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na Infrastrukturę,  
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Dofinansowane przez  
Unię Europejską



## **SPECIFICATION OF THE SUBJECT OF THE TENDER**

PCC Intermodal S.A. (JSC) invites you to submit a tender bid for the implementation of:

**delivery with assembly, commissioning and service of two Rail Mounted Gantry (RMG)  
cranes for the task:**

**'Construction of a container transshipment terminal  
with associated facilities  
on the territory of the Town of Ropczyce'**

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## PURPOSE OF THE TENDER

The objective of the tender is to select the Tenderer who will deliver complete equipment - the RMG cranes enabling the implementation of transshipment according to this Specification of the Subject of the Tender.

## SUBJECT OF THE TENDER

The subject of the tender is the delivery of two gantry cranes for the container terminal in Ropczyce.

The Tenderer should take into account that the delivery and assembly of the gantry cranes will take place on a site that is under construction.

Consideration must also be given to the possibility of a third crane being located on the same crane tracks (in the same working area) in the future.

As part of the Task implemented, the Supplier will provide service for the delivered gantry cranes. The complete devices will be handed over to the Contracting Entity as authorised for use in accordance with the current legislation.

CPV code 42414210-6 gantry cranes

## DEFINITIONS

For the purposes of these procedure, the following definitions are adopted:

**Tenderer** - an entity or consortium that takes part in a tender procedure.

**Supplier** - an entity or consortium with which the agreements for the delivery and servicing of gantry cranes will be concluded by tender.

**Recipient or the Contracting Entity or the Investor** - PCC Intermodal S.A. (JSC)

**Contractor** - the entity carrying out construction work to build a container terminal in Ropczyce.

**RMG, gantry crane** - terms used interchangeably to describe the subject of the contract.

**Tender bid** - a set of documents sent to the Contracting Entity by the deadline set by the Contracting Entity, including the form constituting [the Annexes Nos. 1 and 2 to the Specification](#), and the other formal documents specified in point 9 of the chapter referred to in Part 2, Section IV, Chapter 2 of the Specifications.

**Complete Bid** – a set of documents sent to the Contracting Entity by the deadline specified by the Contracting Entity, necessary for the conclusion of the supply contract and the service contract in accordance with Chapters 9 and 10 of Part IV of the Specifications.

**Task** - delivery of two RMG cranes for a container terminal under construction in Ropczyce in accordance with the requirements of this Specification.

**Business Day** - any day other than Saturday or Sunday or any other public holiday in the Republic of Poland.

**TDT** – (Transportowy Dozór Techniczny) Transport Technical Supervision.

**ROS** – RMG Crane Remote Operating Station.

**Specification** - this Specification of the Subject of the Tender

## SCOPE OF THE SUBJECT OF THE TENDER

The scope of the subject of the tender includes the implementation by the Supplier of, inter alia, the following activities:

1. Design of a gantry crane, taking into account optimum operating and cost parameters for the terminal of PCC Intermodal S.A. in Ropczyce, together with completion of all regulatory requirements, including technical supervision, an occupational health and safety expert and a fire protection expert,
2. Manufacture of suitably complete RMG cranes, complete with equipment and Remote Operating Stations (ROS) in accordance with the Specification,
3. Delivery to the terminal including unloading, assembly and all operations and necessary insurance, duties (if due).
4. Provision of power supply to the cranes from the cable connection, including equipping a gantry crane with power cable, reel devices for power cable, medium-voltage junction boxes with an element (cable gland) bringing the cables outside each power supply compartment,
5. Carry out technological commissioning and the necessary operational tests and acceptances,
6. Development and the handing-over of complete technical documentation for the devices in hard copy and electronic versions in Polish and English,
7. Development and the handing-over of instructions for use and operation of the device,
8. Obtaining the relevant authorisations for each device before the competent acceptance authority, together with the use permit, if regulations as of the date of acceptance impose such an obligations;
9. Carry out all the activities specified in the Specification and the agreement, and all other activities necessary for the proper operation and use of the device specified in the service agreement;
10. Provision of full maintenance and post-warranty servicing of the device during the operational life specified in the tender Specification and service agreement,
11. Provision of a warranty servicing for the device during its operational life.
12. Assistance in the development of an internal instruction manual for PCC Intermodal S.A. on the training of operators, including on the driving of gantry cranes with the use of the ROS, on the basis of which the Contracting Entity will train new operators and on the basis of which the relevant authority will conduct examinations for them, leading to obtaining the appropriate authorisations.

13. Training of the personnel designated by the Contracting Entity in the handling, operating and maintenance of the devices at the terminal, in a manner further described in the specification.
14. The Supplier will be obliged to incur all administrative fees of sanctioning nature (fines, penalties, etc.) if the necessity to incur such fees arises due to reasons on the part of the Supplier related to the implementation of the Task 'Construction of container transshipment terminal along with associated facilities on the territory of the town of Ropczyce'

## **MILESTONES IN THE IMPLEMENTATION OF THE DELIVERY OF THE GANTRY CRANES**

According to the announcement, the Contracting Entity expects that the deadline for manufacturing, delivery, assembly and commissioning, together with obtaining the relevant authorisations and completing the necessary training for operating and conducting operations with the use of a gantry crane and handing over the gantry crane to the Contracting Entity will not be longer than **22 months** from the date of concluding the agreement with the Supplier of the gantry cranes. **The agreement is scheduled to be concluded by 30 September 2026.**

The schedule of Task implementation should take the date of the agreement as the date on which the Supplier should commence work. The Contracting Entity expects that:

- **by September 2027 at the latest**, the preliminary design documentation and the structural elements for the RMG cranes will be ready;
- **no later than in January 2028**, the Supplier of the gantry cranes will agree with the Contractor of construction work on a site for the storage of parts and the assembly of the gantry cranes.
- key structural elements of the gantry cranes will be delivered to the construction site of the container terminal of the Contracting Entity between **February and March 2028**;
- planned assembly and commissioning of the gantry cranes, together with technical acceptances (TDT) and authorisation to place in service, will commence in **April 2028** and will be completed **by 21 July 2028** at the latest (or 21 months from the signing of the agreement). The date expected by the Contracting Entity for the commencement of the assembly work is a result of the construction schedule set out;
- The Supplier will obtain the required permits and authorisations to place in service prior to the date of final handover of each device to the Contracting Entity; The final handover of the RMG crane, together with the relevant documentation, to the Contracting Entity will be accomplished in the form of the signing of a Handover and Acceptance Report no later than **31 July 2028**;
- certificates of training of personnel in operations and maintenance will be issued following training courses, which will take place after acceptance by the Contracting Entity.

The Tenderer is required to include the above deadlines (*milestones*) in the **Work Schedule** prepared by the latter, which will contain information regarding the production, assembly and commissioning dates for each of the gantry cranes, and submitted as the [Annex No. 5 to the delivery agreement](#). **Due to the possibility of construction delays, the Contracting Entity reserves the right to postpone the deadlines for the transport of parts and assembly of the gantry cranes - see the Part III, Chapter 9 (Additional Guidelines), clause 6 for details.** As a result, the deadlines for TDT and Handover and Acceptance Report will also be postponed.

## PART I - TECHNICAL SPECIFICATIONS OF GANTRY CRANES

### 1. TECHNICAL GUIDELINES FOR DRAWING UP TENDERS FOR RMG CRANES

#### 1.1. Project description

1. **The Contracting Entity requires a delivery of 2 RMG cranes with** a track clearance of a gantry crane of approx. 54.64 m, i.e. with a longer operating range of approx. 57.69 m due to the cantilever arrangement for handling 1 row of empty containers with one-sided outreach to handle container loads between the gantry crane supports, i.e. over the four terminal rail tracks, 2 truck lanes, 9 container rows (4+1) and from the cantilever 1 container row (4+1) according to [the Annex 8 section](#).
2. For the maximum height of the gantry crane and its operational work, the handling and storage of High Cube containers must be assumed.
3. Two parking areas at both ends of the gantry crane track (1 x approx. 26-28 m and 1 x approx. 26-28 m) must be included in the length of the gantry crane track of approx. 660 m
4. The scope of the task includes the design, manufacture of complete electric **gantry cranes** of the RMG type with a rated load of 41 metric tonnes under the spreader with a remote operating station (ROS) (containing 2 control stations) together with delivery, assembly, connection testing, authorisation to place in service. The cranes will be handed over to the Contracting Entity as fully assembled, tested and authorised to place in service.
5. The gantry cranes delivered to Ropczyce should be prepared for the change in yard layout. The Contracting Entity is free to choose how it wishes to work at the terminal, e.g. change from 2 container storage stacks to a truck handling area and from a truck handling area to a fast handling buffer with 2 container rows (2+1). **The cross-sections for both alternatives are shown in [Appendices 6,7,8](#).**
6. The Contracting Entity announces that it will commission the start of construction of the container terminal according to a design by Bilfinger in 2026. The planned duration of the construction works is 24 months.

7. The Contracting Entity assumes that the construction work will be synchronised with the delivery and assembly of the gantry cranes in such a way that both RMG cranes can be commissioned and put into service once the container terminal is in operation.
8. Cargo handling in the railway area will be carried out by gantry cranes. Cargo handling on the west side of the terminal (empty container zone) will be carried out by reach stackers.
9. The gantry crane tracks were designed with a length of 660 m (approx. 600 m operational length and approx. 60 m length of 'parking' space, at the end of each gantry crane track).
10. At the end of the foundations, the Contractor of construction work will install the buffer provided by the Supplier of gantry cranes. The Supplier of the gantry cranes will design (taking into account the location of the holes for anchoring the buffer to the gantry crane foundation according to [the Annex No. 10](#)) and will deliver the buffers for gantry cranes to work with the crane bumpers.
11. Ultimately, a third gantry crane is planned to be installed on the same tracks which is not covered by this Task. Parking zones for gantry cranes have been planned at the ends of the gantry crane tracks of which a parking zone for one crane will be provided near the office building and at the opposite end of the track for two gantry cranes. For the delivery of the gantry cranes in the current Task, it should be assumed that the gantry cranes are parked at both ends of the track one at a time.
12. The investor does not exclude the temporary operation of trains with reach stackers in the event of breakdowns, maintenance work or other cases where the possibility of gantry crane operation in the area where the reach stacker is working has been disabled.
13. As a consequence of the possibility of using different train handling equipment, the gantry crane support with drive components, the power unit together with the power cable must be located on the eastern side of the terminal (i.e. in the rail section of the terminal). Also on the same side, there should be stairs and landings to allow entry/exit to/from the gantry crane, which should not interfere with the route of the cable feeding the cranes (ultimately all three cranes). Appropriate clearance to terminal facilities, e.g. lamps, fences, as well as to container racks and container wagons on the tracks under the gantry crane is required.
14. The Contracting Entity assumes that each gantry crane will be able to operate along the entire operational length of the track, taking into account another crane parked at the end of a temporarily disabled crane. In the event of a gantry crane failure or gantry crane shutdown (e.g. due to power failure), the Supplier should indicate at the design stage in the documentation for the use of the equipment a safe way to park or move the cranes into the parking area so as to park the crane and free up the working area for the other cranes or, in the event of a power failure, allow emergency handling by reach stackers.
15. If the Specification does not regulate certain matters, or regulates them in an unclear manner, then an enquiry must be made to the Contracting Entity in accordance with the procedure referred to in the Part IV, clause 5 of the Specification.

16. If proper names, standards, certificates, trademarks or product brands are used in the tender documentation, this must be interpreted as meaning that they have been used only to describe a specific element of the contract in a precise and understandable manner with a view to the proper performance of the contract by the Tenderers. In each case, an equivalent solution with parameters no worse than those indicated in the documentation is allowed, which meets the requirements indicated in the documentation, ensures an identical or higher level of quality, functionality and durability and complies with the applicable legislation, standards and permits. The Tenderer / Supplier / Contractor offering an equivalent solution will be obliged to demonstrate its equivalence, in particular by submitting relevant technical documents, certificates, data sheets or other evidence proving compliance with the requirements of the Contracting Entity.

## 1.2. Parameters of gantry cranes

The developer expects the cranes to handle container loads of varying sizes from 20 to 45 feet. The assumed hoisting capacity of the RMG cranes under the spreader is 41 tons. The Contracting Entity assumes that the gantry crane will operate under the following operating conditions:

- temperature range -25°C to +35°C; humidity up to 95%
- maximum operational wind speed 22 m/s
- the height of the gantry crane is to allow the handling of High Cube containers in a "one over four" arrangement, taking into account the provision specified in the technical section of this Specification,
- rotating trolley,
- possibility to fully rotate the container 45° across the width of the gantry crane and between the gantry crane supports,
- effective continuous, uninterrupted communication,
- monitoring - local and remote,

The Contracting Entity assumes that the **amount of handling carried out with the RMG crane will be approximately 10,000 (± 5,000 per month)**. Containers of varying sizes and weights will be handled.

The equipment supplied by the supplier must be manufactured according to parameters that are matched to the loads and intensity of the work assumed by the Contracting Entity. Indicatively, it should meet the following parameters:

| Position, parameter                                                                     | Value          | Unit  |
|-----------------------------------------------------------------------------------------|----------------|-------|
| hoisting capacity of twist locks                                                        | 41             | Tone  |
| hoisting speed spreader with full load 41 tons / hoisting speed spreader with full load | 0 - minimum 20 | m/min |

|                                                                                           |                 |                            |
|-------------------------------------------------------------------------------------------|-----------------|----------------------------|
| Hoisting Speed spreader with partial load up to 10 t at the spreader                      | 0 – minimum 40  | m/min                      |
| Gantry crane travel speed; with and without load / long travel speed; full and empty load | 0 – minimum 160 | m/min                      |
| Trolley / cross travel speed                                                              | 0-80            | m/min                      |
| Trolley rotation speed / slewing speed                                                    | 0-2.0           | Revolutions per min<br>RPM |
| Power supply voltage                                                                      | 15 +/- 10%      | kV                         |
| Control voltage                                                                           | 230             | V                          |
| Control voltage                                                                           | 24              | V                          |
| <b>Equipment classification / classifications</b>                                         |                 |                            |
| Steel structures                                                                          | S4              | EN 15011                   |
| Spreader                                                                                  | S4              | EN 15011                   |

### 1.3. Mechanism classes

| Mechanisms          | Class of Operation | State of loading | Group Classification | Service Life / Service Period |
|---------------------|--------------------|------------------|----------------------|-------------------------------|
| Hoist               | T8                 | L3               | M8                   | 50.000h                       |
| Trolley Travel      | T8                 | L3               | M8                   | 50.000h                       |
| Gantry Crane Travel | T8                 | L3               | M8                   | 50.000h                       |

## 2. GENERAL FUNCTIONAL REQUIREMENTS FOR CRANES

### 2.1 Gantry crane type and overriding requirement of the Contracting Entity

1. The overriding requirement for the Contracting Entity is that the gantry cranes should be suitably designed and adapted to meet the requirements of the applicable regulations in all respects for safe, efficient and continuous use under the operating conditions prevailing at the container transshipment terminal,
2. The gantry cranes must provide an operating life of at least 2,000,000 (two million) duty cycles when routine maintenance is carried out in accordance with the documentation of the manufacturer.
3. 'Duty cycle' means a single handling operation of one container, from locking to unlocking the twist locks.

4. Wear and tear on wear and tear components is acceptable as long as it does not lead to a failure of the crane or its key components before the above life expectancy is reached.
5. The gantry cranes will be electrically powered and controlled via remote operating stations (ROS). The gantry cranes will be connected by the Supplier to the power source located in the power chamber. The power chamber will be constructed by the Contractor of construction work (see Part II of these specifications for a description of the work to be carried out by the Contracting Entity and the Contractor of construction work).
6. The supplier will install the ROS equipment in the premises of the Contracting Entity's office building.
7. The drive and control system of the crane must be based on frequency inverters (AC) and a digital control system using a PLC.
8. The solutions used must have been tested and operated in cranes of comparable performance used in container terminals.

## 2.2 Type of cargo handled

Required type of load handled by the crane:

1. ISO containers in 20', 30', 40' and 45' lengths, including high-cube, flat-rack, open top, tank and bulk.
2. Special containers equipped with upper hitching corners, including units that exceed the outline of the container frame (oversize).
3. Incidentally, containers that cannot be handled with a standard spreader (e.g. damaged hitching corners, protruding loads), using suitable slings.

## 2.3 Work environment and project purpose

1. The cranes must be suitable for continuous operation (24/7) and for all weather conditions, in particular those specified further under 2.10 Climatic conditions. All electrical, electronic and mechanical equipment will be non-hygroscopic, non-corrosive and suitable for operation in the environment with the conditions specified in this Specification.
2. Special attention should be given to all aspects of the design to achieve an accurate load determination capability with rapid damping of sway, and with full operational and safety capability for uninterrupted service, including operation in heavy rain and snow.
3. Ease of maintenance and the safety of maintenance personnel will be considered throughout the project to minimise crane downtime.

## 2.4 Operating mode

1. The crane must be capable of remote operation from the operator's workstation (ROS) and be equipped with detection devices (3D or 2D scanners, e.g. lasers) to enable supervised operation throughout the crane's operating range.
2. The crane must also be capable of operating in automatic (autonomous) mode. in the container storage area under the crane. The transition to automatic operation in the container storage area will take place once the Contracting Entity has put in place security measures prohibiting access to the container storage area, which should ensure safety in the area. At the request of the Contracting Entity, the crane supplier shall, within 30 days of receiving notice, begin coordinating technical, operational, and formal solutions to ensure the required level of safety for the area in which the crane operates automatically. These arrangements shall be finalized within 7 months of the Contracting Entity's submission of the request.
3. The crane must be designed as 'stand-alone - ready' for further automation in the truck lane and rail part of the terminal, i.e. equipped with adequate reserves and infrastructure preparation, in particular as regards the provision of power, cabling, communication, assembly of equipment and integration of future systems.

## 2.5 Statutory requirements and minimum design standard

1. The electrical, electronic equipment and mechanism of the Gantry Crane will be designed for efficient operation and manufactured by internationally recognised manufacturers to meet in all aspects the requirements of any current legislation, standards or other requirements or regulations that apply in the country of operation of the gantry cranes.
2. The design and construction of the cranes must be carried out in accordance with all regulations, standards and other requirements in force in the country of assembly and operation of the cranes at the date of the agreement.
3. Gantry cranes must meet all the requirements necessary to obtain the Polish authorisation to place in service by the TDT.
4. The Supplier will specify all applicable standards, regulations in the design of the gantry crane and submit it to the Client at the latest together with the crane documentation.

## 2.6 Equipment safety Compliance with the EU Machinery Directive

1. The gantry crane will comply with the requirements of European machinery guidelines, particularly the relevant and most up-to-date machinery directives. The gantry cranes will be provided with certificates of conformity and will be marked with the CE mark or equivalent, confirming that they meet the quality requirements and the symbol in accordance with the relevant Annexes to the Machinery Directive.
2. The supplier is solely and wholly responsible for all aspects of compliance and the CE mark or equivalent confirming compliance. A single fault or failure of an electrical power,

control or hydraulic component will not cause damage to the gantry crane or injury to personnel. If possible, the failure or malfunction of a component should result in the safe stopping of the gantry crane.

3. The supplier will equip the gantry cranes with an appropriate redundant system to ensure safety, including safe stopping of the gantry crane.
4. The gantry crane should be equipped with a system to prevent operation while maintenance personnel are carrying out maintenance work on the gantry crane. Resources will be provided so that maintenance personnel can routinely check any redundant or back-up system. The checking procedure will be included in the maintenance manual for the gantry crane.
5. No component of the gantry crane will change state as a result of a power failure. Switching on or back on the crane or any system included in the gantry crane will not result in unforeseen or potentially dangerous movement or hazards.
6. Gantry cranes must meet all the requirements necessary to obtain the Polish authorisation to place in service by the TDT (Transport Technical Supervision).
7. The gantry cranes must be designed in a manner that provides for easy preventive maintenance. All gearboxes, drives should be easily accessible for oil changes and/or servicing.
8. All descriptions and warnings on control panels and maintenance areas must be in Polish.

## 2.7 Power supply

1. The gantry cranes will be electrically powered with an average voltage of 15 kV, 50 Hz.
2. The Supplier will supply each gantry crane with a cable drum, a power cable allowing the crane to operate over the entire operational range of the crane track, i.e. a distance of approximately 340 metres from the power chamber plus the necessary length reserve as determined by the Supplier.
3. The power cables will be equipped with fibre optics, an airtight medium-voltage and fibre optic junction box, a component (funnel) that leads the crane cable out of the chamber (from the top) and other equipment that is necessary to connect the crane to the power supply.
4. The Supplier will also make the appropriate electrical connections and ducting for data transmission including fibre optic cables and equipment in:
  - a) power chamber,
  - b) the Contracting Entity's server room,
  - c) at the junction of the fibre optic cable supplied by the Supplier and built into the crane power cable with the power cable and fibre optic cable supplied to the power chamber by the Contracting Entity, including the treatment of the terminations of all cables in the power chamber of the gantry crane,
  - d) in a room where 2 operator stations of the ROS remote operation system will be located.
5. The supplier will provide the necessary facilities and equipment (switches) fibre-optic video servers complete remote stations, etc. for this purpose.

