



February 5, 2025

Addendum No. 1

**REQUEST FOR INFORMATION
RFI-OCC-1-1
Future Operational Control Center Development
Unifying Centralized Operations Management Systems.**

To All Prospective Responders:

This constitutes Addendum No. 1:

I. Submission Deadline

The submissions deadline for this RFI changes from Thursday, February 6, 2025, at 2:00 PM to **Monday, February 10, 2025 at 2:00 PM.**

II. Prospective Responder's Questions and MTA Responses:

Below are questions and/or requests for clarifications from prospective responders and the MTA's responses. The questions are restated for convenience only and are not part of the MTA's responses. The MTA's responses do not modify the provisions of the Request for Information. The MTA's responses are intended merely to identify relevant provisions of the RFI and clarify any perceived ambiguities. In the event of an inconsistency, the RFI Notice, including any revisions published, take precedence over the MTA's responses.

Question # 1 Where do you see opportunities for improvements in industrial design and human-computer interaction?

Answer # 1 Among the opportunities in human-systems integration and industrial optimization are the means for rank-ordering by criticality and priority the issues arising within the system and ranked presentation of those issues to the operators. Understanding the capabilities of solutions in the market to guide that rank-ordering process is one goal of this RFI.

**THE METROPOLITAN TRANSPORTATION AUTHORITY
ACTING BY
THE MTA CONSTRUCTION AND DEVELOPING COMPANY**



**RFI-OCC-1-1
Request for Information
for
Future Operational Control Center Development
Unifying Centralized Operations Management System**

**Rev. 2
January 2025**

**THE METROPOLITAN TRANSPORTATION AUTHORITY
ACTING BY
THE MTA CONSTRUCTION AND DEVELOPING COMPANY**



**RFI-OCC-1-1
Request for Information
for
Future Operational Control Center Development
Unifying Centralized Operations Management System**

Rev. 1

December 2024

**THE METROPOLITAN TRANSPORTATION AUTHORITY
ACTING BY
THE MTA CONSTRUCTION AND DEVELOPING COMPANY**



**RFI-OCC-1-1
Request for Information
for
Future Operational Control Center Development
Unifying Centralized Operations Management System**

November 2024



November 7, 2024

Subject: RFI-OCC-1-1 – Future Operational Control Center Development - Unifying
Centralized Operations Management System.

Dear Interested Parties:

The MTA Construction and Development Company (“MTA C&D”) is seeking information from engineering firms, contractors, manufactures and vendors in the railway and technology industry for innovative and cost-effective (efficient) technical solutions for future operational control center and centralized operations management systems.

I am the MTA C&D designated Point of Contact for this Request for Information (“RFI”) and can be reached at eduardo.leanez@mtacd.org. All communications related to this RFI, including Respondent’s RFI responses should be directed to me. The submissions deadline for this RFI is Wednesday, January, 8, 2025 at 2:00 PM.

Thanks for your participation.

Sincerely,


Eduardo Leanez
Assistant Director Procurement

REQUEST FOR INFORMATION RFI-OCC-1-1
Future Operational Control Center Development
Unifying Centralized Operations Management System
Response date: January 8, 2025, 2:00 PM

I. INTRODUCTION

The Metropolitan Transportation Authority (“MTA”) is North America’s largest transportation network. The MTA’s operating agencies are New York City Transit, Long Island Rail Road, Metro-North Railroad, and Bridges and tunnels. Construction and Development (“MTA C&D”) support these agencies by identifying, developing and building the capital infrastructure projects needed to renew and enhance the MTA’s extensive assets.

MTA C&D is issuing this Request for Information (“RFI”) to solicit input from the industry on the availability of technical solutions that would allow the MTA to develop a centralized operations management system. This is not a contract solicitation. This RFI does not commit MTA C&D to contract for any materials or services nor will MTA C&D pay for any costs incurred in responding to this RFI. MTA C&D may, in its sole discretion, elect to issue a contract solicitation for technical solutions identified through responses to this RFI.

