

**Technical Specifications Appendix**  
**For a Bicycle Robotic Parking System**

Draft - Non Binding Version

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## 1. **General:**

Israel Railways Ltd is interested in a Supplier for supplying, installation, maintenance and customer service for Robotic Parking Systems for bicycles that will be placed next to the train stations in locations to be provided by the ISR representative.

The requirements relate to: the Robotic Parking Systems themselves, their manufacture, import, construction, maintenance, relocation, dismantling, customer service and technical support service and all relevant comprehensive services.

The document refers to four different groups of facilities as follows:

- 1.1 Parking System with 50-80 spaces (above ground).
- 1.2 Parking System with 120-159 spaces (above ground).
- 1.3 Parking System with 120-159 spaces (underground).
- 1.4 Parking System with 200-250 spaces (underground).

## 2. **Parking System structure:**

Obtaining approvals –

- 2.1 As a condition for receipt of a Completion Certificate, the Supplier shall obtain all the approvals required for the operation of the facility under any law at its own responsibility and expense. It is clarified that this obligation of the Supplier applies whether or not the approval is mentioned in this specification. See details in the “Construction Appendix” of this Tender.
- 2.2 It is hereby clarified that the location of the facilities installation shall be determined by the ISR at its discretion and may be inside or outside the ISR area, all at the ISR’s discretion and the Supplier shall prepare to obtain all of the approvals as specified above from all the competent authorities and bodies as applicable. See details in the “Construction Appendix” of this Tender.

## 3. **Durability -**

- 3.1 Fire: The structure of the facility must be made of non-flammable, fireproof materials. For the avoidance of doubt, it is hereby clarified that the Supplier is required to obtain an approval from the fire department as a condition for receipt of a Completion Certificate, as detailed in the Agreement.
- 3.2 Vandalism: Without derogating from the Supplier’s obligation to provide a safe facility that complies with all the requirements under any law, the facility must be

made of materials designed for vandalism prevention in order to prevent damage due to use, including damages from people, whether intentional or unintentional.

- 3.3 Weather: The facility will be resilient to the weather prevailing in Israel and will withstand at least the following ranges:

Temperature range in Celsius	(-10)-(50)
Humidity	40%
Wind gusts	160 km/h
Rain	280 mm per day.
Snow load	70 cm
Resistance to hail strikes	9 cm diameter
Solar radiation	30 mega joule/m <sup>2</sup>

Solar Heat: The facility will be made of materials that prevent degradation and fade marks for at least 15 years.

Flooding: The facility will be equipped with pumping and drainage systems if necessary and in accordance with the type of the facility, in order to prevent flooding, and damage to the facility and the user in advance.

- 3.4 Earthquakes: An underground facility will be resistant to earthquakes and tremors (at least a magnitude 8 on a moment magnitude scale).

4. User safety - The facility shall be such that it will not cause any damage to the user and/or the passers-by and/or any third parties, including that the facility will be without sharp corners.

Dimensions:

<b>Parking System type</b>	<b>Maximum internal diameter</b>	<b>Maximum height/ depth</b>
Parking System with 50-80 spaces (above ground).	9 meters	6.5 meters
Parking System with 120-159 spaces (above ground).	9 meters	12 meters
Parking System with 120-159 spaces (underground).	9 meters	12 meters
Parking System with 200-250 spaces (underground).	10 meters	12 meters

5. Multimedia system:

- 5.1 Perimeter Security Cameras: The entire perimeter of the facility will be covered by video cameras, with the means of improving day/ night viewing.
- 5.2 A camera for the depositor's face: In addition to the above, the facility will contain a camera that will document the user's face at the time of deposit and at the time of withdrawal, in a clear and qualitative manner, both during daytime and nighttime.
- 5.3 Camera inside the facility for recording of withdrawal/ deposit: In addition to the above, the facility will contain a camera that will record the deposit and withdrawal process in a video footage. The camera will follow the robotic arm throughout the process, to document the deposit/ withdrawal process of the bicycle, clearly and qualitatively, both during daytime and nighttime.
- 5.4 The system will be equipped with at least a 15" multimedia screen, protected from vandalism and harsh weather conditions, as well as a strong and clear public address system.
- 5.5 Instructional videos: The facility will contain a system that will present a video regarding the operating processes, as detailed below.
- 5.6 Alert Videos: During an alert, as mentioned, the system will pop up a video describing the problem/ alert on the screen and on the public address system.
- 5.7 Built-in call to the Center: The facility will include a button and direct communication system for customer service. The button will be built into the facility itself.