6. It is the responsibility of the Contracting Entity to lay the cable from the server room to the underground power chamber and to feed the medium-voltage power cable from the TRAFO transformer station external network to the power chamber.
7. The medium voltage power cable will be composite and will contain a minimum of 6 pieces of low-loss single-mode optical fibre. The number of fibres should be selected by the Supplier so that they can be used for the full automation of the gantry cranes and the transmission of images from the crane cameras.
8. A plan of the planned power supply compartment is shown in the Annex [11 of the Specification](#).
9. The Contracting Entity expects the Supplier to supply and install a component (i.e. a funnel) for routing power cables between the cable ladder and the underground chamber as part of this tender, **ultimately serving to connect three gantry cranes** in the Contracting Entity's power chamber.
10. The Supplier will carry out all the work necessary to connect the new 2 gantry cranes.
11. At the design stage of the gantry crane, the parties will mutually confirm the dimensions of these elements on the ground and in the construction documents.
12. The supplier will carry out the necessary electrical measurements and provide the relevant measurement reports.
13. The electrical assembly of the gantry cranes should provide sufficient power supply to move containers quickly and accurately during continuous handling operations involving heavy loads and simultaneous upwind travel.
14. The power supply for the main drives of the hoists, trolley, gantry crane movements as well as the auxiliary drives should be made using AC (Alternating Current) technology. The main switchgear should be installed in the transformer room or e-house. The switchgear must control and supply power to all drives and their equipment as well as to other smaller ducting such as lighting, heating, etc.
15. The Supplier will take into account power compensation and appropriate filtering systems in order to achieve correct power factors and low noise levels in accordance with the applicable standards on site.
16. All electrical and electronic equipment should be protected against surges.
17. Electrical equipment, cables, diagrams and drawings must comply with the relevant standards and directives in force at the assembly site.
18. All electrical switchgear must consist of components supplied by experienced and reputable suppliers.
19. All sensitive electrical equipment should be in closed enclosures with anti-condensation heating and cooling where required.
20. Gantry cranes should be equipped with an assembly that forces an automatic shutdown in the event of an overvoltage. The power system should be provided by means of a cable reel.

21. The drive elements of the cable drum and slip ring should be protected by protective barriers with easy and safe access for authorised technical personnel and secured with locks against unauthorised persons.
22. The electrical system of the gantry cranes should be built in such a way as to ensure the return of electrical energy recovered during the braking process (recuperation). The connection of the medium-voltage power cable in the power supply chamber will be carried out by a medium-voltage cable connector supplied by the Supplier and manufactured by a recognised manufacturer.
23. Medium-voltage cables will be supplied by the Supplier with appropriate cable winding equipment and cable connectors, as well as a connector for fibre optic cables. The Supplier will ensure that there is sufficient cable length for each crane to cover an operating range of the gantry crane on both sides of the central power point.
24. The Supplier will route the end of the power cable of each crane to the power supply chamber and make the necessary cable connections for the operation of the cranes using an approved set of cable connectors. The cable connectors installed in the power chamber and the high-voltage cabling should meet the inspection requirements, which will be confirmed by appropriate tests and trials.
25. The cable will be circular, with three conductors, grounded and embedded fibre optic cables for data transmission. Sufficient length of cable will be installed to provide full reach length for crane movement, three 'dead' coils on the drum plus one safety coil when completing the length of cable, transition from the ground and a minimum of 2 wraps on the relief drum in the power chamber.
26. Cable reel mechanisms will include low-loss connecting devices that allow the use of the entire fibre optic cable with simultaneous connection of equipment on the gantry crane to external equipment.
27. The connection of the medium voltage cable in the cable chamber will be carried out with a medium voltage cable box, no more than 700mm high and 1000mm wide, made by an internationally recognised manufacturer and supplied by the Supplier.
28. The power cable will be laid in the course of its unfolding simultaneously with the cables of the other gantry cranes on a common cable ladder prepared by the Contracting Entity. The selection of the cable ladder for Ropczyce will be agreed upon with the crane supplier no later than 9 months from the date the supply agreement is signed.

## 2.8 Load on crane rails and wheels

1. The Supplier will submit in his Tender, for the Contracting Entity's review, the declared wheel loads in order to clarify the vertical and horizontal loads under the operating and immobilisation conditions of the crane.
2. The maximum wheel loads will be calculated with the trolley placed in the most difficult positions with the wind acting in the most difficult horizontal direction.
3. Wheel loads will under no circumstances exceed the parameters set out in the table below:

| No. | load combinations                    | fixed post               |           |       | hinged post              |           |       |
|-----|--------------------------------------|--------------------------|-----------|-------|--------------------------|-----------|-------|
|     |                                      | force components<br>[kN] |           |       | force components<br>[kN] |           |       |
|     |                                      | $F_x$                    | $F_y$     | $F_z$ | $F_x$                    | $F_y$     | $F_z$ |
| 0   | max. static                          | N/A                      | N/A       | 206   | N/A                      | N/A       | 239   |
| 1   | max. in case A                       | $\pm 17$                 | $\pm 93$  | 247   | $\pm 13$                 | $\pm 108$ | 263   |
| 2   | max. in case B (+wind in operation)  | $\pm 31$                 | $\pm 199$ | 265   | $\pm 27$                 | $\pm 257$ | 291   |
| 3   | max. in case C III (wind out of op.) | $\pm 60$                 | $\pm 471$ | 228   | $\pm 24$                 | $\pm 641$ | 274   |
| 4   | max. in case C IV (test load)        | N/A                      | N/A       | 290   | N/A                      | N/A       | 264   |
| 5   | max. in case C V (buffer)            | N/A                      | N/A       | 70    | N/A                      | N/A       | 335   |

Legend:

Item 0 - empty weight

Item 1 - base load according to EN 13001-2

Item 2 - payloads according to EN 13001-2

Item 3 - accidental payloads according to EN 13001-2 - catastrophic wind

Item 4 - accidental payloads according to EN 13001-2 - load test

Item 5 - accidental payloads according to EN 13001-2 - impact on the buffer

fixed post - rigid support

hinged post - hinged support

Load distribution diagram:

|                             |          |  |
|-----------------------------|----------|--|
| Number of wheels per corner | 6        |  |
| Wheel base a                | 16,4 m   |  |
| Distance b                  | 1,00 m   |  |
| Distance c                  | 1,25 m   |  |
| Wheel diameter              | 630 mm   |  |
| Rail type                   | PRI 85 R |  |

Key:

Number of wheels on the trolley - 6

trolley spacing 'a' - 16.4 m

wheelbase 'b' - 1.00 m

wheelbase 'c' - 1.25m

wheel diameter - 630 mm

rail type - PRI 85R/MRS 87A

If the charges exceed the aforementioned values, this will constitute a defect and the Supplier will not have the right to dispute this for any reason or under any circumstances.

4. The rail of the gantry crane on which the gantry crane supplied by the Contracting Entity will run is **of MRS 87A type**. The Contracting Entity allows a vertical tolerance in accordance with **ISO 12488** no worse than class 2. The Supplier will design and build an additional brake acting on the crane to immobilise the delivered cranes during storms and strong winds.

## 2.10 Climatic conditions

The gantry crane and its accessories and all parts will be designed and built to be fully capable of operating safely and withstanding the following climatic conditions:

1. Ambient temperature -  $25^{\circ}\text{C}$  to  $+ 35^{\circ}\text{C}$
2. Relative humidity Max. 95%
3. Winds up to 22m/sec. without special warning during operation.
4. Thunderstorm.
5. Intense snow and/or hail and fog, a common weather phenomenon at the gantry crane site

## 2.11 Wind conditions. Wind speed measurement system

1. The entire crane structure with all its equipment, components, fittings or accessories will be designed and built to withstand the following wind load conditions.
  - For the state of the crane 'in operation': Allow wind load at a constant **speed of 22 m/s** for safe load handling by the gantry crane.
  - For the 'idle state' of the gantry crane: A wind load of **up to 42 m/s** will be permitted when the gantry crane is off and parked without the use of additional wedging of the gantry crane wheels and/or its restraint other than brakes.
2. The cranes should be equipped with wind speed measurement systems that provide real-time information on the possibility of handling and also alert in the event of deteriorating conditions. In the event of extremely poor conditions (threatening work safety), the system automatically prevents work from taking place until weather conditions improve.

## 2.12 hoisting loads and stability

1. The supplier will provide a solution that completely eliminates the possibility of one end of the container being hoisted by two container bolts (twist locks). The design will include a system to immediately detect this condition and stop the upward movement

of the spreader. The spreader, which stops with one end locked to the hooks inside the container, will only allow lowering with safety procedures.

2. Structural fatigue condition. The supplier is obliged to select the parameters of the construction solution in such a way that no structural fatigue occurs in accordance with the applicable standards.
3. The crane will remain stable with a safety factor at least in accordance with the requirements of F.E.M Righting moments compared to overturning moments under the most extreme and unfavourable operating conditions and in the idle state.
4. No damage will occur when dynamic impeded loading is applied to each position of the trolley and hoist. Emergency braking of the gantry crane will not cause any damage to the gantry crane equipment.

## 2.13 Noise control

1. Noise emissions measured outside the cranes must not exceed the parameters of the applicable standards.
2. The noise level inside the electrical control room will be below 85dB when operating with the heater/air conditioner on and with doors and windows closed.
3. The Supplier will include the results of the tests of the actual noise levels within the document 'Handover and Acceptance Report' according to the model of the Supplier

## 2.14 Key components for operation

1. The Supplier will provide the Contracting Entity with a service manual that includes a schedule for the inspection and replacement of key components as part of the planned maintenance of the gantry cranes over a period of at least 20 years. Inspection schedules should include detailed instructions on the components to be checked along with the method and rejection criteria for the inspection.
2. The maintenance manual will include the scope and schedule of planned maintenance activities

# 3. CONSTRUCTION SPECIFICATIONS OF THE GANTRY CRANE

## 3.1 General requirements

The parts will be connected to each other by welding or high-strength bolted connections secured against self-unscrewing. Connections should be resistant to all forces applied.

### 3.2.1 Equipment

The following equipment will be included in the main construction:

1. Gantry crane, trolley and winch drive equipment.
2. Gantry crane bumpers (hydraulic preferred).
3. Gantry crane wheel brakes with limit switches.
4. Cable reel (cable reel with cable guide and end switches).
5. Hoisting winch pulleys.
6. Rail tongs.
7. The cable reel must have a separate control box and a separate one on the platform for moving the gate in the service (slow) mode
8. Remote control for operating the crane from the ground.

An example of a 'service from the ground' solution is pictured below:





#### 9. Storm brake.



### 3.2.2 Accessories

The following accessories will be installed on the main structure:

1. Passages, stairs, ladders and platforms.
2. Lighting required for crane operation and lighting for walkways, ladder stairs and platforms.
3. A high quality vane windmill that will be minimally affected by turbulence caused by the own design of the gantry crane during operation.
4. Intercom system.
5. Light and acoustic warning device while driving, including acoustic signals audible to truck drivers.
6. Two loudspeakers fixed at square level on each side facing inwards to the gantry.

7. Service sockets.
8. Emergency stop buttons.
9. Fire extinguishers.
10. Bumpers and collision avoidance devices.

### 3.3 Materials

1. All materials used in the crane will be new, of good quality and appropriate for their intended use. Quality and production certificates from the plant will be obtained and records will be strictly maintained to match the above with the various sections of the crane produced during production. The steel materials for all the components listed will be selected from those whose parameters allow work and repair operations to be carried out in an environment with a temperature range of -25 to + 35°C.
2. The steel used for the gantry crane must be of the highest quality and comply with current internationally recognised standards and regulations
3. The Supplier will provide the required welding certificates that certify that all provisions for assessment and verification of performance described in EN 3834 EN 1090-1 and EN 1090-2 for steel and machinery will be met.
4. All edges of the structure will be free of sharp protruding shapes.
5. All welding spatter must be removed from the surface of the structure.
6. Metal surfaces will be cleaned and treated as defined in para. 4.23 'Corrosion protection'.
7. The steel structure and mechanisms will be designed for effective drainage. Drainage water will not affect the continuity of operations, operational safety or preventive maintenance work in heavy rainfall conditions.

### 3.4 Calculations. Documents to be submitted to the Contracting Entity

1. Notwithstanding the documents listed elsewhere in the Specification, calculations of wheel load, stability, braking capacity and propulsion power for all movements as well as for peak power consumption will be submitted to the Contracting Entity for review prior to commencement of detailed design.
2. Other data or design calculations at various stages of the project will be submitted on request to the Contracting Entity as part of the review process carried out during RMG construction.

#### Audit

1. The Contracting Entity reserves the right to carry out a detailed structural and mechanical audit of the design presented by the Supplier.

2. To facilitate this audit, the Supplier will provide in a logical sequence, and in complete packages, all relevant information on the main components and functional drives of the cranes, which will include:
  - Relevant drawings to enable an integrated audit of the project.
  - Relevant calculations.
  - Sufficient drawings to indicate how the components form the conceptual design.
  - Calculations to justify the selection of components by the Supplier, such as: hoist, trolley, gantry crane frame and components e.g. motors, couplings, reducers, brakes etc.

#### Calculations

1. The design for the structure will be calculated using methods and procedures defined by internationally recognised design standards.
2. The calculations will be prepared and presented in a clear and precise format and will demonstrate all methods and assumptions used in each element of the project.
3. Other data or design calculations at various stages of the project will be submitted periodically upon request to the Contracting Entity as part of the review process.

#### Drawings

The Supplier will provide copies of drawings and electronic documentation in **pdf** format showing construction details for the purpose of production and construction supervision by representatives of the Contracting Entity or experts

### 3.6 Performance

1. All structural production and assembly will be carried out in an accurate, expert manner and according to the best modern practices in the manufacture of high-end metal structures.
2. Welders and those involved in the process of joining components will be certified, for the material, processes and type of welding and operations performed.
3. The qualification certificates of each welder will be submitted by the Supplier. Welds installed using unqualified procedures or welds carried out by uncertified welders will be subject to removal and re-working by the Supplier at his own expense. Alternatively, the Supplier must have implemented a structural welding system in accordance with the requirements of the standards in force in this field, confirmed by obtaining a certificate, and meet the requirements of the EN and ISO standards concerning quality requirements for welding metallic materials, also confirmed by obtaining a certificate. Both certificates must be up-to-date throughout the duration of the contract/agreement.

Two weeks prior to the technical acceptance of each gantry crane, the Supplier will submit to the Client a document issued by the European Welding Engineer confirming that all welding work on the gantry crane in question has been carried out correctly.

4. The Quality Assurance team of the Supplier is required to keep an accurate log of the welders qualified for the position. This log will be viewed at any time by the Contracting Entity or his representative at the assembly site.
5. The Quality Assurance team of the Supplier will ensure that all correct welding procedures are strictly adhered to by the welding personnel. Any welding work deemed not to comply with accepted procedures will be stopped immediately and recorded as a non-compliance report. The continuation of this welding will then be subject to approval by the Contracting Entity's representative.
6. The Quality Assurance team of the Supplier will ensure that all low temperature welding work is carried out to the extent practicable in an enclosed and covered area to ensure a controlled environment.

The use of correct preheating procedures for welding processes is important and will be closely monitored by the Supplier, with the possibility of inspection by the Representative of the Contracting Entity.

7. In order to ensure that all regulations and requirements applicable in the country of erection of the gantry crane are fulfilled, the Supplier is obliged to check itself all the requirements of the technical inspection body in Poland, the TDT (Transport Technical Inspection), which will carry out the acceptance of the gantry cranes. If necessary, the Supplier will submit the complete welding documentation at the express request of the TDT (Transport Technical Supervision) unit or the Contracting Entity.

### 3.6.1 Testing and inspection of welds

1. All welds will be inspected using methods and to the extent that reflect the essential nature of the welded joint. The welds and their class of execution must meet the requirements of cyclically loaded structures according to the applicable standards including EN 1090 and be selected for the crane load and the service life of the structure specified in the Specification.
2. The definition of the weld inspection plan and the indication of the required weld class will be shown in the documentation prepared by the Supplier. Weld inspection procedures will be provided to the Contracting Entity. The Contracting Entity requires a visual inspection of 100% of the welds. All other weld tests and the assessment of the conformity of the welds with the weld class selected by the Supplier will also be carried out in accordance with EN 1090.
3. Rejection of any part of a weld checked at less than 100% requires a visual inspection of 100% of that weld.
4. Ultrasonic testing of welded tendons will be carried out by or under the direct supervision of a suitably certified person or by a person with equivalent qualifications.

### 3.6.2 Quality control of construction production

1. Quality control is the responsibility of the Supplier. The Supplier must implement a written quality control programme, which will form part of the Quality Assurance Manual of the Supplier, to be submitted to the Contracting Entity for review within 1 month of signing the supply agreement. The Quality Assurance Manual will also include the Inspection and Testing Specification of the Supplier.
2. The quality assurance programme should include information elements on the general principles and organisation of quality assurance during the design, procurement, production, construction period, together with the identification of specific requirements.  
  
The quality assurance programme should also include the provision of drawings and a schedule of inspections by the Contracting Entity during manufacture, delivery and handover of the crane to the Contracting Entity, together with proposed inspections and tests.
3. In terms of structural production, this will include, but is not limited to, the following:
  - Inventory of incoming material, consumables, components and machinery,
  - Traceability procedures for materials with identification codes to be issued serially and indexed to controlled production procedures.
  - Cutting, clamping, welding, forming and dimensioning of structural components,
  - Welding and inspection procedures clearly identifying the type and dimension of NDT tests carried out on crane structures,
  - Qualification and certification of welding and inspection personnel
  - Maintenance and calibration of welding, machining, measuring and inspection equipment,
  - Surface treatment finishes, bolt tensioning procedures,
  - Non-conformity reporting (NCR) procedures and defect and defect repair reports,
  - Control and procedures for design and production drawings and for revisions, updating and re-issuing drawings,
  - Procedures for cleaning, preparing, blowing and painting the material.
4. The quality control programme will comply with the applicable requirements and regulations.

### 3.6.3 Quality Assurance Programme / Manual

1. The contractor will, within **3 months** of the date of conclusion of the delivery agreement, submit a quality assurance programme to the Contracting Entity for review.

2. This programme will consist of a General Assurance Programme, Quality Assurance, which will set out the general practices and organisation of the Contractor to ensure quality during the design, procurement, production and assembly phases, and a Special Quality Assurance Programme.
3. The Special Quality Assurance Programme will relate specifically to the Gantry Crane and Related Equipment described in this Agreement, which will include a schedule for the provision of drawings / data for the review by the Contracting Entity and the main items to be examined and tested during manufacture up to the handover of the Gantry Crane or other Products to the Contracting Entity, together with the proposed dates and locations for such examinations and tests.
4. The overall quality assurance programme will include both an organisational chart with the names of the personnel comprising the quality assurance team within the delivery agreement, covering each major stage of manufacture, delivery, commissioning, as well as the Warranty Period.

#### **4. FUNCTIONAL DEVICES AND EQUIPMENT**

Each of the components and sub-ducting of the hoisting system should be clearly labelled and identifiable. The power supply circuits to the gantry crane accessories should be insulated.

##### **4.1 Main hoist - hoisting winch**

1. The couplings that connect the hoist gearbox to the hoist drum will be manufactured by an internationally recognised manufacturer of such components. Wear markers will be provided in a location convenient to view without dismantling any component.
2. The calculation of the brake compliance for the defined load will be carried out by the brake manufacturer.
3. Acceleration from zero to maximum speed or deceleration to zero will occur smoothly and continuously variably for all load combinations.
4. Rotation mechanism. The total angle of rotation of the spreader must be at least 300°
5. The pivot ring with ball bearing, yaw protection and internal gear must be designed and manufactured as a pivot ring between the chassis frame and the pivot frame of the hoisting mechanism.
6. The ball bearing pivot collar must be positioned so that it is possible to check both the screws and the ball bearing pivot collar clearance in the mechanism frame housing.
7. Internationally recognised manufacturers providing high quality and long life bearings should be used.

8. The drive of the swivel mechanism must be realised by two asynchronous motors connected to one inverter and the actuation must be carried out by a PLC. The mechanical rotation drive should be integrated with the brake.
9. Pivoting mechanism with adjustable distance between pinion shaft and rim. .
10. It should be possible to extend the drive units of the swivel mechanisms upwards with a chain hoist for maintenance purposes.

#### 4.1.2 Sway control

1. Spreader operations must be supported by an effective anti-swaying system, electronic and/or performed by a cable and pulley tensioning system. This system should prevent sway and not make corrections.
2. The anti-sway/tilt device or sway/tilt damping system should work effectively in short-distance movement and also when stopped after full release. The operation of the system will not alter the elevation of the spreader, with or without load, at the desired height.
3. An effective anti-swaying system with a proven design will be provided.
4. Sway control will bring the spreader to a stop when the trolley is fully released from full speed with any operational load at half the hoist height measured at the lower corners of the 40-foot container or at the container lugs of the unloaded spreader. It will be able to bring the spreader to a stop within 2.5 rocking cycles. Any fading (trace elements of rocking with a period = 2.5 cycles are acceptable, as long as they do not stop or prevent further handling operations.
5. Braking during operation is carried out electrically and continuously.
6. hoisting ropes from internationally recognised manufacturers that guarantee high quality and service life should be used.
7. hoisting mechanisms and motors from internationally recognised manufacturers that guarantee high quality and durability must be used.
8. All gears and pinion shafts of the hoisting mechanism will operate in an oil bath and must be located in a closed gearbox. Gearboxes must provide aeration capability, include an oil level indicator and a drain cock for oil changes.
9. The cable drum must be manufactured from welded hot-rolled sheet metal and fitted with grooves.  
  
In the lowest lowering position, the cable drum must have at least 2 additional safety windings.
10. The hoisting winch will be equipped with two brakes made as single disc brakes with electro-hydraulic retarder from a recognised manufacturer with parameters selected by the brake manufacturer, which can safely brake the load in the event of an emergency stop.