This RFI is addressed to entities with existing systems that can meet or be modified to provide the features and capabilities of a centralized operations management system as described in this RFI. The RFI also addresses the technical and management consultants, universities, and other organizations and individuals versed in and can provide valuable insight into the capabilities of the systems described in the RFI and the associated technologies, work processes and training.

The MTA is exploring the use of a centralized operation and information management system (the “System”) for its Operational Control Centers (“OCCs”) and other operation and maintenance centers to consolidate the monitoring and operational control of MTA fleets, monitoring and communications with MTA customers, and monitoring and management of MTA plants and assets under a unifying system-of-systems approach. The System should be capable of assisting MTA operators and field personnel with their specific operational needs and assets.

II. PREFERRED CRITERIA

The System should be easily customizable by MTA to adapt to operational and asset changes. It could be developed along several architecture approaches to achieve this, including as a unitary system, a platform with modular capability added, a set of dedicated systems that integrate together, or combination of all three.

The major operational features and capabilities that need to be supported by the System are as follows:

- 1) **Monitoring and Operational Control:** the ability to monitor and control the operation of both revenue (public transportation) and non-revenue (e.g. maintenance) fleets for all of MTA's transportation divisions (NYCT, LIRR, SIR and MNR);
- 2) **Management of and Communications with MTA Customers:** the ability to manage the access and flow of MTA customers, and when necessary, MTA staff and contractors, throughout the MTA territory, the means for distribution of system-wide public announcements and communication with MTA staff and contractors, and the distribution of customer-oriented operational information throughout the MTA territory; and
- 3) **Plant and Asset Management:** the ability to monitor and manage the performance of the plant and equipment (e.g., fan plants, traction power systems) at OCC's and maintenance centers.

III. INFORMATION SOLICITED

Please provide answers to the questions outlined below for the following four topics:

- Topic 1 – Mission Capabilities and Performance
- Topic 2 – Training
- Topic 3 – Delivery Aspects
- Topic 4 – Technical Architecture, Operations, and Maintenance

Topic 1 – Mission Capabilities and Performance

A. Product Features

Please describe your firm’s and firm products’ capabilities in centralized transportation management. Please provide descriptions of the capabilities of each of the relevant products provided by your firm. Please indicate whether the described capabilities are embedded within your products and whether the products can be appended to or interfaced with other systems for the following features:

1. Integration with existing management systems to form a unified platform to share information and perform command and control functions. Describe the extent of the rework and customization of the firm’s product and existing systems that would be necessary to effectuate such features.
2. Revenue and non-revenue service management, including train route and traffic pattern management (centralized traffic control and train control systems such as Automatic Train Supervision (ATS), Automatic Train Control (ATC), Positive Train Control (PTC) and OCC Office Systems), crew assignment and movement management, fleet assignment and movement management, and on-track schedule management.
3. Customer information management and delivery; fare gate/fare array management; platform information screens and platform trackside doors; customer assistance communications, video, text messaging and Public Address/ Customer Information Screens (“PA/CIS”).
4. Plant management, including monitoring and control of the traction power equipment, fan plant equipment, facility systems, water and drainage control systems, track access and track intrusion detection systems, fire alarm status, and other critical systems necessary for the ongoing operation of the railroads.

B. Management Unification

Please describe your firm’s products’ capabilities in co-locating the features and functions described in paragraph A above under one unifying system; describe whether the products can provide a “single-pane-of-glass” functionality for the MTA systems.

C. Intelligence, Surveillance, Reconnaissance

Please describe your firm's and firm products' capabilities in the following areas, indicating whether they are embedded within your products or can interface with other systems to achieve such capabilities:

1. System intelligence analytics, performance dashboards, key-performance-indicator measurements; data representation (i.e. heat maps, stringlines).
2. Surveillance analytics for closed circuit television, access control and intrusion detection systems.
3. Integration of the incident reporting system with field-reporting devices for the assessment of incidents and management of deployment and direction of mobile dispatch units responding to the incidents.

