ThPA S.A.
PORT OF THESSALONIKI

Thessaloniki, 3.4.2020

INVESTMENTS DIVISION
PROCUREMENT DEPARTMENT

TED 036/2020
CALL FOR OPEN TENDER
FOR THE SUPPLY OF TWO (2) EMPTY CONTAINER HANDLERS

SUMMARY OF THE TENDER

OPEN TENDER	
ECONOMIC OPERATOR	**THESSALONIKI PORT AUTHORITY SA** Main line of business: Port works Address: Within the Port of Thessaloniki PC: 54012, Thessaloniki Tel.: 2310593121, Fax: 2310510500 Email: secretariat@thpa.gr Website: http://www.thpa.gr
Deadline for the Submission of Bids	**28.4.2020**
Deadline for the Submission of Requests for clarifications	**23.4.2020**
Awarding Criterion	Most advantageous bid based on price and quality criteria
Information/clarifications	**For the tender procedure** Name: Chrysanthi Athanasiou E-mail: cathanasiou@thpa.gr Telephone: +302310593360.363 **For technical issues** Name: Anastasia Sachinidou E-mail: asachinidou@thpa.gr Telephone: +302310593354

PART A
GENERAL TERMS:

ARTICLE 1 - Description of the Object of the Supply

The object of the tender is the supply of two (2) front-lift empty container handlers, on tyres with a telescopic side lift spreader and a lift capacity of at least 9,000 kgr, suitable for a stacking height of seven (7) empty containers (7 x 8' 6") or of six(6) in the case of dimension of 9' 6" (6x9'6").
Supply and assembly of the machines will be done in accordance with the terms and specifications herein.

ΑΡΘΡΟ 2 – Award Criterion

The award criterion of the supply is the most advantageous bid based on the best value for money, estimated on the basis of the price and the following criteria:

1. Technical characteristics - compliance with technical specifications
2. Time of delivery
3. Period of validity of the performance guarantee
4. Organization-Infrastructure for the provision of technical support (after sales service)

ARTICLE 3- Right of Participation

3.1 Right of Participation

3.1.1. Participation in the tender shall be open to legal persons and in the case of associations of economic operators their members who have a primary professional activity related to the object of this call, i.e. construction and/or trade of loading/unloading machinery.

3.1.2. Participants shall:

- Not be under bankruptcy, liquidation or administration;
- Not have been irrevocably convicted (the administrators for the case of limited partnerships or limited liability companies, the Chairman and the CEO for the case of SAs and the natural persons performing management duties in other cases) for:
  a) participation in a criminal organization, pursuant to article 2(1) of Joint Action No. 98/733/JHA of the Council of the European Union;
  b) corruption, as it is respectively defined in Article 3 of the Council Act dated 26t h May 1997 and in Article 3, paragraph 1 of Joint Action No. 98/742/CFSP of the Council;
  c) fraud within the meaning of article 1 of the Convention on the protection of financial interests of the European Communities;
  d) money laundering, according to article 1 of the Council Directive 91/308/EEC of 10 June 1991 on the prevention of the use of the financial system for the purpose of money laundering;
  e) embezzlement (Criminal Code 375);
  f) fraud (Criminal Code 386-388);
  g) extortion (Criminal Code 385);
  h) forgery (Criminal Code 216-218);
  i) perjury (Criminal Code 224);
  j) corruption (Criminal Code 235-237);
  k) fraudulent bankruptcy (Criminal Code 398).

3.1.3. Associations of economic operators, including temporary partnerships, are not required to have a specific legal form for bidding. The selected Consortium or Association of Suppliers may be required to have a specific legal form insofar as the inclusion of such a legal form is necessary for the proper performance of the contract.

3.1.4. In the case of a bid by an association of economic operators, all its members are jointly and wholly liable to the buyer.

3.2 Qualitative Criteria – Professional Capacity

This procedure is open to economic operators who have supplied at least fifty (50) machines similar to those offered herein during the last five years. In case the participating economic operator is a trade company, it is sufficient that the above criterion is fulfilled by the manufacturing company. Participants shall have an organized after sales service with the appropriate infrastructure and spare parts stock. In case the tenderer does not have his own technical support infrastructure, he shall provide the contact information of the workshop authorized by the manufacturer. Finally, in the absence of an authorized workshop in Greece, the participating company, for the provision of technical support during the warranty, shall, after the award of the procurement, conclude a cooperation agreement with a company - workshop that has proven and experienced staff and deals with repair of similar or equivalent machinery.

ARTICLE 4 - Bid Submission Way and Time

Bids shall be submitted electronically by the economic operators no later than **28/4/2020**, in Greek or English, by email to cathanasiou@thpa.gr, also forwarding the bid to ptheologou@thpa.grand they shall not be dependent on any other term, condition, proviso or reservation. After the expiry of this date and time, the bid cannot be submitted. Bids submitted late will be disregarded.

ARTICLE 5 - Provision of Clarifications on the Call

Requests for additional clarifications shall be submitted to the procurement department of ThPA SA by email to all of the following email addresses: cathanasiou@thpa.gr,asachinidou@thpa.gr, ptheologou@thpa.gr, no later than five (5) days before the closing date for submission of bids. Requests for clarifications submitted in any other way will not be considered.
The clarifications are posted electronically on the website of ThPA SA www.thpa.gr.