11. Brakes from internationally recognised manufacturers that guarantee high quality and service life should be used on the hoist.
12. Limit switches and an emergency limit switch must be provided for the highest position of the hoisting mechanism.

Load-measuring elements should be incorporated on the torque-transmitting handles of the hoisting mechanisms for the automatic cutting off of excessive or unevenly distributed loads.
13. The overload system should be equipped with special strain clearances (load pins or other devices that measure the total load).
14. The system should consist of:
  - monitoring, which prevents hoisting movement in the event of a fault in the measuring device,
  - tare regulation,
  - monitoring loose ropes,
  - overload warnings in the hoisting system,
  - warnings when the weight is close to the maximum load of the crane stopping operation during a detected overload (audible and visual warning).
15. The overload system should be fitted with a bypass to protect against unauthorised use. The workaround should allow 110% and 125% load hoisting during the required TDT tests.

#### 4.1.3 Trim control

1. The tilt on the spreader will be no less than 5° longitudinally (on the longer edge of the container and no less than 2.5° laterally (on the shorter edge of the container at a minimum speed of 0.5°/sec).

The Contracting Entity accepts the 'list' passive tilt provided that it can handle 1.0% across (the cross-slope of the Ropczyce storage/loading area is 1.0%) and approximately 5% in the longitudinal direction (trucks or terminal tractors with trailers that are not perfectly level). The 'skew' tilt can be made by rotating the trolley.
2. A single button on the control console will automatically correct the position of the spreader to a position from 'zero'.
3. The 'zero' position will be indicated by a light on the panel at the ROS Remote Control station.
4. The system will be electrically operated.

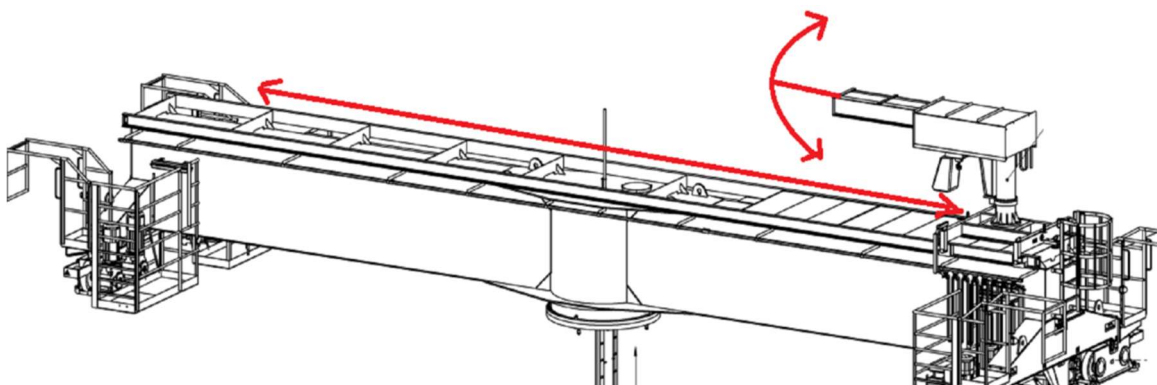
## 4.2 Trolley

### 4.2.1 Trolley frame

1. The trolley frame will be equipped with main hoist devices, trolley drive devices, a trim device, and bumpers (or buffers for forward and reverse collision movement). The bumpers will be able to absorb and dissipate the impact of a collision at full speed with the rated load.
2. The trolley frame will be fitted with drop-stop safety switches to support the trolley in the event of wheel or axle failure.
3. The trolley frame will have marked hoisting points for replacing the trolley wheel and bearings. The housings should be split to allow easy removal of wheels and axles.
4. The trolley frame will be located within the safe maintenance platform and access to all its components and maintenance equipment will be provided.
5. A weatherproof camera will be installed to assist the operator in monitoring the farther side of the hoisted container from the underside of the trolley frame.
6. Two pairs of heavy-duty lateral guide rollers will be fitted to both sides of the trolley frame, front and rear, to ensure even and smooth guidance of the trolley wheels

### 4.2.2 Service hoist

1. A sliding electric auxiliary hoisting winch (see the figure below) must be provided at the top of the gantry crane to enable service work to be carried out on the trolley and for the transport of replacement parts and components from ground level up to the height of the beam bridge, with a hoisting capacity of no less than 500 kg.



2. The hoist, as it is exposed to precipitation, must be waterproofed. The Supplier should prepare documentation in order to obtain authorisation from the TDT with regard to the requirements of the regulations in force in Poland for a hoist treated by the authority as a crane independent of the gantry crane and subject to registration and compulsory inspections.

### 4.2.3 Trolley drive

1. **The travel drives of the trolley** must be mounted directly on the trolley. The four electric motors must be equipped with a speed controller and fitted with an emergency

brake. The trolley drive system, as well as the wheel, shaft and bearing system, should be designed to allow components to be changed easily and quickly at any point on the trolley. Replacing a trolley wheel should not take more than 1 hour, 2 people. The Contracting Entity does not accept the use of a chain drive for the trolley.

2. **Trolley transmission.** Gears must be fitted with hardened, hardened gears to ensure a high degree of accuracy and quiet operation. The gearboxes will be fully enclosed units with oil bath lubrication.
3. **Trolley brakes.** The trolley running system must have a number of brakes equal to the number of drive motors. Any emergency brake should be electromagnetically triggered. In addition, manual unlocking equipment must also be installed.
4. **Trolley bumpers.** On the main beam at the end stops of the trolley movement, four bumpers should be mounted in each corner of the trolley
5. **hoisting system.** The winches should be on a trolley, in a covered area and have a minimum of 1 suitably powerful electric motor with gears installed. The drive shaft must be equipped with a suitable brake that can cope well with a system of eight cables
6. **Ropes.** Ropes of a standard type readily available on the market should be used.  
The theoretical wear time of the ropes should be no less than 10,000 hours of winch operation.
7. **Rope rings.** Linear winch discs should be made of strong, tough polyamide (Lamigamide or equivalent material).

#### 4.2.4 Power supply

The electrical supply to the trolley must be via a flexible cable guide. This means that all electrical cables, including power cables, control cables, connecting the crane wiring to the trolley via the power/cable chain. The cables must be laid in a reinforced plastic cable chain tray and insulated against UV radiation, oils and weather conditions. The chain should be in a corrosion-protected runner attached to the crane structure. The power system should be suitable for the maximum speed of the trolley described in this Specification and supplied by an experienced manufacturer.

1. Power and control cables will be routed to and from the trolley in system cable chain solutions from internationally recognised manufacturers.
2. The supplier will submit design calculations approved by the cable chain manufacturer to demonstrate that they will carry out the analysis taking into account the relevant factors for the following parameters:
  - a. The spacing and bending radius of the cable in each carrier connection, including the allowances recommended by the manufacturers.
  - b. Adequate allowance for cavity filling, including safety factors recommended by manufacturers.
  - c. In each case less than 60% of the total cross-sectional area of the cavity.
  - d. Even and symmetrical weight distribution in each carrier bay.

- e. Adequate consideration of the separation of dissimilar cables with consideration of cable replacement.
- 3. Cable carriers will have additional slots for additional cables (in addition to the slots specified for spare cables).
- 4. The cable system will include 20% spare control cables of each type/size.
- 5. All cables will be purchased from the cable carrier supplier, who will confirm that they are suitable for the application.
- 6. Access to the energy chain system will be provided via a fixed walkway and platform. The recommendations of the manufacturer will be strictly respected in terms of assembly as far as details and tolerances are concerned. A trolley platform can be used to access the energy chain system, provided it provides safe access and handrails have been installed.
- 7. The design of the system will not generate water collection points between the cable and the chain or outwards between the chain material and the gantry crane structure.
- 8. The Contracting Entity accepts a proven torsion cable between the top of the trolley and the hoisting winch housing.

#### 4.2.5 The energy chain

Electric energy will be supplied to the trolley via a flexible energy chain, the guides of which are to be installed inside the covered spaces. The noise generated by the power chain must not exceed the parameters of the applicable standards. Range of required operating temperatures of the guides: -40°C to +40°C

#### 4.2.6 Cables in the electrical chain

The cable routing system in the guides must allow for quick and easily accessible cable replacement. Cables should be fixed and routed in a way that eliminates tension / stretch. The cables used inside the guides must be designed for indoor use and be supplied by the same manufacturer as one set. The permissible bending radius of the cables should be compatible with the guide system. The operating range for copper cables should be -35°C to +90°C and -35°C to +60°C for optical fibres.

### 4.3 Gantry crane

#### 4.3.1 Drive of gantry crane

- 1. The drives of hoist, trolley, gantry crane travel should be powered by variable frequency, continuously variable AC (Alternating Current) drives developed specifically for RMG cranes.

2. The drive motors and braking system of a gantry crane will provide sufficient thermal capacity, torque and traction in all operating conditions, including continuous operation at full load.
3. Acceleration and deceleration forces will not result in wheel loads that exceed the limits specified in the Specification.
4. The crane drives will be able to accelerate and decelerate the gantry crane and its components both under wind load and against it without negative heating of any components.
5. Brakes for gantry crane operation will include electrically controlled disc brakes mounted on each crane drive. The dynamic ratio should be greater than 100% of the maximum motor torque, but not greater than 150% of the maximum motor torque. The thermal capacity of the brake must be sufficient to bring the gantry crane to a halt from its rated speed in line with the direction of the maximum operating wind without suffering any damage even if the emergency stop button is pressed without any assistance from the wheel brakes or rail tongs. Each brake will be fitted with a strong, lightweight, snap-on and rainproof housing. The brakes will be applied after an adjustable crane inactivity time delay. The brake design calculations and selection will be formally approved by the brake manufacturer, and this approval will be submitted by the Supplier to the Contracting Entity no later than with preliminary design documentation.
6. Storm brakes for all gantry cranes at 3 units per foundation will be provided by the Supplier. The assembly of the storm brake pockets in the foundation will be carried out by the Contractor of construction work, taking into account the guidelines of the Supplier, the Contracting Entity and the designer of the crane foundation ([Annex No. 9](#)). The parameters of the storm brakes should be selected so that they are capable of holding the gantry crane in continuous 42m/s storm winds in combination with the rail tongs of gantry crane.
7. The drive of the crane will be self-contained within its drive trolley, being carried by a fully enclosed, oil-lubricated, tapered and/or helical bevel gearbox with one motor and one motor driving one wheel. The motor will be flange-mounted to the reducer.
8. gantry crane components will be protected by appropriate arrangement or by the provision of significant protective features to prevent damage from movement.
9. The trolleys of the gantry crane will be equipped with safety features for the trolley in the event of a failure of wheel or wheel shaft.
10. Each Trolley and alignment beam will have appropriate hoisting points to facilitate hoisting for simple removal of any wheel without removing the trolley or alignment beams. The load and hoisting position should be chosen to prevent overloading of the pavement structure.
11. Wheels and drives will be fitted with robust safety protection measures.
12. Rail scrapers should be placed at the front of the outer wheel at each corner.
13. Hydraulic bumpers should be installed on the 4 corners of the gantry crane.

14. The gantry crane should be equipped with limit switches to prevent the gantry crane from moving when the additional storm brake is engaged.
15. The movement of the gantry crane will be prohibited whenever the movement of the service hoist is activated.

#### 4.3.2 Medium voltage cable reel

1. The gantry crane should be fitted with a single spiral cable drum. The drum will be driven by an electric motor directly connected to the gearbox. The drive should provide sufficient torque and speed to hoist the cable from the ground, preventing slack in all operating conditions.
2. The cable should be suitable for sufficiently fast winding/unwinding speeds, for long distances and for high tensile forces. The unwinding range will be selected by the Supplier and will be no shorter than to allow the gantry crane to move in each direction + the necessary reserve determined by the Supplier. The cable should also be equipped with fibre-optic cables, free from interference of data transmission and control signals.
3. The cable winder system should prevent winding/unwinding when the drive is not powered. The cable will run vertically down to the roller guides that will lay the cable on the cable ladder. The cabinet in which the slip ring system will be located should be weatherproof (IP min. 65) and equipped with heating devices.
4. The cable drum will be installed on gantry crane supports located in the track section. The cable drum drive control system will be designed to minimise rapid starting, braking and excessive cable slack/tension when the gantry is in operation, particularly when passing through the feed chamber point. Sensors/switches to detect the above conditions will be provided.
5. The cable reel will be manufactured entirely from stainless steel or will be hot-dip galvanised after all manufacturing and machining work has been completed.
6. The cable guide will be positioned to keep the medium voltage cable close to ground level. The cable will be unrolled on a cable ladder installed in the track section of the terminal.
7. The system should be well protected from the weather in particular near the medium voltage slip ring components and the slip ring housing will be made of stainless steel.
8. The cable drum drive equipment and slip ring area will be fenced off to allow access only to authorised persons. A high voltage warning sign will be fixed by the Supplier at the entrance to the fenced area.
9. A suitable sized heater will be provided in the slip ring housing.
10. Limit switches will be installed to control the movement of the crane close to the travel limit (limited by cable length).
11. Manual controls will be provided to operate the drum at ground level.

12. The switches will be housed in a lockable and weatherproof box mounted at ground level adjacent to the cable system to provide control for forward, reverse and bypass movement of loose cables.
13. Cable drum from internationally recognised manufacturers that guarantee high quality and durability should be used.
14. The supplier of the crane must provide the power point distributor and the cable relief drum, while the Contracting Entity must provide the cable tray and the concrete power chamber (cable box in which the cable connection will be implemented by the supplier). A terminal box and/or socket connector for the power cable is provided by the Supplier. In accordance [with the Annex No. 5](#) to the Specification.
15. The supplier will provide short circuit and overload protection for the cable guide.

#### 4.3.3 Anti-collision system of the gantry crane. Collision avoidance systems

1. The gantry crane must be equipped with at least two separate, independently operating anti-collision systems that automatically slow down, alarm and eventually stop the machine in dangerous situations: e.g.
  - when approaching the end of the gantry crane track,
  - when the devices approach each other,
  - when there is an obstacle in the path of the gantry crane;
  - if there is an obstacle or a person in the working area of the gantry crane (there is an obstacle or a person within the clearance limits).
2. Object detection between the gantry crane legs is not required to be provided as part of the gantry cranes provided. A system must be provided to detect collisions in the area of the gantry crane rail on which the gantry crane travels. The width of the beam detecting people and objects around (above and beside) the gantry crane rails (adequate for the clearance limits of the gantry crane), will be agreed between the parties and adjusted and checked by the Supplier. The clearance to the left and right of each radar may differ, meaning that the detection 'beams' will be asymmetrical.
3. Reliable laser or radar devices or other devices with no inferior performance and detection efficiency in severe weather conditions should be installed at each of the four corners of the crane to prevent collision with the adjacent crane, vehicle, container and other objects. The system must operate smoothly in all weather conditions (heavy rain, snowfall, darkness, fog, etc.). If the operation of the collision avoidance systems is carried out by means of radio equipment that transmits on frequencies that require a permit then the Supplier of the gantry cranes is obliged to obtain a permit from the Office of Electronic Communications (UKE). The frequency of operation of the equipment with which the crane is equipped must not interfere with the operation of other terminal equipment or railway systems located in the infrastructure of the PKP PLK S.A. railway station in Ropczyce. The Supplier will provide a high quality anti-collision system between long-range gantry cranes enabling detection of an adjacent

RMG crane. This system should allow adjustment of the permissible operating distance of two adjacent gantry cranes; the initial setting should assume a minimum of 4 m.

4. Visual warning of the crane approaching an obstacle will be provided at the crane's remote control station, and slowdown/stop functions will be provided automatically in a logical sequence in the direction of travel.

#### 4.3.4 CCTV of the gantry crane

1. The gantry crane will be equipped with HD resolution closed-circuit television (CCTV) IP cameras on the outer legs of the crane, providing high-resolution views in both directions of the crane's movement on the running tracks. The purpose of the system is to provide visibility for the operator to detect personnel or obstacles that may be positioned outside their field of vision. Monitors should also be part of the equipment at the remote control station for gantry cranes.
2. For the remote control station, the monitors will be ergonomically positioned to provide the visibility required to steer the gantry crane.
3. CCTV cameras must be positioned in such a way that the working areas of the gantry crane, in particular the container depositing and retrieval areas on both sides of the stacks, are fully observed without significant blind spots.
4. In particular, the cameras should have a proven, permanent fixing system that prevents the cameras from changing their position on their own. The location of the cameras should provide excellent visibility when handling all container sizes on all modes of transport, also taking into account the handling of 45-foot containers on truck trailers.
5. The system must also include a camera that provides a top view of the operation, corresponding to the operator's perspective.
6. The cameras must provide continuous real-time viewing in both day and night conditions, with readable images for safe operations.
7. The cameras and their housings must be suitable for use in the environmental conditions specified in the Specification, in particular have an adequate degree of protection (min. IP66 or higher) and resistance to moisture, dust and temperature fluctuations.
8. The camera mounting system must ensure that the cameras are stable and resistant to vibration and dynamic loads, without the risk of spontaneous repositioning during operation.
9. The cameras must be equipped with auto-focus and zoom functions, operating stably under the operating conditions of the gantry crane.
10. The solution must provide easy service access without the need for specialised equipment to the greatest extent possible.

## 4.4 E-house electrical control

### 4.4.1 General construction

1. The electric control room (e-house) should be equipped with a complete set of air conditioners and electric heaters and fans. Air conditioning and heating should be maintained at approx. 20°C and 50% humidity and ensure adequate air exchange and circulation. Air conditioners and heaters should be duplicated, in case one of them fails, to allow use of the crane until repaired.
2. The flooring of the control room will be fully fitted with a rubber mat providing 1000 volts of anti-static protection. Ample space should be provided in the control room for all equipment and fittings for the Gantry Crane Management System.
3. All electrical cables installed under the floor should be easily accessible.
4. Access doors should be fitted with non-corrosive heavy-duty security locks located in the upper panels together with a drainage system, doors and windows will be metal and fitted with non-corrosive heavy-duty locks. The door to the control room will be a self-closing door. A drip shield will be placed over the door.
5. The Supplier will provide a locking cabinet inside the control room and a work table of approximately 1200mm x 600mm with a chair.

### 4.4.2 Accessories, Facilities located in the Electrical Control Room

1. Pushbutton switches for the main control circuit, the main power supply for movement and lighting switches.
2. High-voltage main power switch and remote control switches.
3. Main control panels for the movement drive of the hoist, trolley, crane, etc.
4. Transformer
5. Auxiliary power source panels.
6. Control panels.
7. LED lighting providing uniform illumination of the work area of no less than 150 lx.
8. Intercom
9. Appropriate meters and counters.
10. Fire extinguishers suitable for electrical ducting.
11. Service sockets.
12. Central distribution panel for crane lighting.
13. Harmonic attenuator.
14. Power factor controller.

15. Two (2) heaters/air conditioners sized to operate continuously, if required. With the proviso that the operation of air conditioners when the crane is not working should not lead to a detrimental effect on the power factor. (POWER FACTOR).
16. Safety lighting system with power backup for safety lamps for a minimum of 2 hours. Lamps switched on automatically at the loss of power to the crane. The back-up batteries are to be recharged automatically by suitable devices.
17. Additional air conditioner built in as a back-up in case of breakdowns or service operations.
18. Automatic fire detection system in the control room equipped with a smoke detector in each individual control room panel near sensitive components such as transformers or switches. Information about the fire should be sent to the operator according to an agreed procedure that will eventually lead to the crane being shut down automatically and safely if critical conditions are reached.
19. There should be one keyed button in the control room to switch standard operations to so-called 'creeping motion' for maintenance and service purposes. In the 'creeping motion' position, all maximum speeds will be reduced to 1-10% of standard maximum speeds.

#### 4.4.3 Electrical connection

**The CONTRACTOR** of the construction works will, on behalf of the Contracting Entity, construct a concrete power chamber according to the [Annex No. 11](#), to which the CONTRACTOR will also connect a **3x YHAKXS 1x70/25 12/20kV** cable. The power chamber is located next to the gantry crane track in the railway section, and will be adjacent to the gantry crane track in the middle of the track. The Contracting Entity will also construct ground cable trays / rack for depositing the crane power cable, 400 mm wide and sited 300 mm above ground level according to the [Annex No. 5 of the Specification](#),

- a) Within the scope of the agreement, the Supplier of the gantry cranes will supply complete power cables and cable connectors connecting the connection in the underground power chamber of the crane, as well as supplying a cable reel for each and a funnel-shaped element for the power chamber, as well as preparing the cable and supplying the electrical components and carrying out the connection of the crane flexible cable supplied by the Supplier with the power supply earth cable prepared by the Contracting Entity.
- b) The supplier of the cranes will equip the cranes with the necessary energy protection to secure the correct and fault-free operation of the cranes and will install elements to compensate for reactive power if the crane causes its emission . (Active Power Factor Correction circuit).
- c) It will be the responsibility of the Supplier to supply the electrical boxes for the power chamber and to make the connections in the power chamber and in the server room.

**Upon completion of the works, the Supplier will provide a set of electrical measurements** required by the Polish law.

- d) A list of additional items to be supplied by the Supplier under the agreement is included in the [Annex No. 5](#). Other items not included in the [Annex No. 5](#) are governed by this Specification and the annexed agreements.

