REQUEST FOR INFORMATION (RFI)	
RFI NUMBER : 037/2024	SUBMITTED TO MAIL:.
Date of Submission :	TIME:
PROJECT:	SUBMITTED BY:

1. BACKROUND AND PURPOSE OF THE RFI

NTA Metropolitan Mass Transit System Ltd. ("**NTA**") is the company responsible for the design and construction of a mass transit system for the Tel Aviv metropolis (the "**Mass Transit System**"). Through this Request for Information (the "**RFI**") NTA wishes to receive relevant information about technological and design innovative solutions, that could be integrated into NTA's Mass Transit System, in order to improve passenger experience regarding orientation, wayfinding, usability, comfort and safety, for people with invisible and cognitive disabilities (the "**Solutions**").

The Solutions should be inclusive and applicable for all users, including individuals with physical, mental and/or cognitive impairments.

This RFI is a preliminary process initiated by NTA, solely for receiving information and conducting its initial internal evaluation and consideration. This RFI does not, in any manner whatsoever, constitute a tender, bid, offer, proposal, or request for any of them nor does it constitute an engagement, representation or warranty on behalf of NTA. Response to this request will not constitute a condition for participation in the tender, if any is subsequently issued, and no advantage will be given in the tender to those who responded to the RFI. Based on the responses to this RFI, suitable companies may be invited for further deliberations by NTA, at its sole discretion.

2. INTRODUCTION OF NTA

NTA is the governmental company responsible for the development of the Tel Aviv Metropolitan Mass Transit System, a network of light rail transit and future metro railway lines. NTA is leading an economic and cultural revolutionary transformation in the transportation sector by constructing the mass rail transit system of the Gush Dan region. The Mass Transit System is the largest and most complex transportation project in Israel.

The Mass Transit System integrates with all means of transportation, including three Light Rail Transit (LRT) lines and three Metro Lines as follows:

- ✓ The **Red Line** Project (RLP), that has recently commenced operating, extends from Bat Yam to Petach Tikva via Tel Aviv, Ramat Gan and Bnei Brak and is one of the most heavily used traffic corridors in the Tel Aviv Metropolitan area. It stretches, in total, over approximately 24 km, and comprises at-grade sections at both ends and a central underground section of approximately 12 km.
- ✓ The **Purple Line**. The total length of the line will stretch over approximately 27 km, with 46 stops. The line is entirely at-grade and includes bridges. At the eastern end of the line, a depot for heavy maintenance is located. Two Stops will be located on the bridges.
- ✓ The **Green Line**

  The line connects between Rishon Le Zion at the south, Tel Aviv in the middle and Herzliya at the North.

  The line length is 39 km, 4.5 km are underground. It has 62 stops, 4 of them are underground.
- ✓ The **Metro System** network includes 3 lines:

1. The first line (M1) is 73 km long and includes two branches from the south and two from the north joining in a common section along the Ayalon-Namir corridor;
2. The second line (M2) is 25 km long and serves the eastbound corridor from Petah Tikva to Ramat Gan, Tel Aviv and Bikat Ono;
3. The third line (M3) is 32 km long and connects Tel Aviv north coast to the south coast via a half-ring to the east.

3. SUMMARY OF PASSENGER'S ACTIVITIES WHILE USING PUBLIC TRANSPORTATION

When using public transportation, passengers are engaged in various activities, including the following:

Travel journey and route:

- Journey from the start position (home, office, etc.) to the station.
- Journey from the station entrance to the train platform including interim concourse levels when applicable
- Journey from the station exit to the final destination

Planning journey times requires consideration of:

- Frequency and schedule of trains and their interface with other means of transportation
- Travel time to and from the stations

- Time required to navigate in the station and to carry out various tasks such as ticket validation.

Specific actions during the journey:

- Purchasing the appropriate ticket in the vending machine or in the mobile app
- Validation of the ticket at the entrance and exit
- Navigation to the correct platform
- Choice of the correct train
- Choice of the correct station stop

Specific points on the journey that require clear wayfinding and navigation:

- The station in the urban context
- The station entrance and exit
- Elevators, escalators, stairs
- Vending and validation machines
- Circulation routes and corridors forming the journey to the platform
- Platform and train choice
- Station stop and exit platform

Examples of unexpected situations that require management solutions

- Unexpected change in train schedule including cancellations
- Unexpected change of train route
- Station closure updates
- Emergency events
- Unexpected fault in vending machines
- Updates on train capacity and available space
- Maintenance work updates

4. CHALLENGES FOR INDIVIDUALS WITH COGNITIVE DISABILITIES WHILE USING PUBLIC TRANSPORTATION

A Cognitive disability is a significant limitation in the ability to process complex information, conceptualize, plan, and execute a sequence of thoughts and actions, or in the ability to remember and interpret environmental and social signs. Cognitive disability can include

significant difficulties in verbal comprehension (written and spoken) and quantitative comprehension (numbers, schedules, calculation of payment and distance, organization in time). The population with cognitive disabilities also includes people with an intellectual disability, people with mental disability, people on the autistic spectrum, people that have experienced a head injury or a stroke, people with attention and concentration disorders and people with learning disabilities.