6. Supply of the facilities - schedules

Facility type	From the date of receipt of an assignment by the ISR until the date of receipt of the Completion Certificate, as specified in the Agreement
<u>Parking System with 50-80 spaces (above ground)</u>	6 months.
<u>Parking System with 120-159 spaces (above ground).</u>	6 months.
<u>Parking System with 120-159 spaces (underground).</u>	7 months.
<u>Parking System with 200-250 spaces (underground).</u>	7 months.

**7. Erection:**

Preliminary/ Existing Infrastructure/ Preliminary Soil Survey -

Prior to issuing a work order to the Winning Bidder, the ISR will provide the Winning Bidder with a land survey, a map of existing infrastructure, an initial plan for traffic arrangements and the location of the requested Parking System. This is while for the first four stations, the above reports will be submitted at the bidders' meeting.

**8. Mobility/ relocation -**

- 8.1 Description of the action - The ISR has the right to decide to transfer an existing Parking System at its sole discretion from one location to another, whether in the same area or to another area/ city/ district or other. The contents of the work for mobility appear in full in the chapter "Mobility/ relocation" in the construction specifications of this Tender.
- 8.2 The mobility time specified in the table below is the time from the moment of cessation of the Parking System operation at the first point, and until the moment the Parking System is activated for the public at the second point. After all the calibration, testing and maintenance work required before opening the Parking System for use.

Schedules for mobility and relocation operations:

Facility type	From cessation of functioning to beginning of functioning
<u>Parking System with 50-80 spaces</u> <b><u>(above ground)</u></b>	30 days.
<u>Parking System with 120-159 spaces</u> <b><u>(above ground).</u></b>	40 days.
<u>Parking System with 120-159 spaces</u> <b><u>(underground).</u></b>	60 days.
<u>Parking System with 200-250 spaces</u> <b><u>(underground).</u></b>	60 days.

**\*These schedules assume that infrastructure and preparation works have already been carried out for the installation of the Parking System in its new location.**

**9. Operating Characterization:**9.1 User interface:

The computing/ clearing system of the Parking System will be able to provide a response to the use characterization in the following ways -

	VIP passenger train subscription	Rav-Kav (multi-line) subscription.	Application subscription	Casual
<b>Definition:</b>	Owner of a Rav-Kav with a valid contract	Owner of a Rav-Kav with an invalid contract.	No Rav-Kav	One time ride - credit card
<b>Registration stages:</b>	<ol style="list-style-type: none"> <li>1. Regulations, terms of use, insurance policy/ user.</li> <li>2. Identifying details (full name, ID, address, e-mail address, telephone number, Rav-Kav number)</li> <li>3. Creating a user name and password</li> <li>4. Payment method details (credit card)</li> </ol>	<ol style="list-style-type: none"> <li>1. Regulations, terms of use, insurance policy/ user.</li> <li>2. Identifying details (full name, ID, address, e-mail address, telephone number, Rav-Kav number)</li> <li>3. Creating a user name and password</li> <li>4. Payment method details (credit card)</li> </ol>	<ol style="list-style-type: none"> <li>1. Regulations, terms of use, insurance policy/ user.</li> <li>2. Identifying details (full name, ID, address, e-mail address, telephone number, Rav-Kav number)</li> <li>3. Creating a user name and password</li> <li>4. Payment method details (credit card)</li> </ol>	<ol style="list-style-type: none"> <li>1. Cellphone number entry.</li> <li>2. Swiping a credit card in the built-in clearing system in the Parking System.</li> <li>3. Displaying the terms of use.</li> <li>4. User confirmation of the terms.</li> <li>5. Receiving a code valid for activation for 15 minutes.</li> </ol>
<b>Registration location</b>	Website / application / telephone customer service, dedicated computer station in the Parking System.	Website / application / telephone customer service, dedicated computer station in the Parking System.	Website / application / telephone customer service, dedicated computer station in the Parking System.	Dedicated computer station in the Parking System.
<b>Means of identification</b>	Rav-Kav, application code,	Rav-Kav, application code,	Application code, chip.	SMS code valid for 15 minutes.