#### 4.4.4 Electrical equipment

- a) Electrical equipment must comply with current quality and safety standards
- b) All accessories, such as motors, contactors, PLC, etc., must be supplied by internationally recognised manufacturers ensuring high quality and longevity

#### 4.4.5 Circuit breakers

- 1. The Supplier will provide one main switch for each crane in the control room for all drives and controls, as well as one switch for auxiliary equipment (lighting, heating, sockets, etc.). Both switches must be made as power switches. The Contracting Entity requires each crane to have two independent electrical circuits.

- 2. Fire safety equipment.

The crane is to be equipped with fire extinguishers in accordance with the regulations in the control room (e-house), motor room (winch house) and with an automatic fire detection system.

- 3. Emergency stop and passage buttons:

- a) All gates between mobile and fixed platforms should be equipped with gravity closure, with a high quality weatherproof electric lock. The opening of each of the transition gates must result in an immediate shutdown of the trolley movement.
- b) All limit switches should be matched to the climatic conditions present at the site of each crane and have a protection factor of IP65. Each limit switch should be part of a monitored circuit checked by the PLC for correctness and recording of error data.
- c) The activated buttons must be displayed in the error message system.
- d) Standard emergency switches.
- e) The emergency stops when the safety switch is pressed must disconnect the power supply to all drives of the crane and stop its existing operations. The power supply should be disconnected while the brakes are still applied.

- 4. Safety switches for emergency stopping should be fitted at the following locations:

- a) E-house x 1
- b) Switchboard on trolley x 1
- c) Console at ROS x 1

- d) Corners of gantry crane running gear x 4
- e) Upper beam corners x 2
- f) Spreader x 1
- g) Entrance to area of hoisting winches x 1
- h) Cable winder area x 1
- i) Hoisting winch
  - Emergency limit switch for highest load position (switches in emergency stop circuit, including bypass switch for testing purposes)
  - Operation limit switch above (by sensor)
  - Operation limit switch below (by sensor)
  - Cut-off in the event of an overload, complete and for each hoisting mechanism (keyed or bypass switch. Load-measuring shafts should be installed on the torque transmission mounts of the gearbox or on the ends of the cables)
- 5. Overspeed switch - excitation weakening control (switches in the emergency stop circuit,
- 6. Switch if the spreader has only fastened the container on one side,
- 7. The initial disconnection must be carried out independently of the speed in order to guarantee problem-free availability of the limit switch.
- 8. gantry crane travel mechanism:
  - Front and rear limit switch
  - Limit switch left and right

## 4.5 Transformer

The Supplier will supply an LV transformer designed for this type of equipment, hermetically sealed, with appropriate electrical protection. The transformer should be installed in a weatherproof and ventilated location on each gantry crane. The transformer should be equipped with a monitoring and alarm system in the event of an adverse event. Access to the transformer and other equipment on the MV side should be well protected from unauthorised persons, and LV equipment requiring personnel access should be in a separate location.

## 4.6 Switchboard

The switchgear should be installed in a safe, dedicated, sealed area and supplied by a leading manufacturer. The switchgear is intended to provide maximum electrical protection for the transformer, electrical circuits and individual equipment and to prevent overload currents, short-circuit currents and insulation failure. The switchgear should be fitted with a monitoring and alarm system to alert personnel in the event of an incident.

## 4.7 Gantry crane wheels

1. The Supplier of the RMG cranes must adapt the solutions for the RMG to be supplied in terms of static and dynamic loads, taking into account the parameters of the gantry crane foundation.
2. In order to maintain the permissible pressure of the crane wheels on the crane track, the Contracting Entity expects the gantry crane to be equipped with 24 wheels (6 per corner) with a diameter of 630mm. The selection of the number of wheel arrangements and wheel sizes is to be made by the Supplier in such a way that the requirements for the permissible impact on the gantry crane rail and gantry crane rail foundation are met. Detailed design data for the foundation and crane rail will be made available to the Supplier upon request after conclusion of the agreement.
3. The Contracting Entity does not permit flanged wheels. Only non-flanged gantry crane wheels (smooth wheels designed for use on PRI 85R (MRS 87A) rails) shall be used, together with side guide rollers of a diameter to be specified by the Supplier.
4. The running wheels of the gantry crane must be connected to the drives via a Hirth gear coupling.
5. Wheels must be made of hardened high-tensile steel alloy. The 42CrMo4 material or its equivalent, i.e. a material that meets the requirements for mechanical properties of materials subjected to mechanical stress while complying with safety requirements.
6. The running wheels should be mechanically designed so that they do not require adjustment.
7. To ensure that the crane is secured in a storm, it should be equipped with self-acting rail tongs to secure the crane in any position.
8. The design minimum service life of the crane wheels should be 20,000 hours of crane running gear.

## 4.8 Access to the gantry crane

1. Access (entrance/exit to the crane will be provided: on the fixed support on the north-east side, i.e. in the track bed), as an assembled and lockable staircase with transition platforms including access to the main beam.
2. Staircases, ladders and platforms/ landings must be made of galvanised and non-slip materials. Any ladder located above ground level should be fitted with a safety cage in accordance with the regulations.
3. Platforms should be provided to allow access to the trolley.
4. All passageways should be fitted with self-closing doors protected against inadvertent opening. Relevant legislation in this respect should be taken into account.
5. The main beams of the crane must be fitted with galvanised landings made to allow pedestrian access and be finished in a non-slip manner.

#### 4.9 Travel mechanism of the gantry crane

1. The gantry crane will run on the MRS 87A type running rail ([Annex No. 12 to the Specification](#)).
2. It must be possible to easily mount and dismount the running wheels, which will be mounted with roller bearings.
3. Safe movement and operation of the crane at the rated speed under wind load conditions of up to 22 m/s will be ensured. Secured on rail clamps, the crane should be able to withstand wind speeds of up to 42 m/s without displacement.
4. The gantry crane drive is to be made using geared motors equipped with electrically controlled disc brakes. The connection between the gearbox and the clutch shaft must be made in such a way that it can be easily unscrewed even after many years of service. The motors should be selected on the basis of energy efficiency.
5. Hydraulic bumpers from internationally recognised manufacturers that guarantee high quality and service life should be used.
6. All 4 corners of the gantry crane running gear must be fitted with hydraulic bumpers and guard rails.
7. Hydraulic bumpers from internationally recognised manufacturers that guarantee high quality and service life should be used.
8. Limit switches on the running track will be installed so that the gantry crane stops in the operational end position before the bumpers.

#### 4.10 Spreader

1. The supplier will equip the cranes with a spreader from an internationally recognised manufacturer ensuring high quality and longevity.
2. The spreader is to be all-electric, controlled from a remote control station, made of high-grade steel, equipped with an electrically controlled guidance system (four so-called 'flippers', automatically adjustable to handle 20, 30, 40 and foot containers).

When hoisting, the flippers should hoist automatically, taking into account the available space around the spreader. In addition, they should be secured with an additional chain (fall protection).

3. It is required that the spreader is equipped with hoisting lugs min. 4x10 tonnes each, in the corners of the end beams to handle damaged containers, in a robust cable bin for the power cable. The cable must be easy to replace and have simple connection points on the spreader and trolley.
4. The spreader should be designed to hoist containers and the design calculations made should also take into account the degree of uneven load distribution inside the containers. The criteria adopted should assume that the centre of gravity of the load can be shifted axially and laterally from the centre line.

Furthermore, the aforementioned functionality should also be taken into account when hoisting loads using the handles mounted on the spreader end beams.

5. Electric motors mounted at the spreader should only draw electricity when handling operations are carried out. Electrical accessories and the cable chain system should be well protected in the main frame. All components should be easily accessible for service and preventive maintenance work.
6. The spreader should be equipped with a height monitoring system to ensure safety by signalling to the operator when approaching the top of the container. In addition, on the four corners at the twist locks, the spreader should have cameras mounted in such a way that they provide visibility of the twist locks and are protected from possible collision with the container.
7. Electrical systems should monitor the operating status of the spreader at all times. The lights should alert the operator when the spreader is incorrectly positioned, locked or not locked. Each signal must be a condition for the protective functions of the spreader (twist lock activation, telescope unfolding).
8. The electrical cabinet must be mounted on the spreader frame with special shock absorbers to minimise damage to electrical components during handling. Cabinet waterproof of IP66.
9. Spreader parameters
  - hoisting capacity:** 41 tonnes
  - Slings:** 4 x 10 t
  - Telescope unfolding speed:** 20' to 40': no longer than 20 seconds
  - Flippers:** electrically foldable
  - Twist locks:** lifespan of **no less than 80,000 cycles**, quick-change, so-called floating, which allow movement in all lateral directions for effective insertion into the container's hitching corner, turning force of 250 Nm.
10. The spreader weight should be selected optimally for the required crane type and parameters.
11. Container transoms should comply with ISO standards and be mounted on slewing bearings. Bolt locks should be located next to the container bolts and lock mechanically provided they are not located on the container. The loss of hoist signal will be transmitted directly via proximity sensors.
12. The movement of the container bolts from the 'unclosed' to the 'closed' position should be mechanically and electrically secured until all 4 bolts are fully fitted into the corners of the container and the entire spreader is laid on the container. Opening the container bolts from the 'closed' to 'open' position will be impossible during hoisting or when the container is not put down.
13. The spreader must have an overload prevention mechanism in the event of freezing in sub-zero temperatures (e.g. in the form of an adjustable torque clutch) to disconnect the system and prevent the tripping of electrical protections.
14. The spreader must automatically adjust to the 20', 30' and 40' positions once the operator has selected the desired dimension.

15. The first three seconds of the spreader change and the last three should be done with the movement slowed down to minimise impact.
16. In order to be able to hoist damaged containers or specifically shaped loads in the four corners of the spreader near the transoms, handles should be installed to support the slings.
17. All mechanical and electrical components, including cables, attached or working at the spreader should be protected from the effects of frequent impact and vibration during operations. All fasteners should be self-locking or loosening-proof.
18. In addition, power cables connecting moving components should be protected against mechanical damage.
19. The spreader control must be integrated into the gantry crane management system (CMS). Functions must appear as individual messages in the CMS.
20. Signal lights (yellow red green must be in the form of LEDs positioned on a black background. Duplicated lights are preferred. The light must be visible in all lighting conditions. The spreader should be fully weatherproof.
21. The spreader should withstand min. 2 million cycles, with the intensity of use assumed by the Contracting Entity and correct servicing, and the safety factor should meet the parameters provided for the loads referred to in the Specification.
22. The spreader should be equipped with an operation counter.
23. Tilt on spreader - in accordance with section 4.1.3 'Trim control'
24. Power supply for spreader

The cable feeding the spreader will be laid in a cable bin located on the spreader frame. The spreader power cable should be a shielded cable made in PVC insulation with appropriate loading. Its strength must be appropriate to the weather conditions, the intensity of operations and the dynamic loads encountered during any type of handling work. The cable must be terminated with a plug allowing quick disconnection.

#### 4.11 Gantry crane control station (ROS)

As part of this tender, the Contracting Entity requires that tenders be submitted with the provision of service from remote operator stations (ROS) to be located in the terminal office, described further in detail.

1. The Contracting Entity intends to procure and use the cranes in question as semi-automatic operation. Operator-supervised operations with direction of the indicated operations when handling means of transport wagon / semi-trailer and when handling exceptions are allowed. This method of operation should enable to control all functions of each of the gantry cranes to be supplied under a concluded Delivery Agreement. Comprehensively equipped operator stations will be located in the terminal office room. Standard operator stations for control will be installed and connected by the Supplier at the office of the Contracting Entity located at the terminal.

2. Along with the delivery of the crane, the Supplier will supply all the equipment and devices that the Supplier will install in the Contracting Entity's server room. The implemented control solution should be prepared in such a way that a third RMG crane planned for the future can also be controlled in this way in the future. This should be done without replacing the equipment in the server room, but only by adding facilities and equipment. It should be possible to control the two gantry cranes alternately from each station independently. Ultimately, the control will include 3 RMG cranes from 2 remote operator stations, as well as the creation of one back-up operator station.
  
3. The cranes should have operator support systems as described in the Specification (including 3D and 2D scanners) to ensure that 'trim, skew, list' operations can be performed manually by the operator.
  
4. Each crane should provide:
  - a) automatic positioning of the crane door for the next task according to TOS, with operator supervision (remote)
  - b) automatic positioning of the gantry crane trolley to the next task according to TOS, in the container storage area of 7 rows + 1 empty row from the cantilever (1 over 4) and positioning of the gantry crane trolley without attached container in the full range/span of the gantry crane operations (remotely)
  - c) automatic lowering and raising of the spreader for the next TOS task in the container storage area of 7 rows + 1 row empty from the cantilever (1 over 4).
  - d) automatic lowering of the spreader for the next TOS task to a level of 6 m above the terminal surface on 2 truck lanes and in the fast loading buffer 2 rows (1 over 2) and on 4 railway tracks, and its automatic raising when it reaches a level of 6 m above the terminal surface on truck lanes and in the fast loading buffer 2 rows (1 over 2) and on 4 railway tracks,
  - e) in cases of remote control of wagon and car handling operations where the driver remains in the cabin (i.e. in the lane under the gantry crane), active supervision (manual for heights from 0 to 6m) of the lowering of the container onto the wagon or semi-trailer and the hoisting of the container from the wagon or semi-trailer will be required. The operator in manual mode will perform lowering and raising operations of the spreader up to a height of 6 m above the terminal surface on the vehicle loading lane (truck lane) and on the 4 railway tracks.

Until the container storage area is fenced off, the automatic operations described in the clauses 4a, 4b, 4c, will be carried out in the supervised mode, where the operators will only hold a button to confirm that they are supervising safety.

5. The Contracting Entity requires the use of an additional system, e.g. a laser system to analyse the space in 3D and 2D and the use of proximity sensors or other solutions from the Supplier. The Contracting Entity expects the lowering of the spreader empty

and with the container attached to it to be carried out automatically up to the 6 m level and the hoisting from the 6 m level. If safety considerations require it, e.g. the truck line - the lowering of the spreader with a container attached can take place in a supervised mode by the operator.

6. The TOS terminal system and the gantry crane system should be integrated and exchange information on the location of the crane gantry, trolley and hoist, spreader and twist lock positioning and assign tasks directly to the nearest crane, with the crane performing the appropriate positioning based on the locations of containers to be picked up received from the TOS and feedback the locations of the containers to be put down.
7. Gantry cranes supplied under the Agreement will be equipped with weatherproof fixings and cabling, suitable for subsequent assembly of a Gantry Crane OCR system without loss of the warranty for gantry cranes. Camera/equipment mounts should be positioned in accordance with the guidelines of leading manufacturers of such equipment. Confirmation of the attachment location, type, stock and method of termination of the cables between the Supplier and the Contracting Entity will take place **no later than within 6 months** of signing the agreement, in such a way that the OCR cameras installed by the Contracting Entity at a later date will cover containers being transhipped to/from the means of transport; between the means of transport (e.g. between wagons or between vehicles) and transhipped within the storage blocks (house-keeping). The cabling (OCR equipment power supply and transmission medium - optical fibre) should be installed by the Supplier prior to acceptance of the gantry cranes by the Contracting Entity. In the e-house of each Gantry Crane, a place should be prepared and indicated for the quick connection of the aforementioned cables in the future when the OCR system is installed.
8. Notwithstanding the above requirements, the operator should retain the ability to control the execution of each crane, trolley and spreader operation by capturing these activities manually. The efficiency of the crane and the rate of loading and unloading operations achieved in remote control mode must not be inferior to that achieved in manual control mode from the operator's cabin.
9. Together with the offer, the Supplier will provide a brief description of the technical and engineering solutions necessary to operate the crane in the mode that takes into account the above requirements of the Contracting Entity. In case of doubt, the Contracting Entity will be able to call on the Tenderer to provide additional clarification. **Important! Failure to provide technical and engineering solutions to enable the gantry cranes to operate as required will result in rejection of the tender bid.** The Contracting Entity may request additional clarification from the Tenderer in this respect.

#### 4.12 Remote Operating Stations (ROS)

1. The supplier is obliged to provide two comprehensively equipped operator stations (ROS) to enable the steering of each crane. The workstations should be complete and equipped with the equipment, software and solutions necessary to operate the cranes in the mode described in section 4.11. In particular, a video server and a redundant video server as well as all devices with their connections for communication and data

transfer between the crane servers and the TOS should be provided within the Remote Control Station. The operator's workstation must ensure safety and ergonomics during the work. The set of monitors used in the supplied stand will provide the operator with an excellent view of the area in which he is working and carrying out the handling, as well as of the immediate surroundings, enabling the operator to observe, for example, oncoming vehicles and the handling of 20', 30', 40', 45', 45PW containers in ISO sizes, as well as HC and ISO standards.

2. The control of the gantry crane at the remote operating station (ROS) must be operated by an operator working in a seated position. Steering will be via ergonomic consoles with industrial-strength joysticks and other controls selected by the Supplier.
3. The workstation must be designed in accordance with the directives and regulations applicable to ergonomics at work and comply with the conditions applicable to the country of delivery.
4. The operator station should be equipped with a signalling system: ready for hook-up (yellow), hook-up (green), unhooking (red), wind warning (blue), wind alarm (red). Signalling should be provided on the operator's monitor, and for auxiliary (wind force) alternatives are acceptable - to be confirmed by the Contracting Entity. Each remote operating station (ROS ) should be equipped with a crane mode switch (remote operator control station operation, autonomous operation, autonomous operation with operator assistance (supervised) with clear information on which crane the operator is currently controlling via the ROS.
5. The entire system should be equipped with safety devices to prevent the gantry crane from starting if an attempt is made to operate the gantry crane via a remote operating station (ROS) if there are technicians on the gantry crane.
6. In addition, the Supplier should equip the workstation with:
  - Security system to prevent unauthorised use of the gantry crane. An access point should be provided at the operator's station that allows the gantry crane to be started and operated only after the operator has placed the magnetic card in the reader. The system should record card numbers and recognise the name of the operator assigned to a particular card number, it is desirable that it should be an open 125 kHz RFID system that allows access cards / fobs to be programmed by the Contracting Entity, including the addition of those already in use to provide access to other equipment.
  - Telephone link to other areas of the crane.
  - Microphone and speaker system
  - Warning signal (horn)
  - Radio
  - Additional TOS-dedicated monitor
  - CCTV system - control and display
7. There should be ergonomically placed digital monitors at the control station, ensuring good visibility in all lighting conditions and displaying, among other things, the following data continuously:
  - Fault/alarm indications,
  - Current load,
  - Spreader height ,
  - Driving position of the trolley and crane,

- Current wind speed,
  - Trim/tilt angle,
  - Lock status (open, ready to turn, closed),
  - View from the cameras supporting the loading and movement of the crane.
8. A chair suitable for 24/7 working should be suitably ergonomically designed, electrically adjustable forwards and backwards, up and down, and should also be able to rotate. The seat back should have different reclining positions and adjustable lumbar support. Designed for men and women weighing up to 150 kg. The upholstery should be made of leather. Provide 2 sets of seat covers (easily replaceable).
  9. The communication system (intercom) should allow one-way communication between the operator and people on the ground near the crane. In particular, there should be audibility in the truck lane so that instructions can be given to the driver. The system should consist of a microphone, amplifier and loudspeaker. At least 4 speakers should be positioned in such a way as to ensure communication with the ground crew, including the driver who remains in the truckline cabin on the inside legs - one speaker per leg/support
  10. A telephone system with its own and independent power supply should be installed on the gantry crane. The system should cover at least the following locations:
    - Headphones with socket and power cable in e-house and at ROS remote control station;
    - Handsets with power cable at ground level at main entrance and on trolley at switchboard;

Headphones, plugs, cables and other equipment must have adequate protection from the weather.

#### 4.13 Equipment and cabling between the server room and the ROS room

1. As part of the commissioning of the ROS control stations, the Supplier will provide the supply, assembly and connection of all the infrastructure necessary for their operation (components such as, for example, servers, video servers, switches and others). The cabling between the server room and the room where the control stations (ROS) are to be located will be carried out by the Contracting Entity prior to the delivery of the gantry crane according to the detailed guidelines by the Supplier communicated to the Contracting Entity in writing within **3 months of signing** the agreement.
2. The work on the part of the Supplier will include the termination and connection of the optical fibres introduced by the Contracting Entity into the server room to the system components supplied by the Supplier and installed in the server room, the assembly of these components, the connection of the components in the server room to the control station, as well as the termination and connection to the control stations (ROS) in the operator room and the configuration and commissioning of the entire system. The servers and switches required to operate the system should be housed in a standard rack (e.g. full height 42U) that is lockable, provided by the Contracting Entity and in accordance with the guidelines of the Supplier.

3. The parameters concerning the rack as well as the power requirements of the devices that the Supplier plans to install in the server room will be communicated by the Supplier to the Contracting Entity in writing **within 3 months of signing** the agreement.
4. Should additional components, e.g. a time server (NTP), be required for operation of the system, these are also included in the scope of supply on the Supplier's side. The image (video) servers should ensure that the images transmitted from the cameras on the crane are recorded for inspection purposes for 45 days.

#### 4.14 Electrical ducting and switchgear

1. The laying of electrical ducting will be carried out in galvanised ducts, trussed cable trays and open cable shelves. Cables in horizontally installed cable ladders must be fixed using stainless steel cable clamps containing neoprene washers.
2. Devices with low electromagnetic immunity (BUS interfaces, incremental encoders, windmill, etc.) must be connected with shielded or separately laid cables or fibre-optic cables.
3. All power supply ducting will be permanently marked on both sides with a cable number.
4. The PLC and frequency converter will be centrally installed in the e-house control room.
5. Switchboxes/control cabinets mounted on the outside of the cranes will be made of stainless steel with a protection level of min. IP65, fitted with hinged doors and anti-condensation heaters. All components should be properly earthed.
6. All electrical switchgear installed on the crane should be of a suitable industrial type and consist of standard electrical components.
7. All components should be readily available on the market through standard purchasing procedures.
8. Low-voltage control circuits should not have more than three devices under one circuit breaker.
9. Electrical switchgear should be fully assembled and all wiring connected.
10. Before shipment, they should pass all tests at the manufacturer's facility to confirm correct wiring, functionality and lack of errors.
11. The cranes should have standard built-in electricity meters of a class that ensures that the energy consumed and recuperated is measured correctly.