ARTICLE 6 - Extension, amendment, addition or cancellation of the tender

ThPA SA reserves the right to extend the time for submitting bids or to cancel the award procedure, or to decide to repeat it at any stage, without any liability, cost or penalty, following a decision by its competent body. It also reserves the right to modify the terms of the procedure with transparency.

ARTICLE 7 - Bid Content

The bid details are defined as follows:
(a) Participation documents
(b) Technical Bid
(c) Economical Bid
B. Compliance tables (total amount of 3 tables)

7.a Participation documents
To prove that the participation criteria have been fulfilled, economic operators shall submit the following supporting documents:

- A certificate of registration in the relevant chamber (national economic operators) or a corresponding certificate/approval/authorization from the relevant authority of their country of origin (foreign economic operators).
- A company presentation, along with the financial statements of the last year (2018).
- A presentation of the structure of the after sales service in Greece. If the tenderer does not have his own technical support structure, he will present the structure of the support department of the authorized or affiliated workshop.
- A presentation of representatives and partners in Greece (only for foreign economic operators).
- A Formal Statement through which the participating company and its legal representatives declare that there are no grounds for exclusion, as set out in paragraph 3.1.2 and that there are

no grounds for believing that such impediments will occur during the period of validity of the bid and any possible extensions thereof;

- A Formal Statement through which the Candidate declares that he has taken note of the technical requirements of the Object of the Tender and that he unconditionally accepts the terms of the Call; In the case of disagreement, he shall explicitly indicate the points with which he disagrees.
- For proof of legal constitution and representation, legal documents of constitution and legal representation shall be presented on a case-by-case basis (such as statutes, certificates of amendment, the corresponding GG, BoD formation). The above documents shall specify the lawful establishment, the person(s) legally binding the company on the date of the tender (legal representative, right of signature, etc.), any third parties authorized to represent the contractor, as well as the term of office of the person(s) and/or the members/legal representative of the management body.

The associations of economic operators submitting a joint bid shall submit the above documents and documents of constitution for each economic operator that participates in the association.

7.b Technical Bid

The Technical bid shall include the following information:

- Detailed and clear technical description of the machines offered. The technical description shall consist of a reference (in Greek or English) point by point to articles 1-15 of Part B herein following the same numbering.
- Reference to the country of origin of the machinery and the manufacturing plant.
- General drawings, specifications and engine torque charts.

A reference list indicating at least 50 similar machines that have supplied the last five years in the market , the countries in which they have been sold and buyers' information. The list will be accompanied by buyers' certificates, if possible, or alternatively by the manufacturer.
A training program
Any other item that the tenderer deems necessary.

7.c Economical Bid

The economical bid shall bear the stamp of the participating economic operator and the signature of its duly authorized representative and shall state:
the price offered in Euro (excluding VAT) per machine and in total;
the delivery time;
the period of validity of the performance guarantee, which may not be less than two (2) years from the date of signature of the Buyer's final acceptance Report;
the desired payment method as provided for in article 13.2 herein;
time of bid validity, in accordance with article 8 herein;

The proposed spare parts price list
The participating economic operator shall submit an economical bid both for spare parts and consumables which, according to the manufacturer's discretion, are expected to be required within a five-year period. The bid shall indicate the initial price of items, the time delivery which will not exceed the 10 working days, the discount rate offered and the period during which the discount rate will remain constant. The buyer can be supplied, at his sole discretion, as he deems necessary.

7. d Compliance tables

Participants are invited to complete and submit three (3) Compliance Tables, in accordance with the attached templates of the Annex, signed by the authorized representative of the participating economic operator. The Compliance Tables aim to evaluate the bids and refer to the technical

specifications of the machinery, the cost of acquisition and maintenance, the guarantees and the conditions for the performance of the procurement.

ARTICLE 8 - Time of Bid Validity

Bids submitted shall be valid for one hundred and eighty (180) days from the day following the date of expiry of the deadline for the submission of bids.
The validity of the bids may be prolonged, if requested by ThPA SA, prior to their expiry, for a maximum period of time equal to the initial bid validity period specified in the Call.

ARTICLE 9 – Price Adjustments

The offered prices are considered **fixed and final** and are not subject to adjustment for any reason and cause until the end of the procurement. For that reason, the participation of any interested party in the tender entails his explicit, unconditional and irrevocable resignation from any right to adjust the prices offered and possibly resulting from another relevant provision.

ARTICLE 10 - Language

The official languages of the proceedings are Greek and English. All details of the bids shall be either in Greek or English (if they are drafted in the language of their country of origin) accompanied by a translation into one of the above languages. In case of disagreement the prevailing wording is always the official translation of the tender.

ARTICLE 11 – Bid Evaluation

During the evaluation of bids, ThPA SA may address requests to the economic operators concerned for clarifications and economic operators must provide clarifications within the time limits set.
After completion of the evaluation, participants are informed of the acceptance or rejection of their bid.

ARTICLE 12 - Awarding Criteria

The award criterion of the supply is the most advantageous bid based on the price and the following criteria.