Cognitive accessibility is aimed to create a safe public space that enables maximum independence and access for all, and reduces challenges and/or confrontations as much as possible.

Cognitive accessibility refers to seven aspects that must exist simultaneously:

- An enabling space
- Simple and clear communication
- Clear information
- Simple processes
- Alternative solutions simplifying concepts of time and space
- Providing easy-to-use technology
- Calming attributes that reduce stress

In the world of public transportation that involves dealing with time pressure, anxiety, uncertainty, or loss of orientation, cognitive accessibility can significantly improve the customer experience for all.

Extent of need

Around 20% of the population are people with disabilities. For them, public transportation is essential, as it provides them independence, equal opportunities, participation, and improved quality of life.

Today, many solutions are available for physical, sight, and auditory disabilities, but much less solutions address people with cognitive disabilities.

Unlike physical disabilities, most cognitive disabilities are invisible, creating significant challenges, both for the service provider and for the passengers themselves.

Therefore, given the extent of the population with cognitive disabilities, on the one hand, and the paucity of existing solutions, on the other, NTA sees a major need in finding technological and design solutions aimed to improve the passenger experience for people with cognitive disabilities.

Typical barriers for people with disorientation and/or disorganization difficulties while using public transportation:

- Disorientation when in a new and unfamiliar place.
- Disorientation when navigating different types of stations, for example an underground station versus an At-Grade stop. The user cannot easily transfer their experience, understanding and knowledge from one station type to another.
- Lack of distinction between certain signs and features, which can lead to confusion for the users.
- A multi-level station with different activities on each floor (security, vending machines, platforms etc.) may be difficult to navigate and therefore intimidating for the user.
- Limited distinction or wayfinding signage between activity zones.
- Limited means of identifying the Light Train Vehicle (the "LRV") as it arrives at a station platform or at the designated stop. The options are to read signage (text) or to listen to announcements. There are no additional methods for users that cannot easily access these techniques.
- When passengers are required to proceed along irregular routes or to evacuate from the platform, guidance is provided by means of vocal and text display only, again limiting access to the information and alerts.
- Buying a ticket in a vending machine and validating the ticket before and after the travel, requires the user to understand instructions and to execute a series of actions. The current guidance is limited and not easily accessible by all.
- While travelling with public transport, the passengers need to be well advised of timetables. This enables them to plan the journey efficiently. Currently there is a lack of such guidance system
- Performing actions in a limited time frame, such as getting on or off the LRV in a short window of opening and closing doors, is a barrier for people who require more time to process information and to respond. Currently there is no system that informs passengers about projected actions and their associated timeframes.
- Train Stations are busy, crowded, noisy, and distracting. There is no system that helps people with difficulties to function in such an environment.
- In situations when the passenger is obliged to change his/her regular routine while using public transportation, such as emergency events, or when a passenger loses his/her way or gets on the wrong LRV, the following barriers might occur:

- The staff might find it hard to recognize people with invisible disabilities who need help.
- People with special needs might find it difficult to make quick decisions, respond effectively, and will need personal help for their needs.
- People who have interpersonal communication disabilities might struggle to receive support.

- There is standardization in the way information is delivered in public transportation (stationary signage, signage on screens, voice announcement), but there is no method for deliverying information to people with different processing difficulties.

5. SPECIFICATIONS FOR REQUESTED SOLUTIONS

1. NTA wishes to receive from responders to this RFI (the "Participants") information about Solutions that meet the following criteria:

1.1. Technological Solutions and/or a combination of technological and design Solutions that are accessibility-oriented or can be adapted for accessibility (the "Technology").