Depositing a bicycle:	<ol style="list-style-type: none"> <li>1. Identification.</li> <li>2. After Identification -</li> <li>3. The system will ensure with the user that the bicycle is ready for deposit.</li> <li>4. The system will ask the user to check that s/he has not forgotten important things.</li> <li>5. The user will click for confirmation.</li> <li>6. The robot will start the deposit operation.</li> <li>7. Confirmation of action and the user will receive the parking space number in the application.</li> </ol>	<ol style="list-style-type: none"> <li>1. Identification.</li> <li>2. After Identification -</li> <li>3. The system will ensure with the user that the bicycle is ready for deposit.</li> <li>4. The system will ask the user to check that s/he has not forgotten important things.</li> <li>5. The user will click for confirmation.</li> <li>6. The robot will start the deposit operation.</li> <li>7. Confirmation of action and the user will receive the parking space number in the application.</li> </ol>	<ol style="list-style-type: none"> <li>1. Identification.</li> <li>2. After Identification -</li> <li>3. The system will ensure with the user that the bicycle is ready for deposit.</li> <li>4. The system will ask the user to check that s/he has not forgotten important things.</li> <li>5. The user will click for confirmation.</li> <li>6. The robot will start the deposit operation.</li> <li>7. Confirmation of action and the user will receive the parking space number in the application.</li> </ol>	<ol style="list-style-type: none"> <li>1. Identification.</li> <li>2. After Identification -</li> <li>3. The system will ensure with the user that the bicycle is ready for deposit.</li> <li>4. The system will ask the user to check that s/he has not forgotten important things.</li> <li>5. The user will click for confirmation.</li> <li>6. The robot will start the deposit operation.</li> <li>7. The user will receive an SMS with the operation confirmation and the parking space number.</li> </ol>
Withdrawing a bicycle:	<ol style="list-style-type: none"> <li>1. Identification</li> <li>2. Performing the bicycle ejection operation.</li> <li>3. Action confirmation</li> <li>4. The user will receive the cost and the action confirmation in the application.</li> </ol>	<ol style="list-style-type: none"> <li>1. Identification</li> <li>2. Performing the bicycle ejection operation.</li> <li>3. Action confirmation</li> <li>4. The user will receive the cost and the action confirmation in the application.</li> </ol>	<ol style="list-style-type: none"> <li>1. Identification</li> <li>2. Performing the bicycle ejection operation.</li> <li>3. Action confirmation</li> <li>4. The user will receive the cost and the action confirmation in the application.</li> </ol>	<ol style="list-style-type: none"> <li>1. Identification using the same code used for the deposit.</li> <li>2. Performing the bicycle ejection operation.</li> <li>3. Action confirmation</li> <li>4. The user will receive an SMS with the cost and the action confirmation.</li> </ol>
Tarrif	NIS X per hour. Where the first Y hours are free	NIS X per hour.	NIS X per hour.	NIS X per hour.
Setting the	The ISR will have the option to change the hourly tariffs, tariff steps by hours and the			

tariff and free hours:	number of free hours at its sole discretion, with an advance notice of 12 hours, and the Supplier waives any claim and/or demand regarding this, including claims regarding loss of profits. It is hereby clarified that any money received by the Supplier as a result of the payment of the tariffs and/or changes shall belong to the ISR and the ISR shall be entitled to deduct these amounts from any consideration due to the Supplier, or that according to the ISR's instruction, at its discretion, the funds shall be paid directly to the ISR by the Supplier.
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9.2 Identification means that the system must be adaptable to -

By a "Rav-Kav" - train suitable ticket (mandatory support of "Calypso" standard/ code/ chip/ application/ one-time train ticket/ credit card/ or any form of future identification/clearing). The system will support reading bar-codes (QR).

