



## Call for Proposals

### TERMS OF REFERENCE

### Reach Stacker and Forklift Simulation Software

#### ENI CBC MED Strategic projects

<b>Project Title</b>	Technological Transfer for Logistics Innovation in the Mediterranean area (TECHLOG)
<b>Program</b>	ENI CBC Mediterranean Sea Basin
<b>Financing</b>	European Union
<b>Contracting authority</b>	Arab Academy for Science, Technology and Maritime Transport (AASTMT)
<b>Suppliers to be selected</b>	Reach Stacker and Forklift Simulation Software
<b>Location of the contract</b>	Egypt
<b>Procedure</b>	“Competitive negotiated” procedure with publication

#### Contracting subject

AASTMT, partner of the project TECHLOG - Technological Transfer for Logistics Innovation in the Mediterranean area co-funded by the program ENICBC MED is seeking suppliers of reach stacker and forklift simulation software.

#### Reference framework

The initiative takes place within the project TECHLOG whose objective is to strengthen research-industry links in the (trans)port sector by establishing a permanent cross-border EU-Med space where research organizations and (trans)port industries co-create, test, and share new Technology Transfer Initiatives based on advanced simulation technologies.

For this purpose, AASTMT is buying 2 software modules for a reach stacker and forklift simulator.

This TOR refers to the specifications of the two software modules for the reach stacker and the forklift simulator in the framework of the TECHLOG project to carry out the relevant activities.

For more information about the project: [www.enicbcmed.eu/projects/techlog](http://www.enicbcmed.eu/projects/techlog)

### **Subject of the EoI**

Selection of simulation Software suppliers of reach stacker and forklift modules. Detailed specifications are presented below.

### **Procedure**

All the interested suppliers can express their interest by e-mail to AASTMT Procurement department (email: [mfarid@aast.edu](mailto:mfarid@aast.edu) – [EmanHanafy@aast.edu](mailto:EmanHanafy@aast.edu) ) attached with their profiles no later than **11/06/2023, taking in consideration the following:**

### **Conditions for suppliers:**

The provider should be a specialist in the field of simulation software design, demonstrating competitive value, quality, reliability, responsiveness, flexibility, and compliance with industry standards and possessing international experience of at least 5 years.

### **Profiles will contain the following:**

- Companies submit a request to register in / update the supplier's data of the Academy.
- The name of the company, contact information, the address, the telephone numbers.
- Short description of the tenderer's economic activity including its activity with regards to the scope of the Call for Tenders.
- General background of the company, experiences, and qualifications.
- All available numbers and means of communication shall include the company's e-mail to be used to receive subscription invitations, as well as to identify the responsible person to communicate with him if necessary.
- Sales list in scope of simulators
- A list of the principal services provided in the past three years, with the sums, dates, languages used and recipients, public or private.
- Audited balance sheets for the last five years to demonstrate the current soundness of the Applicant's financial position and its prospective long-term profitability. As a minimum, the Applicant's net worth calculated as the difference between total assets and total liabilities shall be positive for the last three years.

Only, if the profiles meet the requirements, the Procurement department will reply to the suppliers requesting them to participate in the tender by sending final offers (technical and financial).

### **General requirements that should be followed:**

#### ➤ **Prices should be:**

- quoted in **EURO** with detailed prices as possible.
- **fixed** and the Academy is not committed to any alteration, fluctuation in prices during the execution period and all charges outside Egypt to be born to the supplier account.
- **including** supply, maintenance, and warranty.

#### ➤ **All offers Must be presented in English Language.**

- Tenderer must provide an electronic copy of all the presented documents in a PDF format recorded on USB and attached to the tender documents.
- **Offers must remain valid** for at least **three months** from the date of opening the envelopes.
- **Payment** will be as following: 50% as advance payment (if necessary) & 50% against receiving softwares.

- In case of delay in delivery within the agreed period, the company should pay 1% of the delayed items value as a penalty, for each week of delay. “The ceiling of penalty on delayed items is 5 % based on items value. And this penalty is applied if the company not only failed to adhere the delivery period, but also, did not provide the reasons of this delay as we consider careless and unprofessional behavior as unacceptable.