Criterion	Criterion rating	Importance
Technical characteristics - compliance with technical specifications	80-120	70%
Delivery Time	80-120	5%
Organization-Infrastructure for the provision of technical support (after sales service)	80-120	10 %
Period of validity of the performance guarantee	100-120	15%

The rating of each evaluation criterion ranges from 80 to 120 points. Each criterion is given a grade of 100, provided that the requirements of the Call are exactly met. In cases where the requirements of the Call are not fully met or exceeded, the score is set to the lower and upper limit respectively.
The weighted score for each criterion will be derived from the product of the individual weighting coefficient on its score and the total bid score will be derived from the sum of the weighted scores of all the criteria.
The most advantageous bid is the one that presents the smallest ratio of the offered price to its score (i.e., where L is the smallest number) according to the formula below.

$$L = \frac{\text{Total Bid Price}}{\text{Total technical bid score}}$$

ARTICLE 13 – Special terms for the performance of the supply

13.1 Performance guarantee

After the award of the procurement, the contractor is required to submit a Performance Guarantee, the amount of which is set at a rate of up to five percent (5%) of the value of the contract, excluding VAT and the contractor shall submit it before or at the signing of the contract.
The performance guarantee shall be forfeited in the event of a breach of the terms of the contract, as specifically stated in the contract.
The performance guarantee concerning the contract covers in total and without exceptions the application of all terms of the contract and any claims of ThPA SA against the contractor.

13.2. Financing – Suggested Payment method

The procurement is financed from the regular budget of ThPA SA.
An amount of up to twenty five percent (25%) of the value of the entire object of the contract, excluding VAT, may be given as an advance payment upon signing the contract and, in return, with the issuance of an equivalent Letter of Guarantee for the receipt of advance payment.
Upon Reception and drafting of the relevant Reception Protocol, it will be paid the total price (after deduction of the advance payment)

13.3. Delivery

The machines shall be delivered fully assembled to the buyer's premises at the seller's expense.
If the seller wishes the final assembly of the machinery to be carried out at the buyer's premises, the following shall apply:
The buyer will provide the seller for free with the free outdoor space required for the assembly and commissioning of the machinery.
The seller will be able to use the buyer's machinery, if available, with payment of usage rights, valid at the time of space allocation.
The machinery will be assembled at the Port of Thessaloniki at the seller's care and expense. The buyer is not responsible for any damages or accidents that may occur to the contractor's staff or to any third parties, from and in the course of performing the works, until the full delivery of the machine and the dismantling and transfer of the construction site. For all of the above, the contractor bears all civil and criminal liability.

13.4. Delivery Time

The delivery time will be proposed by the bidders in their bid and it shall not exceed six (6) months from the date of signing the relevant contract.
In the case of overdue delivery, a fine of 1% on the contractual value for each week of delay, with a maximum of 5%, shall be imposed.

13.5. Reception - Checks

Each machine will be delivered after the process integration of AA type certification on issue by an independent body- lifting capacity certification- and of a forty (40) hours uninterrupted test run.
Upon receipt, the following checks shall be carried out:

- General Inspection and control of compliance of the machinery construction with the Contract.
- Normal operation of the machines with rated load
- Measurement of lift speed-route, lowering of the machine with loaded/empty, with machine at full load, grade ability.
- Limit switches and security systems.
- Brakes and settings.
- Accessibility of maintenance points

13.6 Guaranteed Proper Operation

13.6.1 Time Guarantee of proper operation

The minimum acceptable time of guaranteed proper operation is twenty-four (24) months or ten thousand (10000) hours of operation, starting on the date of signature of the reception protocol. During the period of the guarantee, the seller is responsible for restoring any damage or malfunction resulting from a defective construction or material. In particular, the seller shall respond within 48 hours by dispatching a specialized technical team. Should the seller fail to repair the damage or malfunction within a reasonable time, ThPA SA reserves the right to reparation by its own actions and by charging such costs to the seller.

If the machine is switched off for more than one week, the total warranty period is extended accordingly.

Off-time is defined as the time from damage report to the seller until delivery of the machinery by the seller in full operational condition. In the event of immobilization of the Machine due to failure of the main parts (engine, pumps etc.), the replaced parts will necessarily be accompanied by a guarantee of an equal time to the one referred to in the bid.

13.6.2 Letter of guarantee

Upon reception of the machinery, a Letter of Guarantee is submitted, the amount of which is set at a rate of up to five per cent (5%) of the value of the contract, excluding VAT, with a maturity of sixty (60) days after the end of the period of guarantee. The performance guarantee will be returned after the expiration of the period of guarantee.

In the event of non-compliance of the seller with his contractual obligations, the Competent Body of ThPA SA shall recommend the total or partial forfeiture of the Letter of Guarantee.

13.7 Trainings – Operation monitoring

Immediately after delivery of the machinery in full operation, the seller shall provide for at least seven (7) days the necessary staff to monitor the operation of the machinery at the initial stage, repair any defects and train at least eight (8) of the buyer's technicians in machinery checks, adjustments, repairs and operations. The training of the technicians will cover all individual systems (mechanical, electrical, hydraulic) of the machines and will take place both in the classroom and on the machines. The seller is also required to train at least five (5) operators in the operation and simple maintenance of the machinery.

The training will be in Greek. If interpreting is required, the cost will be borne by the seller.

Upon completion of the above stage (monitoring of machine operation - ThPA SA staff training), the seller will provide the buyer with a relevant training certificate.