9.3 Clearing:

The system will provide a solution for clearing according to the following options:

- Direct credit card clearing.
- Credit card clearing via the application.

The clearing will be performed:

- Via a dedicated website.
- Via a dedicated application.
- Directly on the computer that will be installed in the Parking System.

9.4 Cyber Security Settings -

9.4.1 The system will be a separate system and not on the ISR's network.

9.4.2 Internet access will be provided to entities in the ISR for the management of the system.

9.4.3 The Supplier will provide protection against a cyber attack on the system in order to prevent the possibility of change/disruption and/or any other cyber attack.

9.4.4 Without derogating from the Supplier's undertakings under the Agreement, the Supplier is responsible, at its own expense, to take all the necessary measures to maintain information security, including compliance with all the provisions of any law, including all instructions and standards regarding the use of credit cards and clearing.

9.5 Advance parking space ordering service:

The system will include an option to allow ordering a parking space in advance. It is clarified that the service will be operated on condition that prior written approval of

the ISR will be obtained, which will determine the start date of providing the service, including the time required for the advance order and the payment to be collected in respect of this service, if any.

9.6 Chip:

The Winning Bidder will issue and manage a stock of chip cards per Parking System, and provide them to customers based on demand, at no extra cost.

9.7 2 user interface computers/screens will be installed in each facility (Parking System) -

9.7.1 A computer for registration as a club member/ making payments/ reading the regulations/ instructions for use/ and all the detailed information relevant to the user.

9.7.2 Additional computer for performing operations in the Parking System (deposit/ withdrawal).

9.7.3 Installation of both screens and computers will allow simultaneous use of both systems.

9.8 Languages -

The system shall have full support (captions, audio, menu, screen) in the languages: Hebrew, English, Arabic.

9.9 Safety during the deposit/withdrawal process -

9.9.1 The facility shall contain safety systems that will ensure that the user and/or the equipment and/or any third party will not be harmed as a result of the use of the facility, and it is the responsibility of the Supplier to perform all the operations at its own expense to ensure this.

9.9.2 Without derogating from the above, the facility will contain appropriate sensors that will identify and alert on any interference and will even immediately stop the facility in order to prevent any incident that has a potential for damage to the user and/or the equipment and/or any third party.

9.9.3 The system will maintain the safety of the deposited bicycle and prevent any damage to the bicycle. The dynamic arm plate will be protected with a cage, which will prevent the fall of objects/ bicycle during the deposit/ withdrawal and/or any other damage.

9.9.4 The system will prevent the unauthorized entry of a person and/or animal into the facility shaft and the system space.

9.9.5 The system will alert via the multimedia screen and public address as detailed above regarding any problem and/or malfunction and/or fear of damage and/or injury to the user and/or equipment and/or any third party during the use of the facility, including correction instructions in a simple and clear manner. The

contents of displaying the problem on the screen, and the correction instructions on the public address, shall be approved by the ISR in advance and in writing and upon the ISR's demand, they shall be changed at no additional cost to the ISR.

9.10 Minimum alerts:

9.10.1 Bicycle not placed correctly alert.

9.10.2 Locked bicycle wheel alert.

9.10.3 Inappropriate bicycle size alert.

9.10.4 Person close to the elevator opening during a deposit alert.

9.11 Functioning times -

Maximum submission and deposit times, from the moment of depositor's approval, until the moment the robot arm is available for the next submission/ deposit:

Facility type	Maximum submission/ deposit time
<u>Parking System with 50-80 spaces</u> <b><u>(above ground)</u></b>	15 seconds.
<u>Parking System with 120-159 spaces</u> <b><u>(above ground).</u></b>	20 seconds.
<u>Parking System with 120-159 spaces</u> <b><u>(underground).</u></b>	20 seconds.
<u>Parking System with 200-250 spaces</u> <b><u>(underground).</u></b>	20 seconds.