#### 4.15 Electrical cables

1. Each electrical cable of the cranes must be indelibly labelled at both ends for ease of identification and be appropriately marked on the wiring diagram.
2. The power supply for variable frequency AC drives/motors must be supplied via special motor cables.
3. Wiring should have at least 1000 VA insulation.

4. The power cable for the spreader should be a shielded cable with PVC insulation and a suitably rated current capacity. Its durability must be suitable for the weather conditions and the intensity of use and dynamic loads encountered during all types of handling operations. The cable must be fitted with a plug with an IP65 rating that allows for quick disconnection.
5. All cables should be laid on cable ladders and conduits and secured to prevent them from rubbing against other cables and structural components, and be secured and UV resistant (using double locking plastic ties).
6. All cables transmitting digital or control signals should be of the shielded type and terminated with terminals that adequately protect against electromagnetic interference.
7. The ties must be fitted at regular and appropriate intervals to ensure adequate strength and durability.
8. Cable entries should be made from the underside of the electrical cabinets or, if this is not possible, suitable cable loops should be made to drain the cable surfaces outside the electrical cabinet.

#### 4.16 PLC

1. The control should be made fully digital, based on microprocessors and programmable logic controllers.
2. The controlled units must be connected via Profibus or Profinet.
3. The PLCs from internationally recognised manufacturers that guarantee high quality and service life should be used.

#### 4.17 Drives

1. Gantry cranes must be equipped with devices to synchronise the running gear of the gantry cranes so that both sides of the gantry crane move at identical speed
2. All drives with frequency converters must be protected against overload by sensors. All drives at frequency converters must be manufactured with increased insulation resistance. 4 hoisting drives:
  - Minimum protection system: IP65
  - Anti-condensation heating
  - Forced ventilation
3. gantry crane and trolley mechanism drives:
  - Protection rating: minimum IP65
  - Self-ventilation
  - Anti-condensation heating

4. Frequency converters from internationally recognised manufacturers that guarantee high quality and service life should be used.

#### 4.18 Sound generator and horn

The Supplier will install warning light-acoustic generators on at least all four corners of the crane running structure.

1. Warnings will be triggered automatically when the crane is in motion.
2. The supplier will ensure that the sound intensity of the warning generators can be adjusted
3. The crane must be equipped with a horn that will be activated by the crane operator

#### 4.19 Lighting

1. All lighting circuits should be separated into individual branches.
2. Each branch should be protected by its own e-house earth fault circuit breaker. The failure of one branch should not result in a loss of power for more than 50% of all lights belonging to the same group.
3. The location of the lamps should allow for easy repair and replacement.
4. Adequate LED lighting of the various components of the gantry crane must be provided to enable proper and safe handling:
  - a) Top beam lighting: illumination of approx. 100 LX at ground level, hoisting winch/carriage.
  - b) Trolley lighting: At least two floodlights should be mounted on the underside of the trolley in such a way as to provide good illumination of the spreader and the container connected to it.
  - c) Bottom beam lighting: Minimum of one spotlight illuminating the gantry crane track at each corner. Additional floodlights at a lower level in order to properly illuminate the container pins on container handling equipment.
  - d) Lighting of entrances: A minimum of 50 LUX lighting should be provided above each ladder, staircase, landing and walkway. The lighting should be controlled automatically by a photocell.
  - e) Lighting in the e-house control room: The light source should be positioned overhead and consist of at least two light sources, providing sufficient lighting to carry out preventive maintenance work. Inside the E-house, the lighting of the work area should be at a level of no less than 150 LX.
  - f) Warning lighting: A reliable and weatherproof orange flashing warning light will be installed at each corner of the crane. Light and acoustic signals should be connected to the power supply of the crane drives and operate continuously during travel. The beacons must have adjustable sound levels with remote night-time management.

- g) Emergency lighting: should be installed at least in pedestrian crossings and in the e-house.

#### 4.20 Sockets

Socket ducting, minimum equipment level:

- 2 pcs. CEE 5x32A,
- 2 pcs. 230V (type E 16A,
- 1 pc. CEE 5x63A,
- circuit breakers installed at the lower electrical cabinets located between the crane legs on the north and south sides.

230 V type E - 16 A sockets: 1 pc. in all control cabinets

#### 4.21 Heating

- Anti-condensation heating of trolley, gantry crane and hoisting mechanism motors,
- Heating in each electrical control cabinet located outside.

#### 4.22 Recuperation

Gantry cranes should be equipped with a system for feeding energy recovered during braking of the gantry crane, hoisting winch and trolley back into the network (recuperation). The Contracting Entity, with the support of the Supplier, will obtain the relevant authorisation for feeding energy into the grid.

#### 4.23 Gantry crane management system and remote preventive maintenance

The gantry crane management system and remote connection via internet connection for maintenance operations must include at least:

- Diagram of the gantry crane
- Display of crane position
- Management of alarms and operating anomalies
- Statistical analyses and reports
- Operating hour counter for all container lock drives, etc,
- Handling operations counter
- Operating instructions including wiring diagram
- Maintenance module
- Workstations: 2xROS , 1x e-house room

#### 4.24 Operation of components

The gantry cranes supplied must provide the ability to perform simultaneous operation by driving the gantry crane, driving the trolley and the spreader.

#### 4.25 Gantry Crane Management System

1. The gantry crane management system must monitor and record faults/failures and current operating conditions, which are critical to handling operations.
2. The system must be able to test all electrical and electronic circuits, simulate start-up sequences and check the supply current to the motors.
3. Fault finding and monitoring will be monitored and controlled by the PLC.
4. The PLC will continuously monitor the status of all switchgear and electrical components. If any anomaly is detected, this information should be sent and displayed in the ROS monitor and e-house.
5. The system must allow the displayed fault/alarm to be redirected directly to a specific point in the wiring diagram of the gantry crane.
6. The system must provide a minimum display area:  
operating hours (hoisting winch, trolley movement, crane movement), twist lock rotation, number of movements, power consumption, crane position, alarms and warnings from control systems. The system should also record and provide remote readings of voltage, current,  $kV_{ar}$ , kWh, power factor, Hz.
7. The system must be able to create and record reports showing the total power consumption for the month together with the hours worked. It should be possible to select a given period of time in which to ensure the production of reports with operating hours of all drives, times of stops and shutdowns.
8. All the above data should be stored in the crane's memory in the form of date and time records.
9. The system must operate at high speed to monitor all critical tasks. It should be organised in a way that is clear, logical and understandable even to non-technical personnel.
10. The system should be installed and operated from a computer position in the ROS as well as in the e-house room.
12. The system should also present the data graphically to allow selection and tracking.
13. The gantry crane management system must be accessible via a reliable link on designated terminal computers (up to 3 computers for viewing) and should include the availability of all data, including warning alarms and current statuses.
14. The Supplier should provide a communication channel to collect live data from the gantry crane central unit, as well as remote access to the gantry crane system for service.

#### 4.26 Gantry crane operating data recorder (black box)

A register in the form of a log in which all signals and orders from the operator will be stored for at least 30 days of operation 24 hours a day. The register should include all signals, loads, twist lock rotation counter, hour counter, crane start-up time counter, energy consumption counter, winches, crane and trolley travel time, etc. All data should also be available via a remote connection to the CMS.

#### 4.27 TOS (Terminal Operating System)

1. The cranes should provide bi-directional data transfer to/from the TOS (Terminal Operating System). Data from the gantry cranes should be able to be sent to the TOS in a structured manner. The Supplier of the gantry cranes will provide the data structure and define the Information that can be transmitted by the cranes, for use in the TOS.
2. The Contracting Entity reserves the requirement for remote control / administrative access to the crane management system. Direct access to the PLC of the gantry crane must be provided. The scope of delivery should include a heavy duty laptop with system and service software. Service access codes for PLC settings will be provided by the Supplier to the Contracting Entity after the standard warranty period has expired.

#### 4.28 Colour of device

1. The paint coat should include min. 2 coats: primer and paint. Painting should be started immediately after blasting. The total thickness of the dry paint film is a minimum of 240 microns.
2. The Contracting Entity stipulates that the metal parts of the structure will be painted in RAL 2004 (subject to the requirements of the special zone signage).
3. On selected elements (e.g. the main beam of the crane) there will be agreed locations for the logo of the Supplier of the device, as well as the logo of PCC Intermodal S.A. and the description of the Terminal and the one-digit number of the device given by the Contracting Entity.
4. A design for visualisation of the appearance and labelling of the gantry cranes with the business name and logo will be submitted by the Supplier of the gantry crane **within 3 months of the conclusion of the agreement**. The Contracting Entity has the right to comment on the visualisation within 30 days.
5. Visualisation and marking of the gantry cranes of the Supplier will be agreed with the Marketing Department of PCC Intermodal S.A.
6. In addition, for safety reasons, the Supplier should colour-code safety-sensitive components such as bumpers, handrails, guard rails and ladders in yellow (RAL 1023).

#### 4.29 Corrosion protection

1. Surface preparation of all steel materials should be carried out in an automatic surface cleaner or in a specialised manual blasting hall. The quality of the cleaned surface should be in accordance with EN ISO 8501-1:2008 'Preparation of steel substrates'. All steel sections should be completely cleaned to restore the surface quality to SA Class 2.5 before applying the paint coating.
2. The steel structure of the gantry crane is to be protected against corrosion in accordance with EN ISO 12944 (paint, corrosion protection for steel structures):
  - 1x min 40 µm primer (two-component HS epoxy-zinc)
  - 1x min 60 µm polysiloxane or polyurethane topcoat in RAL colours
  - min 240 µm total thickness of all paint layers
3. Only paints/varnishes that guarantee a long durability and colour stability and meet the requirements of the guarantee period may be used.
4. The corrosivity category must be at least C4.
5. For the paint coating, acceptable routine maintenance will include:
  - Preparation and coating of the existing paint system in year 10 counting from the final acceptance report of the gantry cranes.
  - Removal of defective parts of the paint coating to clean steel and replacement of the paint coating, but not exceeding a total surface area of more than 1% and 2% of the total surface area respectively after 5 years and in the 10th year counting from the final handover report of the gantry cranes.
  - Removal of the paint coating to the steel and replacement of the paint coating in areas totalling greater than the above percentages of the total surface area of the painted part of the crane will constitute repair work and not maintenance.
6. For items of electrical and mechanical equipment, controls, systems, components, fixtures and fittings, acceptable maintenance will include periodic and routine maintenance normally carried out on various parts, generally undertaken as an activity by the Contracting Entity. Any replacement of parts during the warranty period granted by the Supplier must be included in the remuneration for the gantry crane.
7. The foregoing requirements will apply notwithstanding any conflicting requirements or information in any preventive maintenance manuals provided by the Supplier or otherwise provided by the Supplier, and all other conflicting requirements or information are not and will not become grounds for the Supplier to release, limit or reduce any obligation or liability of the Supplier under the Agreement or otherwise, including in relation to defects.

#### 4.30 Landings, stairs, ladders

All platforms, stairs and ladders bolted with self-locking nuts in the entrance system must be hot-dip galvanised. The zinc coating should typically be more than 70 microns thick. All connections used in these areas should be stainless steel - grade A2-70.

#### 4.31 gantry crane components

1. The Contracting Entity allows the use of components manufactured by different equipment manufacturers during the construction of the RMG crane. However, the Contracting Entity expects the components used to work seamlessly and efficiently with each other and to **be manufactured by well-known international companies with an established market position and experience in the supply of crane equipment and components**, including the provision of an adequate level of service and availability of spare parts to keep the gantry cranes in operation.
2. All trolley, hoist and gantry crane bearings, as well as the gantry crane wheels and trolley wheels should meet the minimum requirements with a maximum crane load of **20,000 operating hours**.
3. Bearing housings should be demountable to allow quick and easy access for inspection and possible replacement. All moving parts of the crane that require lubrication should have an effective lubrication system with easy access for inspection and operating.
4. The lubrication plan provided by the Supplier will indicate where and how often lubrication is to be carried out, together with an indication of the materials to be used.
5. The list of materials should indicate products available in Poland or indicate products according to the relevant API classification.
6. All areas requiring lubrication will have walkways and landings provided, along with the necessary protection in the form of barriers. Lubrication points should be clearly marked with the colour code. One colour corresponds to one type of lubricant.
7. All ducting on the crane will be correctly and unambiguously described and labelled. Both externally and internally, the two ends reaching the panels should be marked with a foil with a description in accordance with the set of assembly diagrams to be prepared by the Supplier and handed over to the Contracting Entity. All external electrical ducting should meet a minimum protection level of IP55 and internal ducting of IP41.

#### 4.32 Warning signs and notes

Warning signs must be affixed by the manufacturer in accordance with current regulations and all EU and Polish TDT requirements. Warnings must be in Polish.

- S.W.L.: Two signs, one on each beam
- Wording: Safe working load 41 tonnes
- Lettering colour: Black on white background

## 5. TECHNICAL DOCUMENTATION, OPERATING AND MAINTENANCE MANUALS

1. The Supplier will develop and deliver, as part of the agreement, full technical documentation for the equipment, as well as operating instructions for operators in Polish and English and maintenance instructions for maintenance personnel in Polish and English. All components and subducting supplied will have the necessary approvals and certificates required by the Polish law and regulations.
2. Moreover, one heavy-duty laptop with licensed software in Polish or English, including all connectors and cables and an interface with service and diagnostic software and gantry crane programming software with user manuals will be supplied with each gantry crane.
3. The technical documentation must comply with the regulations and requirements of the TDT. The set of documentation for Task should include, in particular:
  - a) RMG operating manual; including instructions for calibrating sensors and calibrating other equipment that should be adjusted on the gantry crane;
  - b) CE certified;
  - c) CE certificate of the spreader;
  - d) Spare parts catalogue of all parts fitted to the gantry crane;
  - e) All technical data sheets with nominal dimensions, tolerances, permissible rail wear, wheel edging and other necessary data;
  - f) Operating and preventive maintenance instructions for the spreader;
  - g) List of spare parts for the spreader;
  - h) Technical drawings;
  - i) Static calculations and steel structure drawings;
  - j) Electrical diagrams;
  - k) Electrical manual;
  - l) PLC documentation;
  - m) All passwords for PLC and other electronic devices;
  - n) After-sales report with measurements of the electrical assembly and the effectiveness of the electrical and lightning protection;
  - o) Cyber security certificate;
  - p) In addition, the relevant parts of the documentation must include:  
technical descriptions, drawings, wiring diagrams, hydraulic and pneumatic diagrams, if fitted, diagrams of cable drive systems.
4. Upon completion of the assembly work for each gantry crane, the Supplier will provide written confirmation that the assembly has been carried out in accordance with the applicable standards, technical knowledge and confirmation that all tests have been

carried out and confirm the correctness of the subject of the delivery and the efficiency of the gantry crane.

5. Compliance must be signed by the authorised person coordinating the assembly work.
6. Both documentation and equipment must meet the requirements of the Polish regulations for handling equipment in terms of quantity, quality and regulatory requirements.
7. Drawings and diagrams are to be supplied in PDF format, and general drawings of the crane assembly in PDF readable format as well as in DWG readable format.
8. **The complete documentation** should be delivered in one English paper version and one Polish version on two data carriers (e.g. two memory sticks) **no later than the date of final acceptance**, as confirmed in the crane handover report prepared in accordance with [Appendix 4 to the supply contract](#).

## 6. BUMPERS AND TERMINATION OF GANTRY CRANE TRACK

1. RMG cranes must be equipped with systems to automatically stop when an obstacle is detected within the travel clearance limits of the gantry crane and to smoothly decelerate when approaching the end of the track or the bumper of another gantry crane.
2. The Supplier will ensure that the system for detecting the ends of the running belts can be programmed by the service and that the stopping point of the gantry crane can be changed (in the event of a decision to extend or shorten the operating area of the gantry crane).
3. The Supplier will inform the Contracting Entity in writing of the solution used and provide drawings of the bumpers used by the Supplier installed on the gantry cranes. **The Supplier will provide drawings of the buffers within 3 months of the conclusion of the agreement.** The Supplier will provide the buffers even before the delivery of the gantry crane structural components **no later than 9 months from the date the Supply Agreement**, to enable the Contractor to install them during the concrete work on the gantry crane foundation.

## 7. GANTRY CRANE FOUNDATION AND TRACK

1. **The gantry crane foundation** will be constructed by **the Contractor of construction work** in accordance with the design documentation ([Annex Nos. 9 and 10 to the Specification](#)) and in accordance with the dates indicated below in the Part II, Chapter 1, clause 2.
2. The Supplier must select suitable solutions for the design of the running and braking system, including a storm brake for the gantry cranes. The Supplier will, **no later than 3 months from the date of conclusion of the agreement, agree on the method of assembly of the storm brake** ([Annexes Nos. 9 and 10 to the Specification](#)). The

Supplier will deliver the metal components for the storm brakes on the gantry cranes prior to the delivery of the gantry crane structural components, **no later than 9 months from the date the Supply Agreement**, so that the Contractor can install them whilst carrying out the concrete work on the gantry crane foundation.

3. The Contractor of construction work will install the metal components of the storm brake in accordance with the instructions of the Supplier and the design documentation.

## **8. ACCEPTANCE BY TDT, FINAL ACCEPTANCE**

1. The Contracting Entity has the right to have tests and acceptance checks carried out at his own expense by a notified body of its choice.
2. The Supplier of the gantry crane will provide all technical documents required for acceptance.
3. The TDT acceptance will be conducted at the Supplier's request. The Supplier is responsible for the equipment and documents necessary for the TDT acceptance.
4. Final acceptance will be conducted at the Supplier's request after acceptance by TDT, based on the signed handover-acceptance report, the template for which is set forth in [Appendix 4 to the supply contract](#).
5. The basic condition for submitting the overhead cranes for the aforementioned acceptance inspections is the absence of critical defects—that is, defects that affect the ability to operate the equipment and operational safety. Any defects present at the time of acceptance must be corrected by the Supplier within 4 weeks.
6. In the event that critical defects are present at the time of the first attempt at final acceptance that prevent acceptance and/or a repeat inspection is required, the costs of additional acceptance checks and bringing the gantry crane into compliance with the Specification will be borne by the Supplier.
7. A two-week performance test in the presence of the commissioning engineer of the Supplier will take place at the latest after acceptance by the TDT. If there are problems with the operation of the gantry crane after the two-week test period, these tests should be extended until any defects have been rectified.
8. The gantry cranes should have keyed bypasses to allow operation at 110-125% load. The bypasses will be for testing conducted only by the TDT.
9. The Supplier will confirm in the [Annex No. 3 to the agreements](#) that the period of availability of spare parts and components or equivalent parts for repair and replacement will be **a minimum of 20 years** from the date of acceptance of the gantry crane by the Contracting Entity. Failure to comply with this condition will be subject to a request for completion on pain of rejection of the tender bid.

## PART II - INFORMATION ON THE ROPCZYCE TERMINAL

### 1. GUIDELINES FOR THE CONTRACTOR OF CONSTRUCTION WORK IN TERMS OF THE DELIVERY OF GANTRY CRANES

1. The Contracting Entity has informed potential Contractors of construction work as part of the tender for a Contractor that it plans to supply, install and commission two RMG-type cranes as part of an investment project in Ropczyce.
2. As part of the tender information, the Contracting Entity provided the following requirements to the Works Contractor:
  - a) The Contracting Entity assumes that the work related to the assembly and commissioning of the gantry cranes will be carried out in parallel to the ongoing construction work, on the infrastructure previously prepared by the Contractor.
  - b) An important and critical element from the point of view of quality and accuracy of execution for the Contracting Entity is the gantry crane foundation and the gantry crane rail fixing system. The Contractor will apply the provisions of the current ISO 12488-1:2012, Class 2 standard when installing the crane rail fastening system, in accordance with the provisions of the Detailed Design. At the same time, the Contractor will take into account, when coordinating and carrying out the works on site, the system of fixing the gantry crane rails and the storm brake elements and gantry crane bumpers, so that during assembly the anchors fixing the gantry crane rail other elements do not damage the main bars of the gantry crane foundation reinforcement. In this case, suitable templates should be used to eliminate the risk of damage to the bars and a geodetic inventory of the crane foundation reinforcement in relation to the template for the anchors should be used. At the same time, the Contractor will pay particular attention to and ensure continuous supervision of the technological regime and quality of the pasting of the gantry crane rail fixing anchors, as well as continuous supervision of grouting.
  - c) As soon as the delivery, assembly and commissioning agreements in respect of these gantry cranes is signed, the Contracting Entity will provide the Contractor with a schedule for the delivery and assembly of the gantry cranes and their commissioning.
  - d) As the delivery, assembly and commissioning of these gantry cranes will take place concurrently with the ongoing construction work at the site, all **employees of the Supplier of the gantry cranes will be subject to the safety, work organisation and health and safety procedures in force at the site, taking into account the specific nature of the gantry crane assembly work.**
  - e) The site for the assembly of the gantry cranes, measuring approximately **150x75 m**, will be fenced off with a system construction fence and marked by the Supplier of the gantry cranes so that no work is carried out in this area by the Contractor of construction work and no members of the public have access to this area.
  - f) **No later than 20 months from the date of signing the contract with the Contractor of construction**, a **15 kV** power supply will be provided by the Contractor of

construction work to the Supplier of the facilities of the gantry cranes for the duration of the crane assembly and commissioning process.