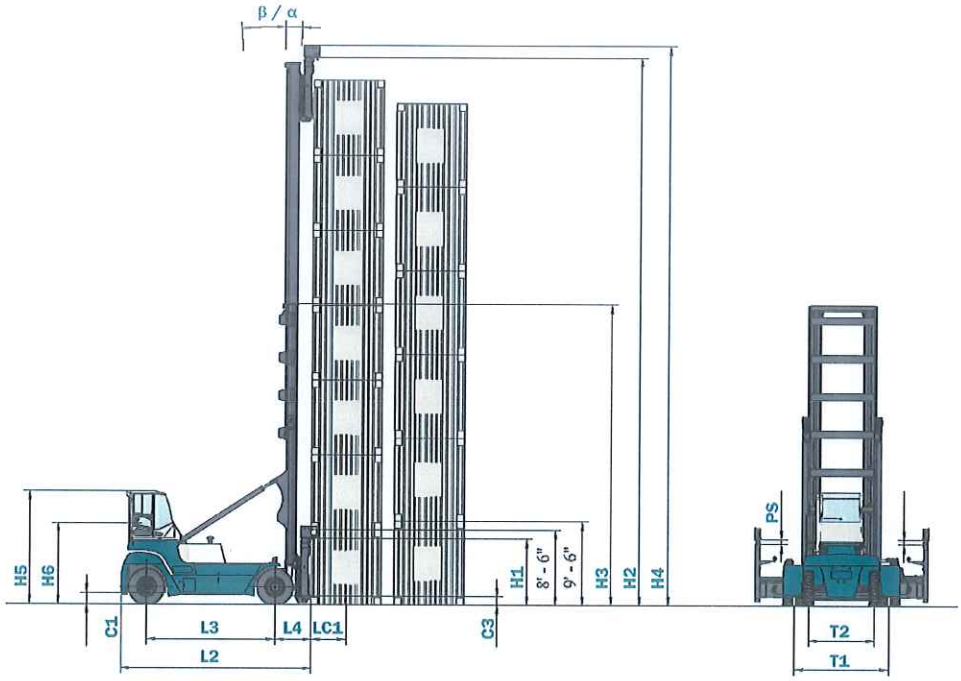
13.8 Miscellaneous Obligations of the Seller

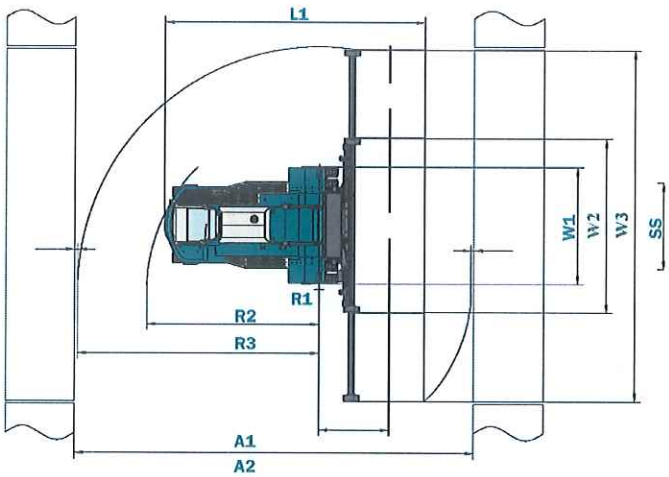
The seller shall perform the first two (2) periodic maintenances provided for by the manufacturer at his own care and expense (materials - lubricants - labor). Periodic maintenance is not considered to be the first one in order to make the necessary adjustments after operation. The bid shall specify what exactly the two (2) above maintenances (initial technical support) will include, as well as the manufacturer's provided operating time/hours during which they will be performed.

The object of this tender is the procurement of the following:
Two (2) front-lift empty container handlers with a lift capacity of at least 9,000 kgr, on tyres, with a telescopic side lift spreader, suitable for a stacking height of seven (7) empty containers. The machinery to be supplied shall be products of an industrial production line, new and unused, of recent manufacture and shall have the technical specifications as described below.

2. TECHNICAL SPECIFICATIONS

2.1 The machines shall be able to stow and transport empty containers, which are standardized as per ISO with a length of **20, 40 and 45 feet as well as empty reefers** in the outdoor areas of the port as shown in the drawing below.





2.2 The machinery shall be able to stow 7 containers in height. The feature refers to containers with an 8′ 6″ side height. If the height is 9′ 6‴ the feature will be six (6) containers in height. To this end, the bid shall include the lifting of the construction (the difference between its lower and upper position).

2.3 The lifting capacity of the machinery refers to a load mounted under the Spreader's keys with the load center being 1220 mm from the front. Machinery with a lifting capacity lower than 9,000 kgr and with a stowage capacity of less than seven (7) 8'6" empty containers in height are not acceptable.
For convenient and safe storage, the distance of the upper surface of the sixth (6th) CONTAINER in height from the lower surface of the seventh (7th) CONTAINER carried with the machine shall be at least 350MM, so as to be easily handled and to avoid CONTAINER collisions during transport due to possible change in height because of ground irregularities
2.4 The distance of the lowest point of the loaded machinery from the ground shall not be less than 250mm.
The tenderers will provide all of the above information with a description and the necessary drawings.

3. TELESCOPIC MAST

The mast, made of alloy steel, consists of its fixed and growing part and will provide the operator with **maximum visibility** in both the workplace and the load handled. The mast will be extended through two high-strength telescopic rollers and chains. In addition, two more inclined hydraulic cylinders will ensure both its vertical support and the possibility of its front - rear inclination with regard to its vertical position, for the safe handling of the machine. The bid shall give a detailed description of the construction of the mast (way of extension, joints, technical characteristics of lifting chains, lubrication points, etc.), the net inner width of the extended and compacted mast, its inclination angle and any other information necessary for the evaluation of the load resistance of the mast.