**Financial conditions:**

The value of the equipment (software) will be paid according to the project’s budget with a maximum of 40,000 Euros.

- Offers to be submitted in **two sealed envelopes** containing the following:
  - ✓ **First envelope:** containing the following documents: “**Addressed “Technical Offer”**”.
    - Technical proposal including catalogues (updated version) and manuals explaining the trademark, model, and date.
    - Full copy of the operation and maintenance manuals in English Language.
  - ✓ **Second envelope:** the financial offer **Addressed “Financial Offer”**.
    - The financial proposal.

The offer should be handed over to the Academy Site before 12 pm on **30/06/2023** in a sealed envelope addressed to:

**Mr. Mohamed Farid**  
**Purchasing & Stores Manager**  
**Arab Academy for Science & Technology & Maritime Transport**  
**Abu Qir – Alexandria - Egypt**  
**Tel: 00 203 5622744**  
**PO Box: 1029 Alexandria, Egypt**

AASTMT reserves the right to ask applicants to require clarifications regarding the content of the proposals submitted, with the right to assign a peremptory deadline for this purpose within which they must submit the additions.

- The offers will be evaluated technically and financially by the evaluation committee.

**The technical award criteria will be as follows:**

Technical award criteria for specific tenders	Maximum number of points to be awarded
organizational capability	10
Conditions for suppliers (The provider should be a specialist in the field of simulation software design, competitive value, quality, reliability, responsiveness, flexibility, compliance with industry standards, International experience must be at least 5 years)	35
Software Configuration	15
Legally binding guidelines (open license)	20
Approach, Methodology, and Training Modules	20

Technical award criteria for specific tenders	Maximum number of points to be awarded
Terms of contracting (Delivery time, Documentation, technical support during warranty period)	40
Warranty period is at least 12 months from first power-on	10
Commissioning, and Training in the use of Simulator	10
Prices and Payment Milestones	40
<b>Total</b>	<b>200</b>

The result of the technical evaluation will be the sum of number of points obtained as a result of the evaluation of each criterion. Only those bids which will be awarded at least 150 points for the total will be admitted to the assessment of the financial award criteria. Only those offers that will have passed the previous stages will be considered for this final evaluation. The contract will be awarded to the tenderer with **the best-value-for-money bid**.

The award will be made to the company which obtained **the best value for money** according to the following: The financial offer / the sum of number of points obtained as a result of the evaluation of each criterion.

#### **Nationality rule:**

The selected company should come from countries eligible to participate in the procurement procedures as indicated in the Articles 9 of the Regulation (EU) No 236/2014, and include:

- (a) Member States, beneficiaries listed in Annex I to Regulation (EU) No 231/2014, and contracting parties to the Agreement on the European Economic Area; 4
- (b) developing countries and territories, as included in the list of ODA recipients published by the OECD-DAC ('list of ODA recipients'), which are not members of the G-20 group, and overseas countries and territories covered by Council Decision 2001/822/EC;
- (c) The Republic of Belarus;
- (d) developing countries, as included in the list of ODA recipients, which are members of the G-20 group, and other countries and territories, when they are beneficiaries of the action financed by the Union under the Instruments covered by the Article 9 of the Regulation (EU) No 236/2014; (e) countries for which reciprocal access to external assistance is established by the Commission. Reciprocal access may be granted, for a limited period of at least one year, whenever a country grants eligibility on equal terms to entities from the Union and from countries eligible under the Instruments covered by the Article 9 of the Regulation (EU) No 236/2014.