10. Types of bicycles:

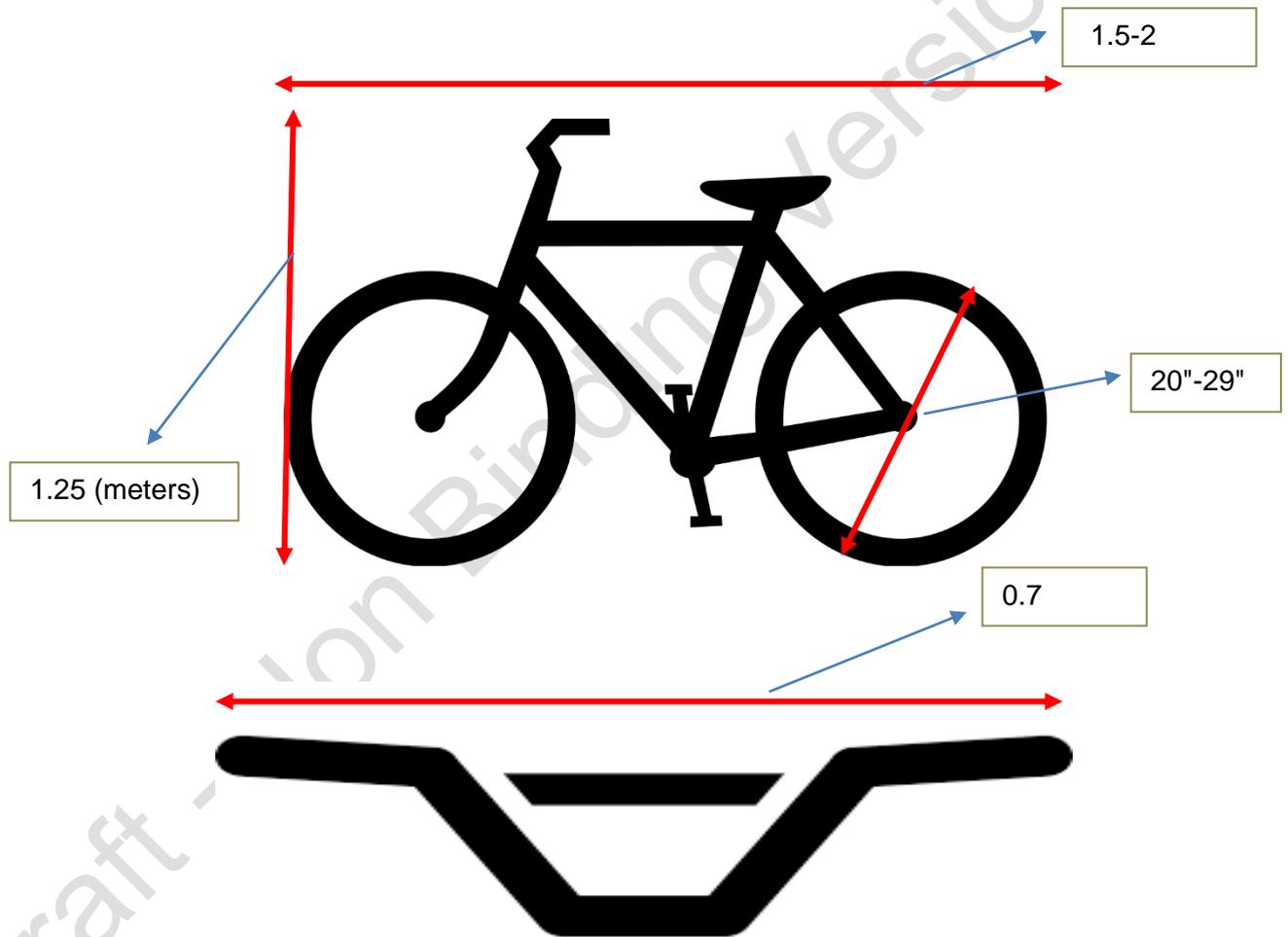
10.1 Non-deposit of type X bicycle -

The Winning Bidder will arrange and maintain for the ISR and for backup users chosen by the ISR, a "user friendly" remote access screen, which will allow the ISR to limit the size of the bicycles that can be deposited. Height, weight, handle width, wheel diameter.