4. SPEEDS:

The speeds of the various movements of the machine, i.e. the navigation, lifting and lowering of the SPREADER, both in loaded and unloaded condition, are of interest to ThPA SA, with the latter wishing the machinery to have the highest speeds possible, in combination with the safe operation of the machine.
The following are desirable:
- Navigation speed of the machines with safe working load: ~25km/h.
- Navigation speed of the machines without load: ~ 25km/h.
- Lifting speed of the machines with safe working load: ~ 0,55 m/sec
- Lifting speed of the machines without load: ~ 0,60 m/sec
- Lowering speed of the machines with safe working load: ~ 0,55 m/sec
- Lowering speed of the machines without load: ~ 0,60 m/sec

5. FRAME

The superstructure of each machine is intended to absorb high load vibrations, satisfy a wide range of operating characteristics and be sufficiently compact and lightweight to provide fast handling and durability.
The suppliers shall describe in detail in their bid all the technical information required (such as materials, method of construction and welding, regulations to be followed, design, etc.) in order for the tender committee to form an opinion on the solidity, flexibility, stability , safety, center of gravity etc. of the machine, as well as the protection and easy maintenance, replacement or repair that he provides to the accessory parts of the machine (such as gearbox, engine, fuel tanks, hydraulic oils , batteries, etc.).

6. DRIVE - CRUISE CONTROL

6.1 The drive will be transmitted from the engine to the wheels via a torque converter and a gearbox. Both the converter and the gearbox shall be of a well-known manufacturer. The gearbox shall be automatic, hydraulic, electrically controlled with at least three forward gears and three

reverse gears (POWER SHIFT TRANSMISSION) and an electronic protection device in case of reverse gear selection with the machine moving forward. Gear change will be done automatically through an electronically programmable system that is connected to the gearbox and enables the use of either automatic or manual shifting via a selector on the controller. The automatic change will be made according to the engine programming and the number of revolutions. The system will be equipped with a display showing the movement indications FRONT- N - REAR, the speed numbers (1, 2, 3) and the number of revolutions.
The drive system shall have its own oil cooler and filter and will be accompanied by an overheating and oil low pressure sensor that will stop the engine. When the operator acts on the brake lever of the vehicle, the torque transmission on the drive shaft will be stopped by an appropriate mechanism (clutch cut-off).
The tenderers shall provide a detailed description of the drive system in their bid.

7. SHAFTS - BRAKING SYSTEM

The drive shaft will be extra heavy duty and extra wide with a desired width of ~ 4500 mm. The drive shaft will be Sandwich type and will protect the hydraulic cylinder from impacts. The hydraulic cylinder will be a single double acting cylinder. The various elements of the drive system will have suitable supports to absorb vibrations caused due to ground irregularities.
The machinery braking will be made via a double hydraulic circuit with full and safe braking capability in the event of failure of one circuit. The power on the wheel will be applied with oil cooled wet disk brakes which are desirable to act on the steering wheels. The brake hydraulic system will be independent, fitted with a separate tank and ensure hydraulic pressure to the brakes in the event of engine failure.
The machines will have a parking brake capable of holding them, with their rated load, immobilized on a sloping ground with a 15% slope. The parking brake will be fail-safe type (spring-operated). The parking brake will be operated electro-hydraulically and mechanically if necessary. When the parking brake is activated, there will be a corresponding indication of its application in the cabin.
The bid shall provide a detailed and complete description of the shafts, the load shared in the shafts in loaded/unload condition of the machine and the braking system, along with all the necessary drawings.

8. OTHER CHARACTERISTICS OF THE DRIVE SYSTEM

The machines will be six-wheel drive (4/2) with dual front wheels. All six (6) pneumatic tires will be of the same type and dimensions (14.00R24) - (radial, tubeless, industrial type, load Factor/speed factor), manufactured in Europe by a reputable manufacturer. The tenderers shall obligatorily indicate the manufacturer, type and size of the tires including LF/SF .
Each rear wheel will be fitted with a special, metallic, heavy-duty protective cover for mechanical protection of wheel bolts & nuts against impediment impacts.
The suspension system shall ensure smooth running and good traction on rough terrain and a long service life (SERVICE FREE).
The external turning radius of machines with 40' CONTAINERS will be approximately 8,700MM (It is desired that the external turning radius be as small as possible to give the vehicle maximum flexibility).

9. ENGINE

The engine that each machine will carry shall be TURBO, DIESEL, six-cylinder, water-cooled, STAGE V-class, of a reputable manufacturing company. Its power will be at least 170KW (ISO 3046). It will be positioned in a shock-proof location providing easy access for control and maintenance. Its power shall cover the need for simultaneous lifting or lowering operation and navigation, at full load.
Its cooling system shall be capable of fully responding to continuous operation of the machine at an ambient temperature of 45°C.
The engine will be fully protected by automatic stop and at the same time a visual and audible signal for:

- Low oil pressure
- High refrigerant temperature
- Low refrigerant level

The engine shall also be able to get started at low ambient temperature (-5 ° C). There will also be an engine warm-up system operated by the main starter switch to facilitate start at low temperatures. Near the ground (at human height) there will also be a socket for starting the engine from workshop accumulators when the machine accumulators are running out. The engine will have a turbo system with intercooler.