- g) The Contractor of construction work will coordinate the sequence of its own work at the interface with that of the Supplier of the gantry cranes in such a way that, while adhering to the schedule of deadlines for completion of the works, it is possible to meet the final contractual deadline for obtaining the Use Permit.
- h) The cooperation of the Contracting Entity and the Contractor in the activities will be carried out on the basis of the provisions of the agreement linking the parties, and in particular in accordance with the provisions of § 7.1 clause 17 obliging the Contractor to co-operate in the execution of the works with any other contractors of the Contracting Entity.
- i) The Construction Manager of the Contractor will coordinate the work between the Contractor and the Supplier of the gantry cranes. **The Contractor will train the personnel of the Supplier of the gantry cranes on its own part in occupational health and safety and rules for site movement.** Each of the employees of the Supplier of the gantry cranes will have to undergo training in occupational health and safety carried out by the Site Manager or other persons designated by him in accordance with the applicable legislation, in particular the Construction Law. The way in which the above work is coordinated must not restrict the Supplier of the access by the gantry cranes to the assembly sites, transport and any work associated with the assembly. If it is necessary to translate the health and safety training into a foreign language, the organisation and costs of such translation are the responsibility of the Supplier of the gantry cranes.
- j) **By January 2028** at the latest, the Contractor, together with the Supplier of the gantry cranes, will establish the assembly facilities for the Supplier of the gantry cranes, as well as a detailed schedule and rules for the assembly and commissioning of the gantry cranes. The site to be used for the assembly of the gantry cranes should be paved with dimensions of approximately **150x75m**.
- k) **No later than 20 months from the date of signing the contract with the Contractor of construction**, the Contractor of construction work will construct the parking area and the gantry area for the passage of oversize loads, as well as the foundations of the cranes and the crane rails, together with the necessary elements provided for in the Detailed Design, including, among other things, the **assembly of a buffer and a storm brake element**. The aforementioned date will see the completion of all construction works including a concrete surface of adequate dimensions on which to operate gantry cranes and platforms during the assembly of the RMG cranes, and the construction of an area for the storage of parts and components and structural elements of the two RMG cranes. As part of the preparatory work for the assembly of the RMG cranes, the Contractor of construction work will also construct a power chamber, ladders for the power cable. In addition, the Contractor will build a power connection with 2 TRAFO transformer stations and provide an active power supply between the main TRAFO transformer station and the power supply chamber of the gantry crane with voltage supply to the power supply chamber of the gantry crane and the main TRAFO transformer station and the TRAFO transformer station at the office building with voltage supply to the office building and provide access to the server room (no. 0.15) and the rooms for gantry crane operators (no. 0.14) in the office building as well as

ensuring fibre optic data transmission between the power supply chamber of the gantry crane - server room - room for gantry crane operators. If the provision of infrastructure for the testing and commissioning of the gantry cranes requires an authorisation to place in service prior to the execution of all civil works (including power supply, transformer station, gantry crane foundations with gantry crane rail, gantry crane power chamber, office building), and the Contractor will be responsible for the process involved in obtaining the aforesaid. Commissioning of the RMG cranes will be carried out after medium voltage, after partial acceptance has been obtained, and the energy consumed by these cranes will be paid for by the Contracting Entity. The Contracting Entity will also cover the electricity costs that will arise once the office building and the infrastructure required to commission the gantry crane. The Contractor will mark out and coordinate with the Supplier of the gantry cranes the access road to the gantry crane assembly yard taking into account the delivery batches of the oversize consignment. The access road should take into account the current terrain and weather conditions, the status of the work and the specifics of the load to be delivered.

## 2. SECURITY ON THE CONSTRUCTION SITE

1. **The supplier of the RMG crane** is obliged to organise the assembly facilities including all necessary infrastructure on its own part (bearing in mind the need for cooperation and agreements with the Contractor of construction work and the Contracting Entity).
2. The crane assembly area will be located in the area prepared by the Contractor, as mentioned above in Chapter 1, Part II of the Specification.
3. The supplier of the gantry cranes will prepare a concept for the organisation of the gantry crane assembly area within the yard prepared by the Contractor prior to the commencement of the delivery of the structural components and will agree this with the Contractor and the Contracting Entity. As construction work will be carried out in other areas of the terminal site, the crane assembly zones should be restricted and fenced off to ensure that the work is carried out safely. The line of the fence in the field will be agreed with the Contractor and the Contracting Entity prior to assembly.
4. The electricity connection for assembly purposes will be provided by the Contracting Entity or the Contractor of construction work.
5. The Contractor of construction work will have the right to require the Supplier of the gantry cranes to draw up '**Organisation and Assembly Work Rules and Regulations**' and **agree them in writing with the Contractor no later than three weeks** prior to the planned commencement of use of the designated area, including the delivery of assembly parts and components.
6. The work being carried out on the cranes must not interfere with other construction work on the container terminal. The Supplier should therefore anticipate that, with regard to the work at the interface between the terminal and the construction site, it may be necessary to carry out some of the work on the 2nd or 3rd shift, as well as on days-off, i.e. Saturday, Sunday, public holidays. No additional remuneration will be paid for the performance of work under these conditions.

7. In the event that the power supply has to be disconnected from the mains for more than 1 hour, the Supplier will, at its own expense, provide an individual power supply for the duration of the power cut.
8. The Supplier of the gantry cranes will ensure that up to 3 20' containers, which are the facilities of the Supplier, can be set up on the site prepared for him during the construction period. The Supplier's use of the area will be free of charge
9. The Supplier will provide its own security for the gantry crane assembly areas and the gantry crane equipment, materials and components left behind. Neither the Contracting Entity nor the Contractor will be liable for the property of the Supplier and those acting on its behalf left in the terminal assembly areas.
10. The Supplier is liable for any damage, including damage to the track(s) caused by the assembly work, as well as liability towards third parties, e.g. the Contractor and subcontractors of construction work.

### **3. ACCESS ROAD TO THE GANTRY CRANE ASSEMBLY AREA**

1. The Supplier of the gantry cranes will organise and agree the passage of all transports with gantry crane components, including bulky ones on public roads.
2. An access road for the delivered gantry crane components through the site to the gantry crane assembly site will be provided by the Contractor of construction work.
4. The Supplier will, prior to the date of assembly of the RMG crane, agree with the representative of the Contracting Entity and the Contractor on the access road through the terminal site to the crane assembly area and verify its trafficability. Passages through the construction site will take place according to strict rules, at agreed times that do not interfere with construction work at the terminal. The Supplier is liable for any problems or damage resulting from non-compliance with the established rules.

### **5. Health, safety and hygiene regulations and cleanliness**

The Supplier of the RMG crane is obliged to comply with the applicable occupational health and safety and fire protection regulations, and to clean up and dispose of the waste resulting from the assembly in accordance with the applicable regulations in Poland.

### **6. SITE VISION**

1. A site visit to the terminal construction site in Ropczyce is required before the Supplier of the gantry cranes can undertake fieldwork. During the site visit, it will be possible to see the project site and the status of the work.
2. The date of the visit must be agreed by sending an e-mail to [przetargi.rmg@pcc.eu](mailto:przetargi.rmg@pcc.eu) at least 7 days before the planned visit, stating the date of arrival and the name of the person(s) who intend to come.

3. The representatives of the Tenderers will only be allowed to move and enter the places and rooms indicated by the personnel of Contractor and the Contracting Entity.

## **PART III. BASIC TERMS AND CONDITIONS OF DELIVERY AND SERVICE AGREEMENTS**

### **1. DEADLINE FOR THE PAYMENT OF THE PRICE**

1. The Supplier has the right to request that the Recipient make one, two, or three advance payments toward the purchase price for the RMG overhead crane, in the amounts of 20%, 30%, and 30% of the total price, respectively, under the terms specified in §4 of the Supply agreement. The Supplier will inform the Contracting Entity whether it will require advance payments within **60 days** of the conclusion of the agreement.
2. In the absence of the aforementioned information or the provision of information on the non-use of advance payments, payment of the price will take place after delivery, commissioning and acceptance of the gantry cranes on the basis of a Handover and Acceptance Report signed by both parties without any comments.
3. Detailed dates and terms of payment for the individual advance payments are set out in the draft delivery agreement.

### **2. QUALITY GUARANTEE**

1. The Contracting Entity requires the Supplier to provide a good quality guarantee for the RMG crane supplied:
  - a) **a 3-year warranty for the crane and the components of the equipment and accessories supplied as part of the execution of this tender** (hereinafter referred to as the **basic warranty**) covering all faults and failures that arise during this period. The period of the basic guarantee will be extended by the time that the gantry crane cannot be operated due to the discovery of a defect covered by the guarantee.
  - b) **one year guarantee on parts repaired** during the basic guarantee period, but not less than the basic guarantee period as specified under a).
  - c) **a 5-year guarantee on the tightness of the paint coating of the gantry crane , covering any defects that arise during this period.**
  - d) **8-year guarantee on the colour fastness of the paint** coating covering the gantry crane structure.
  - e) **a 10-year guarantee on the steel structure of the gantry crane** covering any faults and failures that arise during this period.
2. The running of each guarantee period will commence from the date of final acceptance of the equipment by the Contracting Entity and, in the case of repairs, from the date the crane is returned to service after repair.

3. The scope of the guarantee will include all defects, failures, damage, software errors, corrosion and other events resulting in the malfunction of the crane, its immobilisation or its not aesthetic appearance - which arise during the guarantee period, with the exception of those caused by the Contracting Authority.

### 3. SERVICE AND MAINTENANCE OF CRANES

1. **The gantry crane service provided by the Supplier during the basic guarantee period will include both interventions by the Supplier in case of problems with the gantry crane or its components, as well as maintenance activities to maintain the correct operation of the equipment.**
2. The costs of service activities related to repairs and troubleshooting covered by the Supplier's warranty liability, together with the costs of parts and labour costs during the warranty period, will be covered by the Supplier. They form an integral part of the price for the subject of delivery. The Contracting Entity will bear the costs of servicing the gantry cranes for periodic inspections resulting from the normal operation of the gantry cranes as part of a separate **flat-rate remuneration**, as well as costs not covered by the guarantee liability of the Supplier. The Contracting Entity will also bear the cost of electricity, the provision of which arises from the normal operation of the gantry cranes. As part of the service activities, the Supplier will endeavour to keep the time of gantry crane shutdown due to a failure to an absolute minimum. **Therefore, as part of the service, the Supplier will provide, inter alia: a 24/7 hotline** and appropriate response times, as described further in the Specification.
3. The Contracting Entity expects the Supplier to provide a full service for the equipment during the term of the service agreement. All repairs, replacement of worn parts and periodic inspections of components will be the responsibility of the Supplier.
4. Maintenance work during the period of the service contract absolutely must not result in negligence or arrears, the consequences of which will appear after the expiry of the basic warranty period.
5. In the event of reasonable grounds to suspect that the Tenderer has underestimated the scope or quality of service work, which would result in a backlog of repair work or gantry crane failures after the expiry of the basic guarantee period, the Contracting Authority will appoint an expert to assess whether the failure or increased volume of work is the result of negligence.
6. The employees of the Contracting Entity have the right to participate in reviews for training purposes.
7. The Contracting Entity will be responsible for carrying out a daily, general inspection of the technical condition of the equipment before the start of work, at shift handover and at the end of the business day, as well as for lubrication in accordance with the schedule provided by the Supplier.
8. The Supplier will outline the scope of maintenance activities that will be on the part of the Contracting Entity in the crane maintenance manual provided.

9. The employees of the Supplier will carry out service activities in accordance with the maintenance schedule provided by the Supplier.
10. The Contracting Authority assumes that each RMG crane will have an operating intensity of 5,000 hours per year..
11. The total tender bid will include the supply and assembly of the gantry crane and equipment, and devices in accordance with the requirements of this Specification **with the provision of critical parts and components** (contactors, relays, fuses, modules, and other items indicated in a list prepared by the Supplier).
12. **Critical parts and components** for the gantry cranes to be delivered as part of the Task will be delivered no later than the date of final acceptance. If the service technicians of the Supplier use any of the critical parts and components for repairs under guarantee, the Supplier will replenish the stock of parts at its own expense. In other cases, critical parts will be replenished at the expense of the Client.
13. The gantry crane should be designed so that inspections are carried out relatively infrequently. In the opinion of the Contracting Entity, standard scheduled services should take place no more often than once every three months or every approx. 20,000 cycles per gantry crane. By **one cycle**, the Contracting Authority means the entire handling operation, counted from the moment the gantry crane drives over the container, lowers the spreader, locks the twist locks, raises the spreader, transports the container to the designated place, lowers the spreader, unlocks the twist locks, raises the spreader and drives the gantry crane to the place where the next task begins.
14. Payments for service work performed, relating to periodic inspections and repairs or replacement of parts (to the extent not covered by the liability under guarantee of the Supplier) will be made on the basis of a service agreement(**according to the Annex No. 3 to the agreements**). The sum of payments for periodic inspections during the year, the performance of which will be certified by authorised employees of the **Contracting Entity**, will not exceed the amount offered in this tender (Price of annual maintenance service, i.e. 'M' according to the Annex No. 3 to the agreements). The remuneration for the servicing included in the service price 'M' can be invoiced no more than once a month. Other payments resulting from any non-standard work will be made on the basis of the order of the Contracting Entity and on the basis of invoices issued based of the report of work acceptance.
15. As a rule, service activities will be carried out on business days from 8:00 a.m. to 5:00 p.m., while periodic inspections (preventive maintenance activities) will also be carried out on Saturdays, which are not statutory holidays. For the time of work performed on days other than business days or at hours other than 8:00 a.m. - 5:00 p.m., if the work on such days and hours was commissioned by the Client (and therefore also for the work of the preventive maintenance activities on Saturday), the Supplier will be entitled to additional remuneration calculated according to the offered rate per 1 man-hour, (i.e. R - according to the provisions of the part IV, clause 8 of the Specification).
16. **As the Annex No. 5 to the service agreement** submitted with the Complete Bid, the Supplier will submit a schedule of inspections, stating the scope of activities, materials and parts to be replaced. This schedule will be drawn up in clear tabular form and will be complete, i.e. it will include all activities and all parts, consumables, including oils,

filters and lubricants to be replaced as part of the maintenance over a period of 20 years from the date of acceptance of the gantry crane.

17. The flat-rate annual remuneration for maintenance service activities together with the provision of a 24/7 hotline service throughout the duration of the maintenance service agreement, together with the costs associated with travel, accommodation, of the maintenance personnel of the Supplier providing maintenance services will also be included in the item 'M' (Annex No. 3 to the agreements). Furthermore, the costs associated with spare parts and consumables required to carry out the inspections will be borne by the Supplier.

#### 4. CRANE MALFUNCTIONS, FAILURES AND SHUTDOWNS

1. In the event of problems with the equipment, the maintenance personnel of the Contracting Authority will report the fault to the e-mail address and/or hot-line contact telephone number indicated by the Supplier.
2. The Supplier will provide a hotline service, in Polish or English, on a continuous 24/7 basis. Contact by the service personnel of the Supplier will also be possible on non-business days around the clock. Remote technical assistance by the service personnel of the Supplier will be provided immediately upon notification, by telephone or e-mail.
3. The cranes should be equipped with software to enable remote monitoring of technical performance via a link established between each crane and the Contracting Entity's computer network. The service personnel of the Supplier will be able to remotely perform ongoing maintenance inspections on the equipment and possibly provide information and guidance to the personnel of the Contracting Entity. However, this option does not relieve the Supplier of the obligation to have expert technical personnel visit and inspect the equipment on site at the terminal on a temporary basis. In the event of a malfunction preventing the gantry crane from operating, which cannot be rectified remotely or by simply instructing the maintenance personnel of the Contracting Authority, then the qualified service personnel (technicians) of the Supplier **will arrive at the terminal to rectify the malfunction no later than within 24 hours of the personnel of the Contracting Entity reporting the problem.** In practice, if a request is made on a Friday at around 11:50 p.m., an e-mail/telephone consultation (attempting to resolve the problem remotely) will take place immediately on Friday or during the night hours of Friday to Saturday, and if the problem is not resolved, the arrival of technicians at the terminal will take place no later than the following Business day. In the case of faults that do not restrict the operation of the gantry crane, it is permissible to postpone the arrival of service technicians for up to **72 hours**.
4. Failure of the service personnel of the Supplier to respond within the stipulated time will be grounds for the imposition of contractual penalties.

## 5. SPARE PARTS

1. **Along with the bid, the Supplier shall prepare a list of critical parts and components** which, based on the Supplier's experience, would cause the overhead crane to shut down if they failed and for which market availability is limited. The Supplier shall deliver the critical parts and components in accordance with the list provided by the Supplier no later than the date of final acceptance of the overhead cranes (Appendix 6 to the delivery agreement).
2. **The supplier shall specify, in the list attached as Appendix 6 to the service agreement,** the replacement parts that will be subject to scheduled replacement over a 20-year period beginning on the date of acceptance of the overhead crane.
3. Once the gantry cranes have been commissioned (after a final acceptance), the Contracting Entity allows for the possibility of the Supplier to deposit at the terminal, by prior arrangement, at a location indicated by the Contracting Entity, spare parts whose storage may be useful in order to carry out rapid maintenance operations or to quickly rectify the failure of the gantry cranes.
4. The supplier will specify the parts he would like to deposit and agree on the floor space required for this purpose.
5. If the Contracting Entity requests that the Supplier repair defects not covered by the Supplier's warranty, the Contracting Entity will receive a detailed cost estimate, including a specification of the prices of replacement parts.
6. The Contracting Entity reserves the right to purchase replacement parts and/or have repairs performed by other authorized entities, and this will not limit the terms of the warranty.

## 6. PERFORMANCE BOND

1. The entity with which the Contracting Authority enters into an agreement is required **to provide, within six months of the date of signing the delivery agreement, the original of a bank or insurance performance bond issued in** favour of the Contracting Authority, with a **value equal to 15%** of the contractual remuneration for the performance of the subject of the delivery. **Validity** will commence at the latest on the date of commencement of delivery to the delivery site of the gantry crane components and will not end earlier than 7 days after the deadline for final acceptance of the last of the gantry cranes. The performance bond will be irrevocable and unconditional and payable at the first request of the beneficiary addressed to the Guarantor.
2. The final content of the performance bond referred to in the clause 1 above must be agreed with the Contracting Entity before it is submitted to the Contracting Entity. If such a performance bond is not provided in time, or if a performance bond with contents not agreed with the Contracting Entity is provided, the Contracting Entity may withhold

the advance payment or withdraw from the agreement through the fault of the selected Supplier.

3. In order to secure the possible claims of the Contracting Entity for non-performance or improper performance of warranty repairs or other maintenance services, the Supplier will, within **two weeks of the final acceptance of the gantry crane**, submit a bank or insurance performance bond in respect of the maintenance agreement in the amount of **2.5% of** the price of the gantry cranes being the subject of the agreement. The performance bond should be issued in favour of the Contracting Entity and be maintained for a period of one month longer than the duration of the basic guarantee granted by the Supplier, i.e. at least **37 months**. Gwarancja ta będzie miała charakter nieodwołalny i bezwarunkowy oraz płatny na pierwsze żądanie skierowane do Gwaranta.
4. The final content of the performance bond referred to in the clause 3 above must be agreed with the Contracting Entity before it is submitted to the Contracting Entity. If such a performance bond is not provided in time, or if a performance bond with contents not agreed with the Contracting Entity is provided, the Contracting Entity will be entitled to withhold 20% of each instalment of remuneration due to the Supplier until a security deposit equal to the amount of the required performance bond has been accumulated.

## **7. INFORMATION ON THE PERSONNEL OF THE SUPPLIER**

1. The work associated with the assembly and commissioning of the RMG crane must be carried out with the right number of employees to guarantee that the task is carried out properly in terms of quality and to ensure that the deadlines for this Task are met.
2. If the technical and assembly personnel are citizens of a country other than the Republic of Poland, the Supplier will ensure that at least one of them speaks Polish or English communicatively, or the Supplier will provide an interpreter at its own expense for the entire duration of the work associated with the assembly and commissioning of the gantry cranes.
3. All tender correspondence between the parties will be conducted in Polish. It is permissible for correspondence to be conducted in a bilingual PL/ENG version, with **the Polish version being decisive in the event of doubt**.
4. The Supplier is to provide:
  - A Construction Manager who is qualified as required by Polish regulations with certification of membership of the relevant Chamber,
  - Construction Work Manager,
  - Full surveying supervision related to the proper foundation of the gantry crane, if one would be required,
  - Protective measures in line with the occupational health and safety.

## 8. TRAINING COURSES

1. The Contracting Entity requires that immediately after the equipment has been approved for use by the TDT and the gantry cranes have been accepted by the Contracting Entity, the Supplier will, at a time agreed with the Contracting Entity, provide training courses for the equipment operators in the operation of the gantry crane and its maintenance.
2. The Contracting Entity assumes that **between 6 and 9 employees of the Contracting Entity will undergo training courses**. Training course for personnel operating the gantry cranes and operating the gantry cranes technically must be conducted in Polish at the PCC Intermodal S.A. terminal in Ropczyce.
3. The training should consist of a theoretical and a practical part.
4. **Training in technical operation:**
  - a) gantry crane:
    - at least 2 days of training for the electrician and at least 2 days for the mechanics.
  - b) spreader:
    - at least one day of training for electricians and mechanics.