1.2. The Technology is fully accessible to all disabilities and needs according to the WCAG .21 guidelines AA. (https://www.w3.org/TR/WCAG21/)

1.3. The use of the technology does not depend on connection to the network (cellular, Wi-Fi, etc.)

2. **The proposed solution may include one or more of the following:**

2.1. Enables personal and customized use.

2.2. Operates on devices that are available for use on site (such as on-site machines / on-site screen on the floor or the wall) or on devices that are in everyday use by the passengers and are easy to carry (Such as a mobile phone, a bracelet, a smart wristband etc.).

2.3. Enables multiple ways of activation, such as Voice operation, Text-to-speech, Speech-to-text, enlarged buttons if needed, Symbols etc.

3. **For more information on requested solutions and examples, please see Annex B**

6. A LIST OF DATES FOR THIS RFI

- Date of publication of the RFI – 17.1.2024
- The deadline for submission of clarification questions from the Participants – 31.1.2024.
- The deadline for submission of the responses to the RFI – 6.3.2024.

7. COMMERCIAL CONFIDENTIALITY AND WAIVER OF CLAIMS

1. NTA may use any information it receives during or in connection with the RFI from a Participant or any third party (the "**Information**") for any purpose it deems fit, including for preparing specifications or any other documents. In addition, NTA may transfer any such Information to any of its consultants or any person on its behalf. The supplier of the Information waives all claims and demands of any kind against NTA in connection with NTA's abovementioned rights, including (but not limited to) copyrights, commercial confidentiality, privacy, etc.
2. Without derogating from the above, the Participants may mark, in a clear, complete and legible manner, Information contained in the Response which is considered commercially sensitive or of a confidential nature. To the extent permitted by applicable laws, and at its sole discretion, NTA shall consider refraining from disclosing such Information (if so requested).
3. The Participant declares and confirms that the provided Information is free from any violations of third-party rights, including (but not limited to) copyrights, commercial confidentiality, privacy etc. The Participant shall bear full and exclusive responsibility for any claims or demands arising from such third-party rights violations subsequent to this RFI, and all related expenses will be solely borne by the Participant.

8. INSTRUCTIONS REGARDING THE SUBMISSION OF THE RESPONSE TO THE RFI

1. The Participants are requested to fill-in all the information on Annex A. Each question should be addressed separately.
2. It is recommended to attach supporting information in a visual format such as presentations, videos, photos, brochures, etc.
3. The response to the RFI shall be submitted in Hebrew or English. Appendices and technical specifications can be attached without a scope limitation.
4. The response to the RFI must be submitted in a digital copy by the deadline for submitting responses, as specified in section 6 above, via an email: Tender1@nta.co.il. The email's subject line will state: "A response to RFI to receive relevant information about technological and design innovative solutions".

5. NTA may postpone the deadline for submitting a response at its sole discretion. A notice to that effect shall will be posted on NTA's website. The notice will indicate the new date for submitting the response.

9. EXAMINATION OF THE RESPONSE

1. NTA reserves the right, at its sole discretion, to contact, as necessary, all or some of the Participants with requests for information and clarifications, for presentations and demonstrations, for visits to the Participants' sites and the sites of their clients, etc.
2. As part of the examination of the responses, NTA reserves the right to invite any respondent to present the solution proposed by it to a professional team on its behalf at a location and at a time determined by NTA.
3. As part of the examination of the responses, NTA reserves the right, at its sole discretion, to invite all or some of the Participants to launch a pilot project.

10. QUESTIONS AND CLARIFICATION REQUESTS

1. Clarification questions regarding this request must be submitted only in writing, via e-mail to NTA's contact person, as specified in section 11 below. The questions must be submitted no later than the deadline for clarification questions as detailed in section 6 above,.
2. The Participant must verify that its questions were received by the contact person, as specified in section 11 below, by phone.
3. NTA reserves the right to conduct one or more rounds of clarification questions at its sole discretion.
4. The clarification questions will be submitted in Hebrew or in English, in the following format:

Number of the section in the RFI	Question

5. Answers to the clarification questions will be posted on NTA's website.
6. It is clarified that the clarification answers will be worded in a way that does not reveal the identity of the inquirer.