The engine air filter will be suitable for a high dust environment. It will also carry a purity control indicator. It is desirable that before the main filter there is a pre-filter AND a raised air intake system.

The exhaust of the machinery shall have a muffler. The exhaust outlet will be at the highest point of the vehicle. Emissions of pollutants shall not exceed the limits provided for in the national and European law in force at the date of issue of the plates.

The fuel tank shall be fitted in properly protected points and shall have a capacity sufficient to cover at least 24 hours of continuous operation of the machine. The fuel tank will be filled from a point near the ground. It shall be noted that there will always be a constant level display on the cabin screen and a low-level alarm.

The tenderers will be obliged to submit in their bid the following:

- Engine technical information
- Power and torque curves as a function of revolutions
- Detailed description of the fuel injection system
- Detailed description of the particles treatment system

10. OPERATION CABIN.

The operation cabin shall necessarily be located at the back of the machine, will be closed-type with two doors, positioned and designed in such a way as to ensure that the operator has maximum possible visibility in the workplace and in particular the Spreader keys. The bid shall provide drawings with the operator's field of vision on Spreader keys for all heights and for 20' and 40' containers for each height.

The construction of the cab shall be in accordance with ISO, EU safety regulations to provide the operator/driver with appropriate working conditions and protection against potential hazards (e.g. weather conditions, excessive noise, vibrations, load drops, overturning, etc.).

For these reasons, the cabin will be mounted on shock-proof mounts and the frame will be of high strength steel. It shall bear, perimetrically and at the top, safety glass (SECURIT) of a big surface, to provide visibility to the operator in all directions. The top glass to the interior shall have an auto winding shade.

All cabinet glass shall be tinted. The front and side glass panels shall carry non-transparent film for extra sunlight protection on their top.

The front, rear and upper windows will have electric wipers and splashers. All windows will be sliding. The door will have a lock and a mechanism for smooth closing.

The operation cabin will be soundproofed. Internal noise levels will be as low as possible, will cover European Directive 2000/14/EC and will not exceed the permissible working limits of 70db.

Inside the cabin, there will be an appropriate provision for the installation and connection of a terminal from the **TOS – Terminal Operation System** of the CT in operation at ThPA SA. In particular, there will be an easily accessible 24V supply, a stand and arm for 8" tablets (The terminal, the antenna and its installation are the responsibility of ThPA SA).

The operator's seat shall be comfortable, ergonomically designed in accordance with ISO 11226, fully adjustable (front - rear, up, down, base inclination, back inclination) and shall have an air suspension shock absorber via a built - in electric air compressor. Seat lining (base-back) will be made of high-strength material. It will have a reclining and adjustable arm rest and a seat belt. The operation and

control instruments shall be positioned so as to provide easy handling and observation. The steering pillar will be adjustable forwards and backwards and up and down. It is desirable that the brake and throttle pedal be of adjustable angle.
Outside the cabin, in appropriate locations, there will be the necessary panoramic mirrors. Cabin doors will have locks. The main entrance door will lock in the open position.
There will be non-slip floors and safety railings on the steps and boarding passages of the operator.
The chamber will have a 24V socket inside.
The operation cabin will have a heating and air conditioning system, as well as a two-speed adjustable fan. A complete description of the air conditioning system (components, types, manufacturer, etc.) shall be provided. The air conditioner will be a roof unit-type with a supply greater than or equal to 40,000 BTU. The ventilation system of the cabin will have a filter for cleaning the inlet air.
The inscriptions on the controls and indicators will be in Greek. All mast and spreader operations will be done by a joy stick on the right hand of the operator. There will be an emergency stop button for the spreader. Inside the cabin, there will be no plumbing paths, hydraulic valves, etc., i.e. elements that could pollute the space.
The tenderers shall provide a detailed description of the operation cabin, along with the necessary drawings showing the layout of the operator's seat and controls inside the cabin. A description of the air conditioning system (power, manufacturer, etc.) will also be provided.

11. ***TELESCOPICSPREADER***

The spreader will be telescopic and suitable for single stacking. From a construction point of view, this will be a thin type for lateral loading and stacking of 20 and 40-foot empty containers (with keys as per ISO) with direct mounted support to the mast. The tenderers will provide a complete description of the mast support system (components, materials, support system design, etc.), as well as the weight and detailed design of the telescopic device.
The device will be suitable for load resistance at least as much as the lifting capacity of the machine offered.
The device will be capable of a side shift which will be hydraulically operated, while without the action of the hydraulic system, the Spreader will be able to rotate +, - 2.0 degrees vertically so that it is possible to mount a CONTAINER placed on a slightly inclined surface.
There will be guides and twist locks on the edges of the device to mount the container. The keys will be rotated hydraulically. There will also be a mechanical lock/release system (if needed), which shall be described in the bid.
There shall also be the possibility of automatic horizontal displacement of twist locks for mounting either standard containers or pallet-wide containers.
Via commands from the operation cabin, the following shall be made:

- Increase-decrease of the length of the SPREADER to handle 20'or 40' CONTAINERS (or 45 'with 40' sockets). The movement will be hydraulic. Its length shall also be able to change when the machine is moving. Spreader will automatically and mechanically lock in any selected location.
- Side shift with desired path to each side (right, left) not less than 600mm.
- Lock in every position
- Automatic, horizontal displacement of the twist locks directly to the appropriate preset positions for use in either standard containers or pallet-wide containers, depending on the position selected by the operator.