In addition, 2 people trained in maintenance will participate in crane inspections and maintenance performed by the Supplier's service personnel.

### 5. Training in operational service:

After approval by the TDT allowing the gantry cranes to be used and no later than 21 days after acceptance of the gantry cranes by the Contracting Entity, the Supplier of the gantry cranes will carry out a minimum of five days' practical training for the operators in Polish (divided into groups of no more than 3 persons, as well as theoretical training in 2 groups).

6. A training day should last no longer than eight hours with one 30-minute break.
7. Training must be provided by a person proficient in the operation of RMG cranes. After the training, all participants should know how to correctly and safely operate and direct the gantry crane and all equipment necessary for operational work (ROS), know how to interpret the most common error or fault messages, know how to operate all the systems supporting the operation.
8. Crane operators should be instructed on the obligatory maintenance to be carried out before and after starting work.
9. The Contracting Entity reserves the right to obtain assistance from the Supplier of the gantry cranes in developing the training manual required by the regulations of the crane authorities. Based on PCC Intermodal S.A.'s internal instructions on operator training, the Contracting Entity will both train new operators and, on the basis of the aforementioned instructions, the relevant authority will conduct examinations for operators, leading to the attainment of the relevant qualifications.
10. The training curriculum must be approved by the relevant technical supervisory authority (TDT). The final development and approval of the aforementioned instructions

is the responsibility of the Contracting Entity. The Supplier of the equipment is not responsible for the outcome of operator examinations.

## 9. ADDITIONAL GUIDELINES AND ASSUMPTIONS FOR CALCULATING THE TENDER BID

1. The price and remuneration amounts for the execution of the subject of the tender will take into account the requirements and guidelines referred to in the Specification.
2. **The tender bid should take into account the obligation of the Supplier to bear the following costs:**
  - a) to carry out the assembly and connection work required for the proper execution of the delivery agreement, as well as those resulting from the applicable provisions of the law,
  - b) to ensure the regulatory supervision of authorities and technical services when carrying out assembly and connection work.
  - c) to supply and arrange the required documentation with the supervisory authority (TAD).
3. All proposed systems and materials should have the relevant declarations of conformity or certificates required by the regulations in force on site of operation. The Supplier is also obliged to provide a set of documents, certificates, attestations required in the process of obtaining authorisation to place in service.
4. The Supplier will be required to obtain the relevant complete permits for the operation of the RMG cranes as part of the flat-rate remuneration.
5. **Final acceptance of the crane on the part of the Contracting Entity will take place after acceptance by the competent supervisory authority (TDT).**
6. Due to the need to coordinate the works performed by the Contractor of construction work with that of the Supplier, changes to deadlines are possible. In the event of delays at the construction site making it impossible to deposit the structural components or for the Supplier of the cranes to undertake assembly work, the Contracting Authority reserves the right to postpone the delivery of the gantry crane structural components to the container terminal construction site by no more than 3 months. The Contracting Entity will inform the Supplier of this at least 1 month before the planned start of deliveries. A postponement of the delivery date will result in a proportional extension of the completion date for the crane delivery agreement.

## 10. SERVICE PRICE INDEXATION

The price of the RMG crane service, the flat-rate price for access and the price for 1 man-hour will be subject to indexation based on the HICP once a year. The first indexation can take place no earlier than 1 January 2030 according to the formula:

$$M1 = M \times \frac{HICP(1)}{HICP(0)}, \quad R1 = R \times \frac{HICP(1)}{HICP(0)}, \quad T1 = T \times \frac{HICP(1)}{HICP(0)}$$

where:

M, R, T - individual prices specified in the Complete Offer

M1, R1, T1 - individual prices after indexation

**HICP(1)** - EU 27 Harmonised Index of Consumer Prices available from Eurostat, calculated as of the month before the indexation month.

**HICP(0)** - EU 27 Harmonised Index of Consumer Prices available from Eurostat, calculated as of the month of the submission of the tender bid.

## **11. ENVIRONMENTAL PROTECTION AND CLIMATE CHANGE REQUIREMENTS**

In view of the dissemination by the European Union of the DNSH principle (Do No Significant Harm) within the meaning of the Article 17 of Regulation 2020/852 (EU Taxonomy Regulation), the Contracting Entity obliges the Supplier of the gantry cranes (as well as the Contractor of construction work) to be guided by the DNSH principle at every stage of the contract execution activities. The works carried out must comply with current environmental regulations and standards and take into account adaptation to climate change and resilience to extreme weather events.

## **PART IV. SUBMISSION OF THE TENDER, SELECTION CRITERION, CONCLUSION OF THE AGREEMENT**

### **1. FORMAL REQUIREMENTS FOR TENDERERS AND TENDER BIDS, PROCEDURE AND AWARD CRITERION FOR TENDERS**

The Tenderers who:

Fulfil the conditions of participation in the procedure specified in this Specification and in the PCC Intermodal S.A. Contract Procedure in force on the date of publication of this tender. Applies to projects co-funded by the European Funds for Infrastructure, Climate, Environment 2021-2027 and the National Recovery and Resilience Plan (NRP). available at: <https://www.pccintermodal.pl/przetargi/>; i.e.:

- a) have the experience and necessary knowledge in accordance with the detailed requirements described in this Specification;
- b) have the capacity and resources to perform the contract;
- c) are in a good economic and financial position to perform the contract;
- d) are not subject to exclusion on the grounds set out in the Specification and
- e) do not have a personal or capital relationship with the Contracting Entity (i.e. there is no conflict of interest), consisting in particular of:
  - participating in a company as a partner in a civil partnership or a partnership, holding at least 10% of shares (unless a lower threshold is stipulated by law),

serving as a member of a supervisory or management body, proxy, authorised representative,

- be married or in a relationship of kinship or affinity in a direct line, or in a relationship of kinship or affinity in a collateral line to the second degree, or in a relationship of adoption, custody or guardianship, or in cohabitation with the Contracting Entity, its legal deputy or members of the management or supervisory bodies of the Contracting Entity,
- have such a legal or factual relationship with the Contracting Entity that there is reasonable doubt as to their impartiality or independence in relation to the procurement procedure;

and submit statements as part of the Bid Form (Appendix 1 to the Specifications), in which they confirm that there are no grounds for exclusion from participation in the proceedings.

## **2. CONDITIONS FOR THE PARTICIPATION OF THE TENDERER IN THE PROCEDURE, SUBMISSION OF THE TENDER BID**

- 1. The documents comprising the offer indicated in items a) to n) below must be submitted to the platform 'Competitiveness Database: <https://bazakonkurencyjnosci.funduszeuropejskie.gov.pl> no later than 17.07.2026:**
- 2. Each of the documents constituting an offer from those listed below under the clauses 9 a) to n) should be submitted as a PDF file signed with a qualified signature** in accordance with the representation of the Tenderer or the competence of the person issuing the document in question (certificates of authorities, guarantees, performance bonds). If the document has been signed with a qualified signature by an employee of the authority or institution, no additional signature is required from the Tenderer. If, on the other hand, the Tenderer annexes a scan of a document that is handwritten or does not require the signature of the issuer, the representative of the Tenderer will sign it. If the Tenderer submits a reference in the form of a copy with the handwritten signature of the issuer, the representative of the Tenderer will additionally certify it with a qualified signature.
- 3. The documents referred to in the clause 9 n) will be submitted only by participants applying jointly for the award of the contract (consortia).**
- 4. Submitted documents and declarations will be assessed in terms of their completeness and compliance with the requirements set out in this Specification. Entities that submit complete and up-to-date documents meeting the criteria described in the Specification by the required deadline will be notified of the results of their evaluation.**
- 5. Only tender bids from entities meeting the formal criteria will be further evaluated.**
- 6. From the date of publication of this tender, the Contracting Entity will set an appropriate, generally accepted and applicable period for the preparation of tender bids, including the preparation and submission of formal documents. In view of the above, the**

Contracting Entity assumes that Tenderers interested in participating in the tender should submit a timely and reliable set of the required, correctly completed and signed documents.

7. In the event of missing documents or irregularities in the documents submitted by a given Tenderer to the Competitiveness Database, the Contracting Entity will ask each of the Tenderers in the documents in which the absence(s) or irregularities have been noticed to submit an explanation or to supplement the lack(s) within, a deadline **not shorter than 5 business Days from the date of notification of the absence or irregularity**.
8. In the event of the above-mentioned situation, a request for clarification or supplementary data will be addressed to the Tenderer's representative only in electronic form. Failure to respond to the summons within the prescribed time limit or a supplement containing deficiencies or inadequacies in the supplementary materials will be treated as incomplete, resulting in the exclusion of the Tenderer. Supplements submitted after the deadline will not be considered.
9. **The Contracting Authority requires the following documents to be submitted as part of the tender:**
  - a) A completed and signed Tender **Application Form** by the Tenderer with the content specified in **Annex 1 to the Specification**
  - b) The Tender **Price Form** completed and signed by the Tenderer in accordance with **the Annex No. 2** to the Specification.
  - c) An up-to-date<sup>1</sup> **registration document** or other extract from the court or administrative register relevant for the Tenderer, which makes it possible to determine the persons authorised to represent the Tenderer, if it is not available at: <https://ems.ms.gov.pl/> or from <https://ceidg.gov.pl/>; for persons whose authorisation is not yet disclosed in the court or administrative registers, a valid, current act of appointment or establishment of a commercial power of attorney will be presented.
  - d) Up-to-date **power of attorney for representation**, if the Tenderer is represented by an authorised representative; a participant in a consortium will present the power of attorney granted to the authorised representative of the consortium referred to in the clause 9 below, and if, in granting the power of attorney or in concluding the consortium agreement, it was represented by an authorised representative, it will also present the current power of attorney for these actions.
  - e) Up-to-date **certificate of** the competent Head of the **Tax Office** confirming that the Tenderer is not in arrears with payment of taxes, or a certificate that the Tenderer has obtained an exemption, deferral or spread into instalments of overdue payments as provided for by law, or a stay of execution of the entire decision of the competent authority.
  - f) Up-to-date certificate from the **relevant** branch of the **Social Insurance** Institution confirming that the Tenderer has no outstanding health or social insurance

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<sup>1</sup> By the word 'current' in the clauses 2 - 4 is meant documents in accordance with the current legal status, issued **no earlier than 01.03.2026**.

contributions or payments, or certificates confirming that the Tenderer has been granted a statutory exemption, deferral or instalment plan for outstanding payments, or that the enforcement of the decision of the competent authority has been suspended in full.

- g) **References** certifying to the necessary knowledge and experience in the performance of tasks of a similar nature, scope and technical complexity, i.e. concerning the supply of a minimum of **two** container cranes with a storage height of at least 4+1; the distance between the wheel axes of the RMG crane not less than 45 m covering mixed handling, i.e. rail platforms, trucks and container yards in remote mode with the realisation of the automatic positioning function of the gantry of the trolley crane and the hoist. References should be for a minimum of 2 gantry cranes. No more than 5 references should be submitted. References should be **issued to the Tenderer by the recipients of the RMG cranes**. The gantry cranes indicated in the references will be solely electrically powered and will be supplied by the Tenderer on its own (i.e. manufacture and assembly of RMG cranes). As a condition for participation in the tender, the Tenderer must demonstrate that it has delivered at least 2 RMG cranes complying with the parameters described above between 2022 and the date of announcement of this tender. References can be provided by a single Client as long as the quantity and parameters of the RMG cranes supplied meet the guidelines of the Specification. References should include as a minimum the following information:

- country of delivery,
- number of cranes delivered,
- general technical data of the delivered cranes including manner of power supply,
- implementation period,
- **positive opinion from the client** regarding the compliance of the Tenderer with the terms of the agreement concluded,

- h) **References** certifying to the necessary knowledge and experience in the execution of maintenance activities granted to the Tenderer taking part in this tender by Clients for whom the Tenderer, with its own potential, has provided servicing within a scope of maintenance services for **a minimum of two** container cranes with parameters comparable to those required in the Specification (minimum storage height of 4+1). The Contracting Authority intends to entrust and require the Supplier to provide full maintenance services for the cranes as part of the costs not covered by the grant;

These references should relate to the provision of maintenance services for a period of at least 12 months falling between 2022 and the date of this tender.

References for the Task meeting the above requirements for maintenance activities may be shown on a joint document together with references certifying the delivery of cranes carried out by the Tenderer. It is also acceptable to provide service references issued to the Tenderer as separate documents. In the event that the Tenderer is a member of a capital group which includes an entity providing maintenance services, it is permissible to present references issued for the servicing entity, which will be made available to the Tenderer by this entity, provided that the fact of making such references available is confirmed in writing by the entity providing maintenance services for cranes,

and the existence of capital links is demonstrated by the Tenderer by means of appropriate registration documents and declarations.

- i) **An insurance policy or other document certifying that the Tenderer has taken out third-party liability** insurance for its business activities, with a sum insured of no less than the quoted for the delivery of the gantry cranes. The document should be signed by a representative authorised by the Insurer.

With regard to the consortium, the above obligation implies an obligation to submit insurance policies of individual consortium participants with a sum of civil liability insurance corresponding to the final quoted above. The terms and conditions governing the maintenance of the third-party liability insurance of the Supplier during the term of the delivery agreement and service agreement shall be set out in each of those agreements.

- j) **Document specifying the declared wheel loads** – (as per the Specifications, Part I, Section 2.8)
- k) **List of critical parts and components** that the Supplier will provide along with the overhead cranes – (as per Part III of the Specifications, Section 3)
- l) **A description of the technical and engineering solutions** necessary for the crane to operate in a mode that enables automatic positioning of the crane gate, trolley, and spreader (as per the Specifications, Part I, Sections 4.11 and 4.12)
- m) For the purpose of securing the performance of the obligation to provide a Complete Tender Bid in accordance with the requirements of the Specification, the Tenderer will be required to provide **a bid bond**.

**The amount of the bid bond is: 200.000 EUR.**

**The Contracting Entity will allow for the bid bond to be submitted in the form of a bank or insurance performance bond or in cash.**

**A bid bond in the form of a bank or insurance performance bond** must be irrevocable, unconditional and payable to one of the following accounts of PCC Intermodal S.A., upon the first demand addressed to the guarantor. **The bid bond will cover the period of validity of the tender bid from the day set for submitting tender bids until the end of the validity period of the tender bid, i.e. from 28.08.2026 until 27.10.2026.** The content of the bank or insurance performance bond should be agreed by email with the Contracting Authority before its submission.

The guarantee in electronic form should be delivered to the Recipient as one of the documents proving that the formal requirements have been met with the bid no later than **28.08.2026**. If the original document is issued in paper form then a scan of the document signed by the Tenderer should be submitted with the documents making up the tender bid, while the original guarantee should be sent to the address of the registered office of the Contracting Entity.

**It is permissible to submit a bid bond in the form of a tender guarantee bearing a qualified signature, however, the person providing the qualified signature must document his/her capacity to represent the guarantor in the capacity in which he/she is acting (in accordance with the KRS or present a power of attorney/s**

**signed with a qualified signature by persons entered in the national Court Register (KRS)).**

The amount of the bid bond **in cash in EUR** will be credited to the account of PCC Intermodal S.A., i.e.: BGK Branch in Wrocław, for **EUR: 50 1130 1033 0018 8179 3520 0002 SWIFT GOSKPLPW** no later than on the day indicated as the day of submitting tender bids, and electronic proof of its payment sent together with the tender bid.

It is permissible to submit the bid bond in the form of the aforementioned bank or insurance performance bond or in cash in PLN to the account of PCC Intermodal S.A. In the case of payment of a bid bond in **PLN**, the relevant account number is: **77 1130 1033 0018 8179 3520 0001**. The average exchange rate of the National Bank of Poland (NBP) on the day preceding the date of issue of the performance bond or on the day preceding the payment of the bid bond into the account should be used.

A bid bond lodged by a consortium will be subject to the same rules, except that it will be required to indicate in the wording of the performance bond or the description of the transfer by the Tenderer which consortium the bid bond relates to.

The bid bond will be returned to the Tenderer whose Tender Bid is accepted by PCC Intermodal S.A., within 7 days from the date PCC Intermodal S.A. signs the agreement. Other Tenderers will have their bid bonds refunded immediately upon notification that their Tender Bids have not been accepted. A bid bond returned on time are not subject to interest.

The deposit may be forfeited to PCC Intermodal S.A. in the following cases:

- a) The Tenderer will withdraw from the tender process after the tender bid has been submitted.
- b) If the Tenderer submits a bid whose content does not comply with the Specification and, despite being requested to supplement the bid, the Tenderer fails to do so within the time limit specified by the Contracting Entity which shall not be less than 5 business days from the date of notification sent to the Tenderer electronically to the email address provided by the Tenderer in the bid form
- c) If a Tenderer requested to sign the contract fails to provide the Contracting Entity with a Complete Bid—i.e., a contract signed by one party along with the required attachments—or provides an incomplete bid or one whose content does not comply with the Specification, and despite being requested to supplement it, the Tenderer fails to supplement it within the time limit specified by the Contracting Entity, which shall not be less than 5 Business Days from the date of notification to the Tenderer, sent electronically to the email address provided by the Tenderer in the bid form.
- n) The Contracting Entity agrees to allow the Tenderers, i.e., **consortia**, to submit a joint tender for the award of the contract. The documents certifying the joint submission of a tender bid in order to compete for the award of a contract are the consortium agreement and the power of attorney granted to the person representing the consortium (authorised representative of the consortium). Tenderers competing jointly for the award of the contract will be required to appoint a proxy to represent them in the

procedure or to represent them in the procedure and the conclusion of the agreement, as well as to indicate who will pay the deposit on behalf of the consortium. In the case of Tenderers jointly applying for the award of the contract (consortia), the conditions of participation in the procedure may be fulfilled jointly, provided that the required documents listed above in the clauses **c), d), e) and f)** must be submitted in respect of/by each of the participants in the consortium. The Recipient does not allow the Tenderers to use the potential of third parties when demonstrating the fulfilment of the conditions for participation in the procedure. The Tenderers applying jointly for the award of the contract will be required to submit an agreement governing in particular the principles of cooperation between the members of the consortium and establishing a Consortium Leader authorised to contact the Recipient with regard to participation in the tender and performance of the contract. The Recipient requires that the consortium agreement comprehensively governs the division of obligations between the members of the Consortium with regard to the performance of all obligations arising from the subject of the contract, including indicating the Leader as the member of the Consortium responsible for issuing invoices to the Recipient and establishing the principle of joint and several liability of the members of the Consortium for the obligations of the members of the Consortium arising from the contract concluded between them and the Recipient, as well as making an amendment to the content of the consortium agreement subject to the consent of the Recipient. Irrespective of the content of the consortium agreement, acceptance of the Tender Bid of the Consortium will imply joint and several liability of the Consortium members, which will be understood as liability under the principles laid down in the Articles 366-378 of the Polish Civil Code. Furthermore, the representations and performances of the Recipient made or fulfilled against the Consortium Leader will have effect against the other members of the Consortium. The Consortium Leader will, during the performance of the agreement, be irrevocably authorised to represent the other members of the Consortium in respect of the Recipient in all matters relating to the agreement, including the signing of annexes in all matters relating to its performance. Any declarations or actions of the Consortium Leader will also be deemed to be declarations or actions of the other members of the Consortium.

### 3. ADDITIONAL FORMAL INFORMATION

1. At the stage of submitting tender bids, the Contracting Entity does not require the submission of signed agreements.
2. All powers of attorney referred to in the Specification must be submitted in electronic form, signed with a qualified signature by persons authorised to issue powers of attorney, or in the original or in a notarised copy to the address of the registered office of the Contracting Entity.
3. All the documents required for the tender (referred to in the Part IV, clause 2, items (a) to (n)) must be submitted no later than **28.08.2026** via the 'Competitive Database' platform: <https://bazakonkurencyjnosci.funduszeuropejskie.gov.pl>

4. If the documents referred to above are not issued in the country in which the Tenderer is established, they will be replaced by an appropriate declaration and / or documents that are commonly used for the circumstance. This provision applies to all documents, in particular those referred to in Chapter 2, Section 9, subparagraphs (e) and (f).
5. If the Tenderer, while demonstrating the fulfilment of the conditions for participation in the procedure, presents documents or declarations issued in a language other than Polish, the Tenderer will provide them with **a reliable and accurate translation into Polish**. The Tenderer is responsible for the accuracy of the translation.
6. In the event that the value given in the documents is expressed in a currency other than EUR, the Recipient, in order to assess the fulfilment of the condition, will adopt the average exchange rate of the National Bank of Poland (NBP) - from the date of the initiation of the procedure, i.e. from the date of the publication of the announcement of a contract - to convert the value of the services provided.
7. The Contracting Entity attaches to the Specification the annexes described above, which are valid in the content provided by the Recipient, according to the list on the last page of the Specification.

#### 4. CRITERION FOR THE EVALUATION OF THE TENDER BIDS

1. The sole criterion for the selection of the Supplier of the gantry cranes to be awarded the Task will be **the value of the 'W' indicator** described later in the Specification. The prices comprising the 'W' will be quoted as net prices, i.e. excluding VAT and expressed in EUR.
2. The tender bid that meets the requirements of this Specification and **has the lowest 'W' indicator** calculated according to the formula described later in this Specification will be selected as the most advantageous tender bid.