11. RESERVATIONS AND NTA'S DISCRETIONS

1. NTA may publish a new Request for Information, an invitation to pre-qualify, tender proceedings and/or any other proceedings with respect to the Project or any part thereof and/or with respect to any other project whatsoever, in any manner which it will deem appropriate. Without derogating from the above, NTA may pursue any engagement based on the information submitted in this FRI, whether through the conduct of a bid or a tender, or without conducting such proceedings, as NTA deems fit.
2. NTA may request additional information (in writing or otherwise) as it deems necessary, ask to visit sites or facilities constructed or operated by the Participant, or carry out professional inquiries regarding any Participant (including by way of contacting third parties).
3. The Participants shall not be entitled to any payment for the information provided by them pursuant to this RFI. All expenses incurred by a Participant or anyone on its behalf shall be borne solely by the Participant. Participants shall not be entitled to any reimbursement or compensation for expenses with respect to their participation in this RFI.
4. NTA shall not be responsible or liable towards a Participant or anyone on its behalf in connection with the RFI, including in connection with information provided by or to NTA pursuant to or in connection with this RFI.
5. NTA may amend, withdraw or cancel this RFI, at any time and without providing reasons or justifications for doing so.
6. This RFI is subject to the law of the State of Israel, including the Mandatory Tenders Regulations, 5753-1993 and the obligation to disclose information in accordance with Section 14A thereof.

12. CONTACT PERSON ON BEHALF OF NTA

The contact person on behalf of NTA regarding this RFI is MORAN HEN, phone number 03-7243439 email :MoranHe@nta.co.il.

13. ANNEX A - RESPONSE TO THE RFI

General:

- This Appendix must be digital.
- Additional information should be attached to the relevant Appendix.
- It is recommended to attach supporting information in a visual format such as presentations, videos, photos, brochures etc.

A. Information about the Participant:

Supporting documents for questions 1-2 will be attached in a separate file captioned "**Appendix 1**".	
1. General details regarding the company submitting the response (the **"Participant"**):	
Participant's name: (Name of company or individual submitting the response)	
Classification of the Participant: (corporation, association, licensed dealer, independent consultant, etc.)	
I.D number/Company Registration Number:	
Contact Person: (Full name, position)	
Address:	
Phone no.:	
E-mail:	
Should NTA decide at its sole discretion to launch a pilot, would the Participant be interested in participating?	
2. Details about the Participant's knowledge and experience in the field of accessibility and in the implementation of technological solutions (if any):	
B. General information about the proposed Solution: * Documents supporting answers to questions 3-10, will be attached in a separate file captioned "**Appendix 2**".	
3. A detailed description of the proposed Solution: capabilities, advantages and limitations:	

4. Does the Solution combine between technology and design elements? If so, please provide information on the subject.
5. Has the Solution already been implemented in other projects? If the answer is positive, please provide information regarding those projects, including implementation dates and duration.
6. Does the Solution enable modifications and adjustments as per NTA's request (For example, adding new modules)?
7. What is the best way to prove the capabilities of the proposed Solution? Please provide a description of a pilot that could be implemented to test the reliability and effectiveness of the proposed Solution.
8. How many users can simultaneously use the proposed Solution?
9. Can the Solution interactively "learn" the user's behavior patterns? Can the Solution offer options in accordance with usage patterns?

10. Does the Solution have interface capabilities with third-party suppliers, such as station information systems, M.O.T (Ministry of Transport) data, transport applications, etc.? Could such capabilities be developed and how long will it take?
C. Detailed information about the proposed Solution: * Documents supporting answers to questions 11-18, will be attached in a separate file captioned "**Appendix 3**".
11. Are there any usage costs or equipment purchase costs to the end user? Can the Solution be activated using a personal device such as a mobile phone?
12. Does the Solution help Users with time management? Please see relevant explanations in chapter 5 above (Introduction of cognitive and mental disabilities).
13. Does the Solution simplify actions for the users? If so, which actions? In this regard, please see Summary of Transport activities when using public transportation in chapter 3 above.
14. Does the Solution have the potential to help users in stressful situations? In what way?

15. What means of guidance and orientation are available in the Solution that can help passengers reach the station and find their way around it? For example: identifying the entrance to the station, the ticket vending machine, the way to the desired platform, etc.?
16. Does the Solution allow (or can be adapted to allow) the delivery of information to a person with cognitive or mental disability? For example: through voice reading, linguistic simplification, navigation through symbols, colors, or shapes, and more (for more options and examples please see Annex B below).
17. Can the Solution provide users with relevant dynamic real time information? For example: receiving updates when the train enters the platform or arrives at the passenger's destination station, or when a delay in the train's arrival is expected, etc.
18. Does the Solution operate autonomously or does it require manual intervention? For instance, an automatic operation might involve an application that runs continuously and is accessed as needed, while a manual operation could involve the need for specific activation of lighting in various situations based on specific requirements.