Proper mechanical and electrical locks will prevent SPREADER shutters from being unblocked due to intentional or unintentional operation when a CONTAINER is raised.
Appropriate indicator lights will be placed on the spreader to indicate the position of the spreader and the shutters (open shutters - closed shutters - shutters in contact). It is also desirable to have indicator lights in the operator's cabin.
In case of damage to the hydraulic system (leakage, breakage of pipes etc.), there will be a safety system that will not allow the load to fall.

When the loaded lifting is greater than the allowed load, an appropriate system will interrupt the movement with a corresponding visual and audible signal. On the screen inside the operation cabin, there will be an indication of the weight of the elevated container.
The tenderers, in their bid, will give an exact description of the construction of the Spreader (manufacturing factory - type) and its functions along with the necessary drawings.
All accessories that are close to the Spreader's keys (valves, switches, etc.) will be fitted with a high-impact protection cover.

12. HYDRAULIC SYSTEM

Hydraulic pumps will allow for the simultaneous movement of the mast, the device, etc. (independent circuits). They will be heavy duty, made of steel and repairable with bearings and not friction bushings. Bids will include pump types, LT/ MIN supply and pressure in KGR/CM2 (operating curve). The maximum supply and maximum operating pressure of the hydraulic system shall be provided.

The metal pipes will be made of heavy-duty seamless steel. The hoses will be heavy duty and reinforced. The pipes of the hydraulic system will move through suitable points that are well protected against impact and damage.

The increase-decrease system of the telescopic device from 20' to 40' and vice versa will work using a hydraulic pipe and chain system. Likewise, the telescopic mast will be raised by hydraulic tubes in combination with the pulley or chain system. In each case, the tenderers will provide a complete description of the system.
There will be pressure control points at appropriate locations to facilitate the diagnosis of damages. Bidders will indicate their number and position. It is desirable to have a metal plate at a clearly marked location with indications of the corresponding pressures.
The various movements of the telescopic device and the lifting mast (lifting, lateral displacement, opening-closing) will be controlled through the cabin using the control levers that will act on the main high-pressure hydraulic valves of the hydraulic control system of hydraulic cylinders.
The tenderers shall submit in their bids a blueprint of the hydraulic circuits detailing all the hydraulic components and the way the hydraulic system works.

13. ELECTRIC SYSTEM

The machine's electrical system will comply with the EN 12895 standard.
The operating voltage will be 24V and the accumulators will be at least 140AH.
The alternator and starter will be of heavy industrial type and will bear a sign with their technical characteristics. The alternator will be at least 100A so that it can fully meet the needs of night work and air conditioning at the same time.
Electrical components and lights will be watertight and corrosion resistant for use in a marine environment.
The junction boxes of power lines and electrical boards will be of galvanized metal or preferably heavy-duty stainless steel. They will be based on anti-vibration bases. The covers of all electrical components located outdoors shall provide at least IP 55 protection (including terminal switches), protected from impacts, mounted either with strong covers or niches.
The cables will be color coded and numbered for easy fault detection. The plugs will be securely connected to the electro-hydraulic valves-controls, while for the easy repair-maintenance of the various components of the machine, the electrical connections will be made with special quick-connect plugs.
The lighting of the machines will be as provided by the traffic code and they will additionally bear:
- Four night-time headlights with driver-operated switches seated inside the cabin (for 20 'and 40' seats).
- Enhanced reverse route lights
- A rotating lamp (alarm) on the roof of machinery.
- Flashing lamps accompanied by acoustic signal during the reverse route of the machinery

- Control and function instruments display board. The instruments board, with proper night lighting for the display of instruments, shall include at least
- Hours counter (engine running hours)
- Engine water temperature meter and indicator lamp
- Engine oil pressure meter and indicator lamp
- Transmission oil temperature meter and indicator lamp
- Transmission oil pressure meter and indicator lamp.
- Battery charge indicator
- Fuel level meter and indicator lamp
- Brake system pressure indicator
- Blocked parking brake indicator
- Speedometer or continuous indicator inside the cabin
- Revolution indicator or continuous indicator inside the cabin
- Low engine water level indicator
- High volume sound horn >=100db
- Reverse Buzzer Alarm System.
- Switches and indicator lamps
- Key start switch

Apart from all of the above, the machines will have all the necessary tools for the proper operation and control of their individual mechanisms and systems in places that are easy to operate and control by the operator. In the event of damages, these will be displayed in the form of codes in the operation cabin, while data related to the maintenance of the machine may be displayed (e.g. hours until the next maintenance). Dangerous situations for the operation of each machine will also be indicated (alarms) with indicator lights in the operation cabin.

The complete control of the operation of each machine will be done through a system of electronic control units connected to each other and to a central unit. The whole system will be an electronic network. Furthermore, **CAN-BUS** technology will be used for the exchange of data, signals, etc. between system units.

To reduce fuel consumption, the hydraulic system of each machine will be fitted with a load sensing system to adjust the power provided to the load.

The tenderers, in their bid, will provide a detailed description of the machine's electronic control system, its functions, the damage detection system and all indications that may appear on its display. Tenderers shall also include in their bids the power of lighting fixtures and an outline with their locations.