#### 5. QUESTION AND response PROCEDURE

1. Please address any questions concerning the subject of the tender and the Specification (without information about the inquirer in the text of the inquiry) exclusively through the Competitiveness Database: <https://bazakonkurencyjnosci.funduszeuropejskie.gov.pl/> from the date of the announcement of the tender until **07.08.2026**.
2. The Contracting Entity is not required to respond to questions submitted after this deadline.
3. Due to the limitations of the Competitive Database, in the event of a question that requires a drawing or graphic annex in addition to the text, a graphic annex should be sent in addition to the general question asked via the Competitive Database to [przetargi.ropczyce@pcc.eu](mailto:przetargi.ropczyce@pcc.eu). In the body of the reply, the Contracting Entity will also indicate the place where all Tenderers will be able to consult the drawing/graphic annex that is part of the question sent.

4. In order to maintain a smooth and efficient tender process, the Contracting Entity expects that Tenderers will seek to ask questions during the period designated for this purpose.
5. Questions asked by one Tenderer will be responded by all Tenderers, without information about the inquirer. This will be performed on an ongoing basis through publication in the Competitiveness Database: <https://bazakonkurencyjnosci.funduszeuropejskie.gov.pl/>
6. A summary of the content of the questions and responses, will be made available on the Competitiveness Database, <https://bazakonkurencyjnosci.funduszeuropejskie.gov.pl/> and on the website of the Contracting Entity: <https://www.pccintermodal.pl/przetargi/>. This summary will be made available by the Contracting Entity to the Tenderers once the Contracting Entity has completed the response process. A summary of the content of the questions and responses should be annexed **to the agreement as the Annex No. 3 to the delivery agreement and Annex No. 3 to the service agreement**. An agreement without a list of questions and responses will not be complete unless there are no questions in the tender.
7. Amendments or additions to the contents of this Specification, as well as any publication of the contents of the consolidated texts of the tender documents, including the draft delivery agreement and the draft service agreement, will be made by the Contracting Entity to the original texts and published as consolidated texts on the website in the Competitiveness Database <https://bazakonkurencyjnosci.funduszeuropejskie.gov.pl/> and at <https://www.pccintermodal.pl/przetargi/>.
8. If, for technical reasons, it becomes impossible to post the documents on the Competitive Database, the Contracting Entity will post a notice on the Competitive Database, together with a link to the own website of the Contracting Entity.
9. The amendments made will be binding on all Tenderers.

## 6. EXCLUSION FROM PROCEDURE

The Tenderers will be excluded from the tender process:

1. Against whom liquidation has been opened or bankruptcy has been declared,
2. Who, as a result of deliberate action or gross negligence, have misled the Recipient in the presentation of information that they are not subject to exclusion, meet the conditions for participation in the tender, or that the scope of delivery and service work offered by them meets the requirements laid down in the Specification, or who have concealed this information or are unable to produce the required documents,
3. Who have inadvertently or negligently provided information misleading to the Recipient as to circumstances that may materially affect the decisions taken by the Recipient in the tender procedure,
4. Against whom a final and unappealable court judgement or a final and unappealable administrative decision has been issued on the arrears of taxes, fees or charges for

social or health insurance, unless the Tenderer has paid the due taxes, fees or charges together with interest or fines or has entered into a binding agreement on the repayment of these receivables,

5. Who have entered into an agreement with others to distort competition in the tender procedure,
6. Who, belonging to the same capital group as another Tenderer within the meaning of the Act of 16.02.2007 on competition and consumer protection, have submitted a separate bid, unless they demonstrate that the links existing between them do not lead to a distortion of competition,
7. Who have not submitted the complete, required formal documents,
8. Who have submitted a set of the required formal documents, but who do not meet the required conditions set out in the Specification,
9. Who have submitted documents with deficiencies or containing ambiguities and, despite being requested to do so, have failed to supplement them or submit explanations within the time limit set by the Recipient.
10. Who have offered to perform the subject of the tender contrary to the terms of the Specification.

## 7. PREPARATION OF THE PRICE OFFER

1. **The price offer should be prepared in accordance with the form provided ([Annex No. 2 to the Specification](#)) and signed by the persons representing the Tenderer, and should be submitted together with the formal documents as referred to above in Chapter 2, Section 9 of the Specifications.**
2. The prices from the tender bid will be used to rank the tender bids submitted by the Tenderers according to the guidelines described below in the Section 8.
3. All prices in the bid (for RMG cranes and services) will be quoted in EUR. The prices must also meet the other conditions set forth in the Specifications.
4. The Price Form attached to the bid Appendix 2 to the Specifications and (Appendix 3 to the contracts) also includes a section for specifying the availability period for spare parts and components or equivalent parts for repair and replacement, which, however, may not be less than 20 years.

## 8. EVALUATION OF THE TENDER BIDS. 'W' INDICATOR

The value of the 'W' indicator will be calculated on the basis of the tender bid submitted in accordance with [Annex No. 2 to the Specification](#) ([the Annex No. 3 to the agreements](#)) according to the following formula:

$$W = 2 \cdot P + 6 \cdot M$$

where:

**W - an indicator indicating, on a weighted basis, the ranking of a given tender bid.** This indicator does not represent the value of the total amount that the Tenderer will receive from the delivery agreement or the value of the service work orders, but is only relevant for determining the ranking of the tender bids. The most advantageous tender bid will be the one that meets all the requirements under this Specification and achieves the lowest 'W' value;

**P - price of 1 RMG crane** offered for the container terminal to ROPCZYCE;

**M - service quotation for 1 RMG crane for one year.** For the purpose of evaluating the tender bids, the M price is multiplied by 6, i.e. theoretically for 2 gantry cranes over a period of three consecutive years.

Service should only be calculated assuming all the periodic, preventive work necessary on the gantry crane and its equipment.

The Contracting Entity requires a quotation for the rate of 1 hour of service technician work and for the service technicians to travel to the site of the gantry cranes. The rates will not affect the 'W' indicator. The Contracting Entity assumes that the rates offered will be at the market level.

**R<sub>1</sub> - R<sub>4</sub> - flat-rate price per 1 man-hour of service technician's work related to additional work not covered by the guarantee** or applicable to activities carried out outside the working time specified in the Specification. The cost of standard maintenance by the employees of the Supplier is included in the "M" price.

**T - flat-rate price for 1 service trip and return associated with additional work not covered not covered by the guarantee or periodic inspections and maintenance.** Travel expenses of the employees of the Supplier for standard maintenance activities covered by the service agreement are included in the "M" price.

**The prices** quoted in the tender bid that obtained the most favourable 'W' value will be accepted as binding in the delivery agreement and the service agreement, provided that they do not exceed the budget adopted by the Contracting Entity for the execution of the Task.

## 9. SUBMISSION OF THE DOCUMENTS NECESSARY FOR THE CONCLUSION OF THE AGREEMENTS

1. If no other information is provided by the **Contracting Entity** after the deadline for submission of tender bids to the Competitive Database, the Tenderer whose tender bid is the most advantageous (the lowest value of the 'W' indicator) **will be informed at the e-mail address indicated in the application form** that its Tender is the most advantageous and will be obliged, **within at least 5 (five) business days**, from the request sent by the Contracting Entity, to **provide a set of documents necessary** to conclude an agreement in accordance with these Specifications, to the following address: [przetargi.rmg@pcc.eu](mailto:przetargi.rmg@pcc.eu)

2. On its own initiative or at the request of the Tenderer, PCC Intermodal S.A. may extend the deadline for the delivery of **Complete Bid** by no more than a further five business days.
3. The documents necessary for the conclusion of the agreements should be drawn up in Polish and submitted as pdf file(s) bearing a qualified signature.
4. **The documents necessary for the conclusion of the agreements** in its current version and a possible consolidated version will be published at: <https://bazakonkurencyjnosci.funduszeuropejskie.gov.pl/> and <https://www.pccintermodal.pl/przetargi/>
5. **The consolidated version of the document** is the most up-to-date published version of the documents, taking into account the amendments and additions made by the Contracting Entity in connection with the responses to the questions of the Tenderers;
6. Regardless of the results of the tender Each Tenderer will remain bound by its tender bid **for 60 days** from the date set for submission of tender bids on the Competitive Base platform, unless the Contracting Entity notifies the Tenderer in advance that it is released from its bid commitment.

## 10. INFORMATION ON AGREEMENTS

**The set of documents necessary for the conclusion of the agreement will include:**

- I. **Delivery agreement** with the contents in accordance with the text of the draft agreement constituting the [Annex No. 3 to the Specification](#), completed in the spaces provided for this purpose and signed in accordance with the representation of the Tenderer, together with a set of signed annexes Nos. 1-15 to the delivery agreement, i.e.:
  - [Annex No. 1 Specification of the subject of the tender](#) (the text of this Specification in the final version published on the website of the Contracting Entity at [www.pccintermodal.pl/przetargi/](http://www.pccintermodal.pl/przetargi/), but without the Annexes);
  - [Annex No. 2 Questions and responses](#) (relating to the subject of the tender - text published by the Recipient in accordance with the Specification at the address indicated above);
  - [Annex No. 3 Price Form](#) (completed by the Tenderer in the form provided for in the model already referred to in the Section 7 above);
  - [Annex No. 4 Handover and Acceptance Report \(model final acceptance report developed by the Recipient\)](#);
  - [Annex No. 5 Schedule for manufacture, assembly and commissioning of cranes](#) (developed by the Supplier taking into account the guidelines in the Specification);

- **Annex No. 6: List of Critical Parts and Components** (document prepared by the Supplier, attached to the bid)
- **Annex No. 7: Rules for the Protection and Disclosure of Personal Data.**
- **Appendix No. 8: Delivery Checklist** – Identifying the Supplier of individual items (with the content specified in Appendix No. 5 to the Specifications);
- **Appendices 9–15: Design drawings**, attached as Appendices 6–12 to the Specifications.

II. **A service agreement** with contents in accordance with the consolidated text of the draft agreement annexed as **the Annex No. 4 to the Specification**, completed in the dotted areas, together with the annexes No. 1-6 to the service agreement, i.e.:

- **Annex No. 1 Specification of the subject of the tender** (the text of this Specification in the final version published on the website of the Contracting Entity at [www.pccintermodal.pl/przetargi/](http://www.pccintermodal.pl/przetargi/), but without the annexes to it);
- **Annex 2 Questions and responses** (relating to the subject of the tender - text published by the Recipient in accordance with the Specification at the address indicated above);
- **Annex No. 3 Price Form** (completed by the Tenderer in the form provided for in the model already referred to in the Section 7 above);
- **Annex No. 4 Contact details of the representatives of the Client and Supplier** authorised to carry out activities relating to the equipment, including the signing of reports (model developed by the Recipient);
- **Annex No. 5 Schedule of inspections and scheduled maintenance work** (prepared by the Tenderer and in accordance with the guidelines in the Specification);
- **Annex No. 6 List of materials and parts** subject to scheduled replacement (prepared by the Contractor and in accordance with the guidelines set forth in the Specifications);
- **Annex No. 7 Rules for the Protection and Disclosure of Personal Data.**

The Tenderer will fill in the text of the delivery agreement and the service agreement only in the spaces provided for this (dotted lines), and likewise fill in **the Annex No. 4 to the service agreement** (sample Contact details of the representatives of the Contracting Entity and Contractor).

**Annexes Nos. 1 and 2** to of each agreement are model documents that should not be completed or modified. The same applies to **the Annex No. 4** (model of the acceptance report) **and the Annex No. 7 to the delivery agreement (Rules for the Protection and Disclosure of Personal Data)**.

The Tenderer will complete **the Annex 3** (price form same for the delivery agreement and the service agreement) and also attaches the document he prepared **Annexes No. 5** to each agreement (schedules).

Since Annexes 1, 2, 3 and 7 to the supply contract have the same content as Annexes 1, 2, 3 and 7 to the service contract, the Tenderer may submit a single set of these annexes.

The Annexes 5–12 to the Specifications to the supply contract and will be signed by the Tenderer in digital form solely as annexes to the delivery agreement.

No crossing out of the text of the agreements or addition of content is permitted except in the spaces provided, on pain of rejection of the tender bid. In case of doubt, enquiries should be made to the Contracting Entity in the manner referred to in this Specification.

This Specification and the other annexes to the delivery agreement and the service agreement drawn up on the basis of it will be an integral part of these agreements.

## 11. SELECTION CRITERION

**The criterion for selection of the most advantageous tender bid will be the total net remuneration calculated according to the 'W' formula in accordance with the guidelines given in this Specification.**

Upon receipt of the tender bids, representatives of PCC Intermodal S.A. will check their content and compliance with the requirements of the Specification in camera procedure in terms of form and content.

If the offered price or cost seems to be abnormally **low** in relation to the subject of the contract, i.e. differ by more than 30% from the arithmetic mean of the prices of all valid tender bids which are not subject to rejection, or raise doubts in the Contracting Entity as to the possibility of executing the subject of the contract in accordance with the requirements specified in the request for quotation or resulting from separate regulations, the Contracting Entity will demand from the tenderer to submit, within a designated time, not shorter than 3 business Days, explanations, including the submission of evidence as to the calculation of the price or cost, in particular as regards

- a. economy, method of performance of the contract, exceptionally favourable conditions of performance available to the Tenderer, originality of the project of the Tenderer,
- b. labour costs, the value of which used to establish the price cannot be less than the minimum remuneration or the minimum hourly rate;
- c. public aid granted on the basis of separate regulations;
- d. resulting from the labour and social security legislation in force at the place where the contract is performed;
- e. to entrust part of the scope of the contract to a subcontractor.

The Contracting Entity will evaluate these explanations in consultation with the Tenderer and may only reject that tender bid if the explanations submitted together with the evidence do not justify the price or cost quoted in that tender bid in relation to the value of the subject of the contract.

The Contracting Entity emphasises that it must not be apparent from the tender bid submitted that the Tenderer is unable to ensure that all the technical parameters of the equipment

required by this Specification are met. Failure to provide the specified functions or to offer them in a manner inconsistent with the Specification will result in rejection of the tender bid.

The Contracting Entity stipulates that the delivered equipment will be subject to verification under the report for compliance with the provisions of the Specification and the Complete Tender Bid accepted as a result of the procedure. In the case of delivery of a device, the parameters and technical equipment, functionality of which - despite the earlier assurances of the Tenderer - will differ from those offered in the tender bid, the Contracting Entity will have the right to enforce from the Supplier to supplement the deficiencies, remove discrepancies under pain of contractual penalties, including withdrawal from the agreement. Details are contained in the delivery agreement.

If, as a result of the verification, the **tender bid containing the lowest 'W' indicator** proves to be in accordance with the provisions of the Specification then the Contracting Entity will immediately inform the Tenderer of the selection of its tender bid and ask it to send the documents necessary for the conclusion of the agreement (submission of the Complete Tender Bid) in accordance with the procedure described in the Sections 9 and 10.

If the Complete Tender Bid does not comply with the provisions of the Specification, the Contracting Entity will call on the Tenderer to supplement the deficiencies or submit explanations within a period of not less **than 3 business Days**. Failure to rectify the deficiencies or submit sufficient explanations within the time limit set by the Contracting Entity will result in the rejection of this Tender Bid.

**The Contracting Entity will then retain the bid bond. In this situation, the Contracting Entity will call for the submission of a Complete Tender Bid from the next Tenderer who has submitted a correct Tender Bid, which Tenderer will be bound for 60 days in accordance with the provisions of this Specification.**

## 12. BUDGET

**In the event that none of the tender bids fit within the budget amount, the Contracting Entity has the right to inform the Tenderers of this fact and ask them to submit revised tender bids by revising the Annex no. 3 to the agreements setting a deadline of no more than 5 business Days.**

The deadline of 5 Days may be extended by the Contracting Entity in justified cases at the request of the Tenderer, of which all Tenderers will be informed. In this case, the revised content of **the Annex No. 3 to the agreements** will be decisive for the final ranking of the Tenderers in the tender. The prices shown in **the Annex No. 3 to the agreements** can only be adjusted downwards. In the situation described in this paragraph, the Tenderer is also entitled to submit a self-amendment of its tender bid (a further downward revision of the price offer). A self-amendment of a tender bid submitted after the deadline set by the Contracting Entity will not affect the ranking of the tender bid.

### 13. RESERVATIONS AND COMMENTS

**The Contracting Entity reserves the right to select and accept only one tender bid.**

The Contracting Entity does not allow partial or variant tender bids. A Tenderer may submit only one bid. The Tenderer will bear all costs associated with the preparation of the tender bid.

PCC INTERMODAL S.A. reserves the right to change the conditions and cancel the tender bid, at any stage of the procedure, including changes in the content of the Specification or to leave the tender without a decision. This also applies where none of the tender bids is lower than the budget adopted by the Contracting Entity for this Task. In the event of amendments to the contents of the Specification or amendments to other documents referred to in the Specification, the Contracting Entity will inform all Tenderers of this fact, taking due account of the time needed by the Tenderers to adapt to the new provisions.

The Specification was drawn up in two language versions: Polish and English. **In case of doubt or discrepancy between these versions, the Polish version prevails.**

If necessary, the Tenderer interested in participating in the tender should translate the remaining documents, including the delivery and service contract and its appendices, for its own purposes and on its own. The language in which the delivery and service agreement will be concluded is Polish.

The tender will be conducted on the basis of the provisions of the Polish law and internal procedures for concluding agreements of the Company PCC Intermodal S.A. available on the website [www.pccintermodal.pl](http://www.pccintermodal.pl) in the 'About the company/Tenders' tab.

Any disputes that may arise will be settled by the competent Polish courts having jurisdiction over the registered office of the Contracting Entity.

The provisions of the Act of 29 January 2004 on the Public Procurement Law do not apply to this tender.

All costs associated with the preparation of the tender documents and the submission of a tender bid or revised tender bid or the Complete Tender Bid will be borne by the Tenderer.

### 14. INFORMATION ON CO-FINANCING OF THE PROJECT

PCC Intermodal S.A. announces that the Task has received funding from the European Union, Priority FENX.05 Support for the transport sector from the European Regional Development Fund, Measure FENX.05.06 Intermodal transport.

### 15. GDPR

In accordance with the Article 13(1) and (2) of Regulation (EU) 2016/679 of the European Parliament and of the Council of April 27, 2016, on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) (OJ EU L 119, 04.05.2016, p. 1), hereinafter 'the GDPR', the Contracting Entity informs that:

- 1) the controller of the personal data is PCC Intermodal SA, ul. Hutnicza 16, 81-061 Gdynia,
- 2) Personal data will be processed on the basis of the Article 6(1)(c) of the GDPR for the purpose related to the tender procedure for the **supply with assembly, commissioning and service provision of two RMG cranes for the task: 'Construction of a container transshipment terminal with associated facilities in the Town of Ropczyce'**,
- 3) The recipients of the personal data will be persons or entities to whom the documentation of the procedure will be made available on the basis of the Specification and subsection 3.2 of the Guidelines for the eligibility of expenditure for the period 2021-2027, hereinafter 'the Guidelines',
- 4) Personal data will be kept for a period of 5 years from the date designated as the date of submission of the bid,
- 5) the obligation to provide personal data directly concerning him/her is a requirement specified in the provisions of the Guidelines, related to participation in the contract award procedure; the consequences of failure to provide certain data result from the Guidelines,
- 6) decisions will not be taken by automated means with regard to personal data, according to the Article 22 of the GDPR,
- 7) the natural person has:
  - under the Article 15 of the GDPR, the right of access by the data subject,
  - under the Article 16 of the GDPR, the right to rectification,
  - under the Article 18 of the GDPR, the right to restriction of processing, subject to the cases referred to in the Article 18(2) of the GDPR,
  - the right to lodge a complaint with the President of the Personal Data Protection Office where a natural person considers that the processing of personal data concerning him or her breaches the provisions of the GDPR,
- 8) a natural person is not entitled to:
  - in connection with the Article 17(3)(b), (d) or (e) of the GDPR, the right to erasure,
  - the right to data portability as referred to in the Article 20 of the GDPR,
  - under the Article 21 of the GDPR, the right to object, as the legal basis for the processing of personal data is the Article 6(1)(c) of the GDPR.

The Contracting Entity informs that, in view of the applicable legislation on the so-called GDPR and the guidelines of the project co-financing entity, the Contracting Entity and the Contractor are obliged to agree in writing on the **terms of further entrustment of personal data** disclosed in connection with the conclusion and execution of the agreement on construction work. The content of these terms and conditions is laid down in the [Annex No. 7 to the agreements](#).

## 16. ANNEXES TO THE SPECIFICATION OF THE SUBJECT OF THE TENDER

The annexes below form an integral part of the Specification of the Subject of the Tender.

1. Tender bid form.
2. Model price form, which, when filled in by the Supplier, will constitute [the Annex No. 3](#) to the delivery agreement and (at the same time) [the Annex No. 3](#) to the service agreement.

3. Delivery agreement (*model*), with **the annex**:
  - **no. 4 to the delivery agreement** - Handover and acceptance report (*model*).
  - **No. 7 to the delivery agreement** - Rules for the Protection and Disclosure of Personal Data.
4. Service agreement (*model*), with **the Annex No.**)
  - **No. 4 to the service agreement** - Contact details of the representatives of the Contracting Entity and Contractor(*model*).
5. Delivery list - identify the entity supplying the individual items;
6. Figure –RMG AA cross-section of the crane service area in Ropczyce, variant 1;
7. Figure –RMG BB cross-section of the crane service area in Ropczyce, variant 1;
8. Figure –RMG AA cross-section of the crane service area in Ropczyce, variant 2;
9. Figure - RMG foundation Ropczyce - storm brakes;
10. Drawing - RMG Ropczyce foundation - anchors and buffers;
11. Figure - power supply chamber of the RMG crane in Ropczyce;
12. Figure - fixing of crane rails.