D. Decision Support

Please describe your firm's and firm products' capabilities in storage, retrieval, and execution of the clients' Standard Operating Procedures ("SOP") for normal operations and for incident and emergency management, alert execution and alert management. Indicate whether the capabilities are embedded within your products or can interface with other systems to achieve such capabilities. Describe the level of automation that can be provided by your firm and its products for the SOP functions.

E. Analytics & Reporting

Please describe your firm's and firm products' capabilities in analytics and reporting for the features and capabilities described above. Indicate whether the capabilities are embedded within your products or can interface with other systems to achieve such capabilities.

F. Alerting

Please describe your firm's and firm products' capabilities in alerting, alert management, human-systems integration (HSI) and tailored configuration of alerts to support the functions and features described above.

G. Operational Flexibility

Please describe your firm products' operational flexibility, including the span of control (e.g. centralized or central-field distributed), static control

configuration and elastic/dynamic territory management, and user-defined operating and customization environment and tools.

Topic 2 – Training

Please describe your firm’s and firm products’ capabilities for the following:

1. Initial training programs;
2. Refresher training programs;
3. Training for operating the systems; and
4. Training for administering and maintaining the systems.

Describe the ability to tailor training to fit customer system features and assets, means for training delivery (on-site and remote), and ability to modify or expand training for the modified or expanded systems or assets. Indicate whether the capabilities are embedded within your products or can interface with other systems to achieve such capabilities. Describe any simulation capabilities for training embedded in your product.

Topic 3 – Delivery Aspects

Please describe your firm’s experience, capabilities, and approach in delivering services and products for the System, including the following:

1. Providing R&D and pilot projects for customers, address the firm’s methodologies in performing such projects.
2. Software development and software lifecycle management practices.
3. System development and system lifecycle management practices.
4. Human factors engineering.
5. Organizational change management.
6. The specialists your firm would propose for the implementation of the System.
7. Notable lessons learned from your firm’s prior experiences in the development of unified systems for the operation of major transportation entities.

Topic 4 – Technical Architecture, Operations, and Maintenance

Please describe your firm’s and firm products’ technical capabilities and practices by addressing the following:

1. Computing resources, application hosting environments, on-premises and remote operations;
2. Cybersecurity practices;
3. System safety and safety integrity level (SIL) assessments;
4. Telecommunications means and practices;
5. Resiliency, redundancy, service level objectives (SLOs);
6. System monitoring, fault detection, isolation and recovery (FDIR);
7. System administration, maintenance, upgrade, replacement, remote operations and administration and maintenance;
8. Licensing costs and use licensing options, including Software as a Service (SAAS) and Service Level Agreements (SLA).

IV. INDUSTRY DAY EVENT AND RFI RESPONSE SUBMISSION

Please indicate whether you would be interested in participating in an industry day event with the MTA to discuss these topics in a live dialogue and potentially a round table discussion with other respondents. Provide any suggestion you might have for this event.

Please submit your reply by email to Eduardo Leanez, Assistant Director Procurement at MTA C&D Contracts, who is the designated Point of Contact (POC) for this RFI at eduardo.leanez@mtacd.org. For questions regarding this RFI you may contact Eduardo at the above email address or by phone at 646-252-2143. Responses to the RFI must be received no later than 2 p.m. EST, Wednesday January 8th, 2025. Emails subject title should begin with “MTA C&D RFI-OCC-1-1” followed by your specific subject title text.

Please include the following with your reply:

1. Responses to the questions listed above;
2. Relevant company brochures or product literature, and where available, commercially available technical data (e.g., – cutsheets); and
3. Any other information you or your company deems relevant in assisting MTA C&D to understand what the marketplace or your firm may offer.



Construction & Development

December 23, 2024

Subject: RFI-OCC-1-1 – Future Operational Control Center Development - Unifying Centralized Operations Management System.

Dear Interested Parties:

The MTA Construction and Development Company (“MTA C&D”) is seeking information from engineering firms, contractors, manufactures and vendors in the railway and technology industry for innovative and cost-effective (efficient) technical solutions for future operational control center and centralized operations management systems.