14. PAINTING - OTHER EQUIPMENT

The paint of the machinery will be such that ensures protection from the corrosive conditions of the port. The bid shall detail all stages from preparation to final paint. The final paint for the frame will be RAL 2000 or RAL 3000, highly visible in poor lighting conditions. For the color of the cabin, the mast and the spreader, the tenderers will propose RAL colors from which ThPA SA will have the final choice.

At appropriate points, on both sides of each machine, the initials of "ThPA SA" will be written.

For their fixation, the machines shall have four points of sufficient strength while fitted with a traction system in order to be attached to a trailer.

15. DIMENSIONS-PERFORMANCE-STABILITY

All the basic dimensions and performances of the machines offered will be provided, by completing the attached table. The machines will comply with ISO 1074 and ISO/DIS 10525. The bid will also provide a certificate of stability (coefficient of longitudinal and lateral stability) from the manufacturer for the types of machinery required by this Call (lifting machines for empty Containers).

The machine will bear the special CE mark and a lifting capacity plate, in accordance with EU regulations. The bidder will offer as option about the cost of the process of issuing the machines' registration plates.

16. ACCESSIBILITY - EASE OF MAINTENANCE

In all places that require frequent maintenance or inspection, access shall be easy. The parts required to be replaced after a certain time, according to the manufacturer's instructions, shall be easily replaced. To this end, the operation cabin will be hydraulically raised and secured in its final position by means of a hydraulic safety valve and a safety pin. The bid will describe how to access the key parts of the machine (engine, gearbox, etc.).

17. BOOKS - TOOLS - OTHER PARTS

17.1 BOOKS

Each of the machines, when delivered, will be accompanied by the following books.

-Four (4) illustrated books of operation and preventive maintenance instructions, intended for the operator (OPERATOR'S MANUAL) written in English.

- Two (2) illustrated control, adjustment, maintenance and repair books (MAINTAINANCE, SERVICE & WORK SHOP MANUAL) and the necessary workshop manuals for general repair of the engine, the gearbox, the torque converter, restrictors, differentials etc. with limits and tolerances. These books will also include an extensive list of possible damages, causes and remedies for all machine systems and will OBLIGATORILY be in the GREEK LANGUAGE. In addition, two (2) copies will be delivered in English.

- Two complete sets of detailed drawings with all electrical and hydraulic circuits.

-Two illustrated spare parts books.

The above books shall be detailed and refer to all parts of the machine individually.

All of the above books will also be delivered in electronic form (CD ROM).

17.2 Equipment - Tools

Each machine will be accompanied by a separate, complete set of equipment & devices (electrical, mechanical, electronic, tablet, laptop, etc.) and tools for diagnosing damages, performing all measurements, controls and adjustments, as provided for in the maintenance book. This equipment will be described in detail in the tenderer's bid.

The training of the staff of ThPA SA (see article 13.7 of the General Terms) will include the use of such equipment & devices on the project (performing measurements, controls, adjustments).

All relevant codes for adjustments **and** damages will be included in the maintenance and operating manuals of each machine.

17.3 Other parts

Each machine is equipped with:

Suitable six (6) kg fire extinguisher placed in an appropriate position.

Parking triangle

Complete pharmacy suitably fitted in the cabin

Two spare wheels (tyres) identical to the ones of the machinery offered for each machine.

Two anchor keys for SPREADER.

Rotating lamp with flashing light along the way.

18. OPTIONAL EQUIPMENT

18.1 Fire detection and suppression system.

Tenderers will include in their bid, as optional equipment, a fully operational automatic fire detection and suppression system inside the engine compartment.

The system will be automatically activated upon flame detection and without the need for further, special operation or action by the machine operator to initiate suppression after flame detection.

The system will be provided by a reputable manufacturer. Indicatively, the systems of the following manufacturers are mentioned: DAFO (https://www.dafo.se/en), FOGMAKER (https://fogmaker.com), WIEJELO https://www.wiejelo.com).
The bid will be accompanied by complete technical data of the system and its manufacturer and there will be the possibility of full technical support (maintenance, inspection, repair) by a local (Greek) dealer or company approved by the system manufacturer.
The bid shall include the full details of the Greek technical support representative/company and the relevant certificate signed by the representative/company for such capacity.

18.2 Display & collision avoidance system
The bid will include an option to install the following on each machine
a) a screen to display (even in high light conditions) the surrounding environment throughout the machine's reverse route and in the reverse drive. The video camera will be installed on the roof of the chamber externally.
b) a rear-end collision warning system.
Indicatively the RAS Prime Driver Assistance System of the manufacturer SICK is mentioned (http://www.mysick.com/en/RAS_Prime).
The bid shall include a full technical description of the system offered, as well as a separate price for the delivery of each machine with this system pre-installed (if this option is finally selected by ThPA SA).

18.3 Remote control system
The bid shall include an option for installing on each machine a fully functional wireless remote control and monitoring system for machine operation (opening hours, container traffic number, error codes, etc.). Wireless communication will be achieved via WiFi. A full description of this system will be included in the bid.

ANNEXES:
Compliance tables as following:

1. *RFP SPECS AND PRICES*
2. *MAINTENANCE AND CONSUMAMBLES*
3. *EXPECT LIFE COMPONENT*

THE CHIEF EXECUTIVE OFFICER

FRANCO N. CUPOLO