## The following are the required specification of the reach stacker and the forklift software:

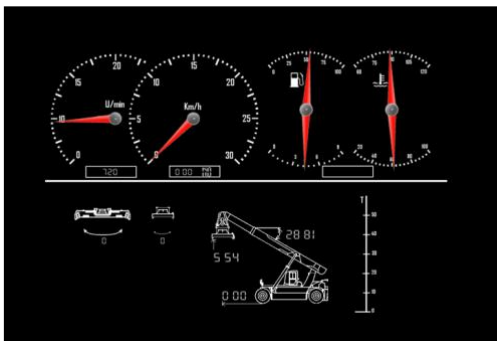
### 1- Reach Stacker Simulator Software

#### Software Configuration

- This equipment for cargo handling is used in different functions from the normal operation of a port terminal, railway, or logistics parks such as moving containers, stacking them by taking them from a chassis and unstacking them by placing them on the chassis of the truck tracts.
- Software system reproduces the usual working environment of this type of machine, for stacking areas of various loads at seaports.
- The software includes multi-module subject training, and dynamics of standard electronic systems such as the protection of loading moment with weight indicator screen, visibility characteristics for stacking, movements, and driving of containers.
- The simulator equipment should allow the activation at the discretion of the instructor of virtual cameras, to obtain the visual system from different angles that help the participant in his training process.
- The drive of the Reach Stacker is based on high-quality simulation models, both physically and visually. The behavior of the models should include the most relevant aspects of the handling of this stacker forklift, as well as a lot of details that give it a high degree of realism.

#### Main features

- Start-stop sequence of a real Reach Stacker.
- Working with spreader in 20 and 40 feet.
- Loading and unloading of trucks.
- Transfer of containers through the terminal.
- Simulated truck traffic in the work area.
- Complete spreader mobility.
- Automatic gear shifting.
- Machine response to load.
- Collaborative mode.

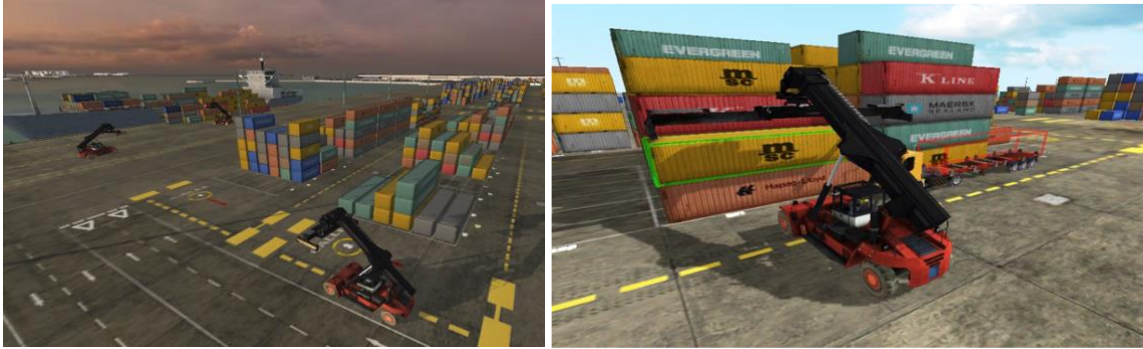


**Indicator panel auxiliary to the operator**



**View from the operator's cabin**

## FEATURES OF THE SIMULATOR



### + Visualization and Post Evaluation

The visualization of each of the practices is stored so that the instructor can review in detail the failures and successes that the participant had during it. The instructor can overtake, reverse, and stop to promptly review all the practice developed from different angles of view.

### + Instructor features

Within the characteristics of the simulator the instructor can modify the conditions of the simulation, from the instructor tab, being able to modify:

### + Management of Users and Groups

The simulator must include the functions necessary for:

- Creating, editing, and deleting training scenarios to adapt the use of the simulator to the needs of the client.
- Correct management of users and workgroups. Through the interface you can perform the basic tasks such as creating, editing, and deleting both users and groups, adapting the use of the simulator to the needs of the client.
- In addition, it allows the instructor to view the statistics and evaluations of each of the users in a clear and detailed way.

### Debriefing

The Ability to reproduce any exercise that has been performed previously. This feature is very important when it comes to identifying the failures that are made as you can play the exercises and view the recording from any angle, rewinding or pausing playback.

In addition, one situation that occurs in the training processes is that students always tend to make similar mistakes. With the debriefing system, an instructor can reproduce exercises of any student with the aim of teaching new students the failures that they should avoid making.

