payment terms for this fee can be found in Table [1].

Table 1: The Reseller Registration Fee and Payment term of Reseller Partner

Category	Reseller Registration Fee (in Rs.)	Payment Terms
MSME and Other Companies	25,000 + taxes	<ul style="list-style-type: none">• To be paid at the time of signing of Reseller Partnership agreement with CDAC.
Startups	25,000 +taxes	<ul style="list-style-type: none">• 40% fee shall be paid as first instalment at the time of signing of Reseller Partnership agreement with CDAC.• Balance 60% fee shall be paid on receipt of first implementation order from client or within one year of signing of agreement, whichever is earlier.

- 13.5. The selected companies interested in purchasing and marketing CDAC products shall be provided with the detailed cost of the products.

For any queries please contact:

Section Head (Technology Promotion Centre)

Vellayambalam, C-DAC, Thiruvananthapuram

Contact: 0471 2727508, 0471 2723333 (extn: 220/450), 9847069184



email: tpc@cdac.in



Annexure –I

Details of the Reseller Partner

A	COMPANY PROFILE
1.	Name of the Organization & Website details:
2.	Name of the Contact Person: Address: Mobile: Landline: Fax: E-Mail:
3.	Year of Incorporation:
4.	Type of Organization a. Public Sector/ Limited/Private Limited/Partnership/ Proprietary/ Society/Any other b. Whether 'Foreign Equity Participation (Please give name of foreign equity participant and percentage thereof) c. Names of Directors of the Board/ Proprietors d. Name and address of NRI(s), if any
5.	Category of the firm: Large/Medium/Small scale unit /others
6.	Address of the Registered Office: (Include Certificate of Registration)
7.	The organization must be a reputed firm/company/SME/startup/R&D company incorporated in India.
8.	The turnover is to be supported by financial statements of accounts/ Annual reports duly certified by a Chartered accountant/ Balance sheets of last 3 years/ Income tax returns for the last 3 years period.
9.	Number of Offices with addresses (Excluding Registered Office): India, Abroad:
10.	Certificate of registration
11.	Permanent Account Number
12.	GST Reg. No.
13.	ISO or any equivalent Certification
B.	OTHER REQUIREMENTS
14.	The total manpower strength at various levels to be furnished
15.	The in-house technological expertise available to be furnished, if available
16.	List of products/technologies worked with as regular activity in last three years. Give the list of products/technologies with general specifications and the customers.
17.	List of PSUs/Govt. customers



18.	The details of sales and marketing to be furnished
19.	The Reseller Partner shall provide details of the sub-vendors in case they propose to employ for Part-work.
C.	Expression of Interest: Spell out the extent of interest and envisaged market potential

I affirm that the information provided above is accurate to the best of my understanding. I confirm that we have fully understood the terms and conditions, as well as the costs specified in the Expression of Interest (EOI) for the products. As a Reseller Partner of CDAC, we are committed to actively promoting and implementing these products.

Signature with Name & Seal:

Place:

Date:



Annexure II: Different Version of Driving Simulator Software

SI No	Module	Sub Module	Driving Simulator Software			
			Lite	Standard	Advanced	Premium
1	Rural Road (Normal Mode)	Rural Car - Day - Low Traffic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		Rural Car - Day - Medium Traffic	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Rural Car - Day - High Traffic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		Rural Car - Night	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Rural Car - Rain	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Rural Car - Fog	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Rural Truck - Day - Low Traffic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		Rural Truck - Day - Medium Traffic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		Rural Truck - Day - High Traffic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		Rural Truck - Night	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Rural Truck - Rain	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Rural Truck - Fog	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Hazard Perception	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2	Urban Road	Urban Car - Day - Low Traffic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		Urban Car - Day - Medium Traffic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		Urban Car - Day - High Traffic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		Urban Car - Night - Dusk/Dawn	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Urban Car - Night - Midnight	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Urban Car - Rain - Low	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Urban Car - Rain - Medium	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Urban Car - Rain - High	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Urban Car - Fog - Low	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

SI No	Module	Sub Module	Driving Simulator Software			
			Lite	Standard	Advanced	Premium
		Urban Car - Fog - Medium	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Urban Car - Fog - High	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3	Test Tracks	S Track	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		T Track	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		H Track	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		8 Track	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4	Parking	Parallel Parking	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Perpendicular Parking	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		30-degree parking	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		45-degree parking	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		60-degree parking	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
5	Reports	Raw Data Logs	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Evaluation Reports	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Graphs and trajectory map	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



Annexure III: Hardware Requirements of Driving Simulator Software

Minimum PC Specification to run Driving Simulator Software	
Operating System	Windows 10
RAM	16 GB or higher
Processor	64 bit, Intel i5 or higher
GPU	NVIDIA G-Force GTX1660SUPER or higher
Hard Disk	SSD 512 GB
Graphics Card	Min 2 GB, Preferably 4 or 6 GB

Gaming wheel Hardware Specification
Logitech Gaming Hardware (gears, pedals and driving wheels) or equivalent