10.2 Dimensions for storage -

Minimum dimensions for which the Parking System must provide a solution, and the default dimensions for bicycles that can be stored in the Parking System will be:

Wheel min - max	Bicycle width	Bicycle length	Bicycle height	Weight
20"-29"	0.7 (meters)	1.5-2 (meters)	1.25 (meters)	35 (Kg)



10.3 **The Parking System will be fully adapted to electric bicycles.**

10.4 **Bicycle size identification -**

The facility will contain sensors that will identify the dimensions of the bicycle, and if it is detected that the dimensions are exceeded, the system will inform the user of the lack of suitability of the desired bicycle dimensions for deposit - for failure prevention.

**11. Online services:**

11.1 **Digital channel occupancy indicators:**

**Interfacing and its purpose:**

The Winning Bidder will set up a system for status indication of the bicycle quantity at any given time from the applicative system of the Parking System's technology systems, which will be reflected as an Internet module in digital channels (applications, web platforms, GIS portals, traffic directing digital signage, etc.) The data will be displayed in the number of occupied parking spaces and the number of available parking spaces.

11.2 **Manner of interfacing:**

Providing one-directional view permissions to the system using a dedicated API (JSON, XML, or any other format).

As per the ISR's request, at no additional cost on the part of the ISR, the Supplier shall grant link authorizations for this indication to the authorities which the ISR shall choose at its sole discretion and to those authorities only.

**12. Website:**

Throughout the engagement period, the Winning Bidder will provide and be responsible for the maintenance and operation of a website open to the public through which it will be possible to perform:

12.1 Opening a new subscription/ Deleting a subscription.

12.2 Customer service agreement.

12.3 Receiving all information relevant to the user.

12.4 Insurance policy/ procedures.

12.5 Safety instructions.

- 12.6 Price list.
- 12.7 Updated locations of all the ISR's Parking Systems.
- 12.8 Online capacity/ occupancy status.
- 12.9 Personal profile status, credit information, and personal information.
- 12.10 Online updated account status.
- 12.11 Deposited bicycle parking time and online billing cost.
- 12.12 Account history for a year back.
- 12.13 Link to the ISR website and interfacing.

### **13. Application:**

Throughout the engagement period, the Winning Bidder will provide and be responsible for the maintenance and operation of a dedicated application open to the public through which it will be possible to perform:

- 13.1 Opening a new subscription/ Deleting a subscription.
- 13.2 Customer service agreement.
- 13.3 Receiving all information relevant to the user.
- 13.4 Insurance policy/ procedures.
- 13.5 Safety instructions.
- 13.6 Price list.
- 13.7 Updated locations of all the ISR's Parking Systems.
- 13.8 Live time distance on a map and a link to Google Maps.
- 13.9 Online capacity/ occupancy status.
- 13.10 Reporting a malfunction directly.
- 13.11 A quick link to dial the relevant Parking System Center.
- 13.12 Personal profile status, credit information, and personal information.
- 13.13 Online updated account status.
- 13.14 Deposited bicycle parking time and online billing cost.
- 13.15 Account history for a year back.
- 13.16 Link to the ISR application and interfacing.

14. Information booklet -

The Winning Bidder will provide the ISR, at the time of submission of the proposals, with a hard copy and a computerized copy, in Hebrew and English: an instruction and operation manual, preventive maintenance and cases and reactions to the operation of the Parking Systems, and the manufacturer's book. Which includes training on fire and disaster conditions, full technical specifications, drawings and designs and all relevant material.

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