### Weather conditions

The simulator implements various types of weather situations that can be critical in the real world such as low visibility for a very cloudy day or closed night. These conditions are also reflected in

the physical operation of the crane, making it much more difficult to perform the different exercises successfully on rainy and windy days.



**MAINTENANCE AND TECHNICAL SUPPORT**

Technical support during the first year under the following conditions:

- Failure reports solution. Via email or telephone, with a response in no more than 24 hours.
- Equipment failures solution, not exempt in the warranty.
- Remote access to equipment for periodic reviews or troubleshooting.
- Periodic software updates if they exist
- Provide any spare parts required for the normal equipment operation in stock

**WARRANTY**

The simulator includes warranty for manufacturing defects and its components, starting after simulator installation.

**TRAINING IN THE USE OF THE SIMULATOR**

A training plan should be prepared for instructors on the simulator use and its different components.

<b>Hardware</b>	<b>Software</b>
Simulator concepts How to install the simulator Control familiarization	Software concept Exercises review How to operate the software Scenarios familiarization Basic exercises application Advanced exercises application Instructor station training Maintenance and updates

## 2- Forklift Simulator Software

### Software Configuration

Software system reproduces the usual working environment of this type of machines, for stacking areas of various loads at sea ports and for which a complete warehouse has been modeled, with outdoor patio, loading docks, ramps, interior shelves.

The software include multi-module subject training, such as:

1. free movement (Basic driving)
  - Starting
  - Forward driving
  - Backward driving
  - Cones circuit.
  - Turns and ramps.
2. Basic load handling,
  - Picking up a load from the ground or the "Yard".
  - Depositing a load on the ground or "Yard".
  - Driving with a stable load.
  - Driving with an unstable load.
  - Picking up a load from the floor or "Yard" area and placing it on the rack.
  - Picking up a load from the rack and placing it on the "Yard " area.
3. Advanced load handling
  - Unloading from truck and placement on the ground.
  - Location of goods in the shelf storage area from the floor.
  - Replenishment in the picking area.
  - Pick load from shelves to deposit it on the floor in the picking area.
  - Prepare the load from the shelves to the floor for the exit of the goods.
  - Truck loading.
  - Pick up the goods from the dispatch area from the floor and place them on the truck.
4. Risk Prevention
  - Center of gravity and truck stability.
  - Unforeseen situations in the warehouse.

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Control familiarization	How to operate the software
	Scenarios familiarization
	Basic exercises application
	Advanced exercises application
	Instructor station training
	Maintenance and updates

**Bill of quantity:**

**List of Software items required for Forklift and Reach Stacker simulator:**

<b>Item Type</b>	<b>Item Name</b>	<b>Quantity</b>	<b>Price/Unit</b>	<b>Total</b>
Software	Operator Station Software module	1 for Forklift module		
	Operator Station Software module	1 for Reach Stacker module		
	Simulation server software module	1		
	Visualization software module	1		
	Sound simulation module	1		
	Drivers for hardware HMI module	1		
<b>Total (.....)</b>				

- **Compatibility requirements with hardware mentioned in Annex 1.**

**Annex 1:**

**The software shall be compatible with the following hardware parts:**

<b>Item Type</b>	<b>Item Name</b>	<b>specifications</b>	<b>Quantity</b>
Hardware	High Performance PC	Intel core i7, Memory 8GB, Storage 500GB SATA Hard Drive, Ethernet Gigabit, Chassis Tower, Keyboard, Optical Mouse, O/S Windows 10 Professional 64bit English SMPS 600 watts Dell / HP / Acer / Lenovo / Equivalent	2
	Graphic Card	NVIDIA P4000A / 3080 or Equivalent	2
	55" LED monitors	Panasonic / LG / Samsung or Equivalent Resolution: 1920 x 1080	3
	24" LED monitors	Panasonic / LG / Samsung or Equivalent Resolution: 1920 x 1080	1
	Desktop Speakers	Creative / Equivalent	1
	Cables and Wirings	Reputed	As required
	Logitech 3D Pro Joystick	Logitech / Equivalent	1
	Steering wheel with pedals	Logitech / Equivalent	1