



REQUEST FOR INFORMATION (RFI) #0000430215
Prognostic Maintenance and Automated Work Order Generation for NYCT/MTAB
Reply Date: 04/18/2023

This Request for Information is not a solicitation of actual bids, which may be solicited by means of a Request for Proposal (RFP) at a later date. The purpose of this RFI is to identify the most appropriate option (if any) to improve bus uptime and reliability while decreasing the cost of maintenance by leveraging prognostic maintenance to generate high-precision work orders on New York City Transit / MTA Bus (NYCT/MTAB) buses.

NYCT/MTAB is open to both newly developed and commercial off-the-shelf (COTS) systems. Proposers with prognostics maintenance systems which have been successfully implemented in other transit/transportation properties are encouraged to respond. As part of the RFI, NYCT/MTAB intends to evaluate a solution that meets the following system considerations.

Background Information

NYCT/MTAB provides bus service in all five boroughs of the City of New York and has a fleet of approximately 6,000 buses operating out of 28 bus facilities (depots) throughout the City. NYCT/MTAB operates 234 local, 71 express, and 20 Select Bus routes in the five boroughs. Buses run 24 hours a day, seven days a week: buses travel approximately 120 million miles annually.

New York City Transit / MTA Bus (NYCT/MTAB), agencies of the Metropolitan Transportation Authority (MTA) are seeking to identify potential technologies and systems that may be interested in developing, delivering, supporting and maintaining Vehicle Health of the buses to meet the following operating needs:

- A cloud-based or on-premise software solution that increases the efficiency of bus maintenance teams by generating high-precision actionable work orders that reduce unplanned downtime caused by failure of key bus systems;
- Capable of delivering predictive diagnostics on the existing fleet of the NYCT/MTAB as well as the future fleet of Alternative Energy Buses (AEB) that will be procured in the upcoming years.
- Ability to integrate with existing NYCT/MTAB Enterprise Asset Management software to ensure more efficient maintenance.
- Leverages NYCT/MTAB existing telematics data collection and maintenance records to provide timely early warning of maintenance issues that would otherwise result in unplanned downtime.



At a minimum, the proposer shall demonstrate a system that will be able to meet the following functional and operational criteria:

- The system will be familiar with and capable of working on the various North American bus manufacturers and the engine and propulsion systems.
- The system will be able to support buses across multiple Model Years that exist in the NYCT/MTAB fleet.
- The system should allow for streamed ingestion of the data acquired using the existing NYCT/MTAB telematics hardware and regular ingestion of existing Enterprise Asset Management data.
- The system should not require the installation of any new hardware into NYCT/MTAB buses.
- The system should be capable of doing statistical and computational analysis of the data and provide insights to the bus maintenance teams at least 2 days prior to related unplanned downtime and not more than 30 days before related unplanned downtime.
- The system should be able to provide the insights by email and through a computer user interface for use by the bus maintenance teams.
- The system should support API-based collection of data from the NYCT/MTAB IT systems and lossless retrieval of that data back to the IT systems as required at any point in the future.
- The system will be compliant with MTA cybersecurity requirements.
- The system should be compliant with SDLC (software development life cycle) standards.
- The key systems being monitored should include the SCR, EGR, and DPF subsystems.

Additionally, the system should be supported by experienced technicians who can interpret the data, validating the repair plans and making adjustments where necessary.

Specific Instructions:

When preparing your submission, please review and address in writing your approach to the above requirements. Include a description of your company, a brief overview of your system, a list of agencies/fleets/companies with contact information that are presently utilizing the system being offered, and answer the following questions:

- What is the approach used to architect and build a system that includes all the services/specifications list?
- Describe your company's software development methodology.
- Describe the software quality assurance and bug fixing methodology employed.



New York City Transit

- Describe the support process for your system and how the support team will work with NYCT/MTAB maintenance teams.
- Describe your company's practices for maintaining and refreshing software.
- Describe your company's relationship with bus manufacturers in North America, and the level of knowledge on their bus maintenance practices.
- Describe if your system requires additional hardware or sensors as part of the solution.
- How many customers do you currently have?
- How many buses do you currently support with your technology?
- What feature(s) and/or functionality differentiate your product from your competitors?
- In addition, please provide recommendations on latest technologies which exceed the minimum requirement listed in the RFI.
- In prior deployments, what statistical impact has been measured by the maintenance teams?
- Describe the range of metrics that the MTA will be able to measure when your system is in operation.

Submissions

Responses are to be sent to the address below by Tuesday, 04/18/2023 by 2:00 PM:

**New York City Transit
MTA Procurement Bus Operations
2 Broadway, B19.130
New York, NY 10004
Attn: Leela Ajitsingh**

For electronic submissions, please email to: Leela.Ajitsingh@nyct.com

Sincerely,

Leela Ajitsingh
Procurement Specialist
New York City Transit Bus Operations
(646) 252-6249