I am the MTA C&D designated Point of Contact for this Request for Information (“RFI”) and can be reached at eduardo.leanez@mtacd.org. All communications related to this RFI, including Respondent’s RFI responses should be directed to me.

The submissions deadline for this RFI has been revised from **Wednesday, January 8, 2025 at 2:00 PM to Thursday, January 30, 2025 at 2:00 PM.**

Thanks for your participation.

Sincerely,

A handwritten signature in blue ink that reads "Eduardo Leanez".

Eduardo Leanez

Assistant Director Procurement

REQUEST FOR INFORMATION RFI-OCC-1-1

Future Operational Control Center Development
Unifying Centralized Operations Management System

Revised Response date: January 30~~8~~, 2025, 2:00 PM

I. INTRODUCTION

The Metropolitan Transportation Authority (“MTA”) is North America’s largest transportation network. The MTA’s operating agencies are New York City Transit, Long Island Rail Road, Metro-North Railroad, and Bridges and tunnels. Construction and Development (“MTA C&D”) support these agencies by identifying, developing and building the capital infrastructure projects needed to renew and enhance the MTA’s extensive assets.

MTA C&D is issuing this Request for Information (“RFI”) to solicit input from the industry on the availability of technical solutions that would allow the MTA to develop a centralized operations management system. This is not a contract solicitation. This RFI does not commit MTA C&D to contract for any materials or services nor will MTA C&D pay for any costs incurred in responding to this RFI. MTA C&D may, in its sole discretion, elect to issue a contract solicitation for technical solutions identified through responses to this RFI.

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The MTA is exploring the use of a centralized operation and information management system (the “System”) for its Operational Control Centers (“OCCs”) and other operation and maintenance centers to consolidate the monitoring and operational control of MTA fleets, monitoring and communications with MTA customers, and monitoring and management of MTA plants and assets under a unifying system-of-systems approach. The System should be capable of assisting MTA operators and field personnel with their specific operational needs and assets.

II. PREFERRED CRITERIA

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III. INFORMATION SOLICITED

Please provide answers to the questions outlined below for the following four topics:

- Topic 1 – Mission Capabilities and Performance
- Topic 2 – Training
- Topic 3 – Delivery Aspects
- Topic 4 – Technical Architecture, Operations, and Maintenance

Topic 1 – Mission Capabilities and Performance

A. Product Features

Please describe your firm’s and firm products’ capabilities in centralized transportation management. Please provide descriptions of the capabilities of each of the relevant products provided by your firm. Please indicate whether the described capabilities are embedded within your products and whether the products can be appended to or interfaced with other systems for the following features:

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B. Management Unification

Please describe your firm’s products’ capabilities in co-locating the features and functions described in paragraph A above under one unifying system; describe whether the products can provide a “single-pane-of-glass” functionality for the MTA systems.

C. Intelligence, Surveillance, Reconnaissance

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configuration and elastic/dynamic territory management, and user-defined operating and customization environment and tools.

Topic 2 – Training

Please describe your firm’s and firm products’ capabilities for the following:

1. Initial training programs;
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3. Training for operating the systems; and
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Describe the ability to tailor training to fit customer system features and assets, means for training delivery (on-site and remote), and ability to modify or expand training for the modified or expanded systems or assets. Indicate whether the capabilities are embedded within your products or can interface with other systems to achieve such capabilities. Describe any simulation capabilities for training embedded in your product.

Topic 3 – Delivery Aspects

Please describe your firm’s experience, capabilities, and approach in delivering services and products for the System, including the following:

1. Providing R&D and pilot projects for customers, address the firm’s methodologies in performing such projects.
2. Software development and software lifecycle management practices.
3. System development and system lifecycle management practices.
4. Human factors engineering.
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6. The specialists your firm would propose for the implementation of the System.
7. Notable lessons learned from your firm’s prior experiences in the development of unified systems for the operation of major transportation entities.