D. Information regarding the possibility to integrate the solution into NTA's facilities, such as vehicles and stations: * Documents supporting answers to question 19, will be attached in a separate file captioned "**Appendix 4**".
19. Does the implementation of the Solution require an installation of components on the LRVs and/or at the stations? If the answer is positive, what are the technical requirements?
E. Information regarding maintenance of the proposed Solution: * Documents supporting answers to question 20, will be attached in a separate file captioned "**Appendix 5**".
20. What is the required maintenance routine? How is it performed? What faults may appear in the Solution over time, including disabling faults? What is the treatment method?
F. Information regarding the Solution's privacy protection and information security measures: * Documents supporting answers to question 21, will be attached in a separate file captioned "**Appendix 6**".
21. What measures exist in the Solution to guarantee the protection of privacy and the security of information?
G. Additional relevant information about the proposed technological Solution: * Documents supporting further information will be attached in a separate file captioned "**Appendix 7**".

14. Annex B

Examples for Solutions from other projects:

1. The Solution may be accessible and customized to a variety of disabilities.
2. The Solution may provide accessibility to information for users with different disabilities.
3. The Solution may interface with information at the station and other information apps.
4. The Solution may provide user interaction, such as answering questions and addressing user requests.
5. The Solution may identify specific locations and provide instructions for the needed actions.
6. The Solution may identify symbols and codes and translate them into actionable instructions.
7. The Solution could assist the users in planning their travel route.
8. The Solution could interface with train schedules in real-time.
9. The Solution could provide users with one or more of the following services:
   - 9.1. A Link to sign language Interpretation service.
   - 9.2. Reading written information out loud, including text in an image format such as signage.
   - 9.3. Recording a familiar voice.
   - 9.4. Recognize colors and shapes and convert them into actionable instructions.
   - 9.5. linguistic simplification.
   - 9.6. Voice Description.
10. The Solution may "learn" the user's routine. For example:
    - 10.1. The Solution may learn a frequent travel route and know how to guide the user in case of unplanned changes.
    - 10.2. The Solution may alert when a person stays static for too long.
11. The integrated design may offer solutions through various visual means which will be installed in existing stations to improve the orientation of people with disabilities, especially people with cognitive and mental disabilities.
    - 11.1. Unique visual representations for stations, trains, platforms etc.
    - 11.2. Unique visual representations for different actions within the station.
    - 11.3. Unique visual representations for different services within the station such as:
      - 11.3.1 Information/service attendants.

11.3.2 Toilets.

11.3.3 Drinking facilities, convenience stores.

11.4. Unique visual and/or tactile signs for station entrance, platforms, exits etc.

11.5. Unique visual information alerts including train arrivals and warnings:

11.5.1 During an emergency/disturbance.

11.5.2 When a train arrives at the platform.

11.5.3 Visual indication of the time remaining until the doors close or until reaching the destined station.

11.6. The design solution could use, among other things, the following components:

11.6.1 Lights, shapes, symbols, images, holograms and colors.

11.6.2 Use of dynamic elements according to situations and required messages such as: dynamic and moving lighting, changing elements' color and shape.

11.7. A design solution may be one or more of the following:

11.7.1 Using different visual and tactile means to improve orientation.

11.7.2 A design that does not require structural changes in the stations.

11.7.3 Intuitive design language.

11.7.4 Supports the user with easy orientation

11.7.5 Environmentally friendly

11.7.6 Referencing biophilic design

11.7.7 Universal and inclusive design

11.8. The design solutions could be a combination between physical and digital Solutions.

12. **Examples**:

12.1. Use of colors and lighting for orientation in multi-line stations:

12.1.1 Each train line has a distinct color, number, and symbol.

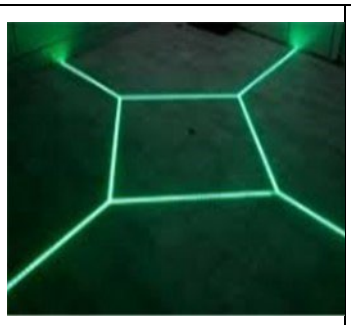
12.1.2 When a train arrives, signs and colors are projected onto the platform accordingly.

12.2. Communicating alternating information through symbols, lighting, and colors:

12.2.1 QR code signs will enable orientation information and the projected QR code will give updated push messages when needed.

12.2.2 Possibility to integrate a code within other visual elements such as a code within a drawing of a symbol - the person will recognize the symbol and point the phone at it, which will recognize the code and give instructions in a way adapted to the person.

12.2.3 In emergency cases, projected arrows or led lights will guide the user to an alternative way.



RESPONSE BY: [NAME, TITLE, COMPANY]	DATE:
ATTACHMENTS:	