Topic 4 – Technical Architecture, Operations, and Maintenance

Please describe your firm’s and firm products’ technical capabilities and practices by addressing the following:

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5. Resiliency, redundancy, service level objectives (SLOs);
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Please include the following with your reply:

1. Responses to the questions listed above;
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Construction & Development

January 29, 2025

Subject: RFI-OCC-1-1 – Future Operational Control Center Development - Unifying Centralized Operations Management System.

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The submissions deadline for this RFI has been revised from Thursday, January 30, 2025 at 2:00 PM to **Thursday, February 6, 2025 at 2:00 PM**.

Thanks for your participation.

Sincerely,

A handwritten signature in blue ink that reads "Eduardo Leanez".

Eduardo Leanez

Assistant Director Procurement

REQUEST FOR INFORMATION RFI-OCC-1-1

Future Operational Control Center Development
Unifying Centralized Operations Management System
Revised Response date: **February 6, 2025, 2:00 PM**

I. INTRODUCTION

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Topic 1 – Mission Capabilities and Performance

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IV. INDUSTRY DAY EVENT AND RFI RESPONSE SUBMISSION

Please indicate whether you would be interested in participating in an industry day event with the MTA to discuss these topics in a live dialogue and potentially a round table discussion with other respondents. Provide any suggestion you might have for this event.

Please submit your reply by email to Eduardo Leanez, Assistant Director Procurement at MTA C&D Contracts, who is the designated Point of Contact (POC) for this RFI at eduardo.leanez@mtacd.org. For questions regarding this RFI you may contact Eduardo at the above email address or by phone at 646-252-2143. Responses to the RFI must be received no later than 2 p.m. EST, **Thursday, February 6, 2025**. Emails subject title should begin with “MTA C&D RFI-OCC-1-1” followed by your specific subject title text.

Please include the following with your reply:

1. Responses to the questions listed above;
2. Relevant company brochures or product literature, and where available, commercially available technical data (e.g., – cutsheets); and
3. Any other information you or your company deems relevant in assisting MTA C&D to understand what the marketplace or your firm may offer.

- Question # 2** Please list all the users who would interact (directly or indirectly) with the operations management system.
- Answer # 2** There are many user groups that would interact with the operations management system. The responders to the RFI should consider MTA's control centers as broadly comparable to the normative models for transit and transportation management and their operational needs.
- Question # 3** What are the top 5 usability pain points of the current operations management system?
- Answer # 3** The potential operational improvements that are being assessed by MTA are in the alerting and alert management; timely access to actionable information; resolving conflicts and performance issues with at a single workstation; under-utilization of visual information presentation at the human-system integration point.
- Question # 4** What are the top 5 improvements you're expecting to come out of the implementation of this program? (e.g., a healthier experience)
- Answer # 4** The intent of the RFI is to solicit the marketplace as to the potential improvements that MTA may implement based on the potential realistic supplier solutions.
- Question # 5** Could you provide a comprehensive list of existing systems that the centralized system must integrate with (e.g., ATS, ATC, PTC, OCC Office Systems).
- Answer # 5** Refer to Answer #2 in this Addendum.
- Question # 6** Are there specific vendors or proprietary technologies currently in use that the new system should interface with?
- Answer # 6** There are existing systems with the MTA but the intent of the RFI is not to bind the responses to the specific interface point but rather to explore broadly the marketplace technologies that may be useful to the MTA.
- Question # 7** What customer-facing technologies are currently deployed (e.g., PA/CIS, platform information screens)? Are there expectations for upgrades or replacements?
- Answer # 7** Refer to Answers #2 and #6 in this Addendum.

- Question # 8** Are there unique challenges in customer communication, such as multilingual support or ADA compliance, that the new system should address?
- Answer # 8** Refer to Answers #2 and #6 in this Addendum.
- Question # 9** Are there automation goals for decision-making processes, such as automated dispatch based on real-time analytics?
- Answer # 9** Refer to Answer #4 in this Addendum.
- Question # 10** Does the anticipated network backbone for the COMS provide adequate bandwidth, latency, and coverage for the intended service area?
- Answer # 10** The existing system capacities are not part of the criteria for the state of the art technology exploratory nature of this RFI.
- Question # 11** Will the COMS team be responsible for any backend scope (i.e., network and hardware) to support the system?
- Answer # 11** Refer to Answer #10 in this Addendum.
- Question # 12** Will there be an opportunity to assess the current system?
- Answer # 12** No. The RFI effort intends to engage with the supplier communities to explore their state of the art systems and technologies. Separate future efforts in industrial and systems engineering will include assessment of the current system.
- Question # 13** To design the OCC architecture, will drawings be available for the current network architecture including hardware and FW's?
- Answer # 13** Refer to Answer #12 in this Addendum.
- Question # 14** Is there a recommended list of software tools to be used for the user's, such as AI tool Azure?
- Answer # 14** Refer to Answer #12 in this Addendum.
- Question # 15** Any MTA training ideas or standard to follow?
- Answer # 15** Refer to the terms of the RFI for the response requirements.

Question # 16 Once the RFI is submitted with possible solutions, will this be used for the requirements for the OCC PDRC?

Answer # 16 Refer to Answer #12 in this Addendum.

Question # 17 This RFI requirements cover a broad scope and will likely necessitate multiple solutions/vendors, potentially under a Systems Integration (SI) prime or a lead vendor.

Answer # 17 We recognize that the OCC problem is complex, and includes elements that require multiple knowledge bases, skills, competencies, and partnering solutions to fulfill. Capturing information to assist in selecting the most suitable acquisition approach is one aspect of this engagement.

Question # 18 If we choose not to respond to this RFI, would we still be eligible to participate in any eventual RFP process?

Answer # 18 Yes. The RFI is not a contractual qualifying solicitation, nor will it be adapted to such. Any future RFPs related to the subject of this RFI would be administered through their own qualification processes distinct from this RFI.

Question # 19 At this stage, considering final RFP proposals will likely come from an SI prime, would you accept an RFI response from subcontractors that focuses solely on their relevant offerings, excluding areas outside their scope?

Answer # 19 Yes.

Question # 20 Our firm likely possesses at least one critical component of the suite of tools you're seeking, along with the capability to deliver it.

Answer # 20 We look forward to learning more about what your firm has to offer to MTA.


Question # 21 To address your question in Section IV of the RFI, we would be interested in participating in an industry day event.

Answer # 21 We look forward to meeting you, and all interested parties. The industry day event will be scheduled after we receive the responses for this RFI. This event information will be publicly advertised by the MTA.

- Question # 22** Is there a Concept of Operations for the Unified Control Center?
- Answer # 22** MTA have been and are involved in several concept development efforts involving control centers. However, the question invokes "the Unified Control Center" - such a center is not the subject of the RFI. By this RFI the MTA is exploring the use of a centralized operation and information management system (the "System") for its Operational Control Centers ("OCCs") and other operation and maintenance centers to consolidate the monitoring and operational control of MTA fleets, monitoring and communications with MTA customers, and monitoring and management of MTA plants and assets under a unifying system-of-systems approach
- Question # 23** Will the control of the operations remain with the individual agencies or will it be consolidated as an MTA-run organization?
- Answer # 23** Refer to Answer #22 in this Addendum.
- Question # 24** Is there a facilities plan for the unified control center?
- Answer # 24** Refer to Answer #22 in this Addendum.
- Question # 25** Is the intent for the unified control to be implemented in a single location?
- Answer # 25** Refer to Answer #22 in this Addendum.
- Question # 26** Are all support operations to be included such as station operations, car maintenance, signals, and traction power to be centrally managed, or will the integration of those activities be limited to monitoring at the unified center?
- Answer # 26** Refer to Answer #22 in this Addendum.

Please be governed accordingly when submitting your response.

Sincerely,


Eduardo Leanez
Assistant Director Procurement
MTA C&D Contracts