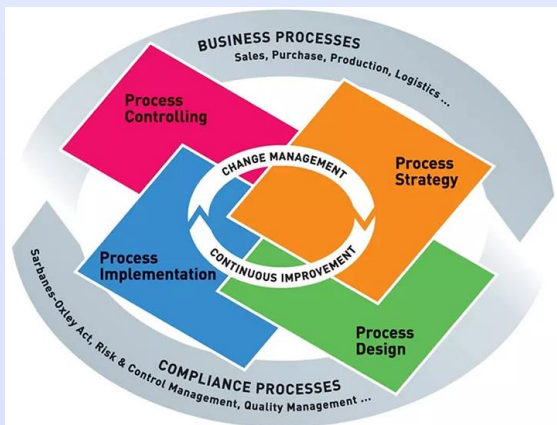


## Project Mission

“Develop an enterprise architecture reliability model, with a focus on the MTA Bus Division, to integrate existing and required business functions, technologies, and applications, and leverage existing tools, to form the basis of an Enterprise Asset Management system”

In more practical terms:

To link inherent process models to the corporate capabilities model in ARIS, and articulate an organizational requirements model that the MTA could communicate and execute, to improve the reliability of their assets, and optimize the technologies they use, to deliver the system capacity, capabilities, and schedules we are expected to achieve.



## About Us

**Joseph Ikuss** will be graduating with a Bachelors of Engineering in Engineering Management. After graduation he will be working for Avanade as an Infrastructure Business Analyst.



**Laura Roberts** will be graduating with a Bachelors of Engineering in Engineering Management and a Minor in Economics. Post-graduation she will be working for Dixon Advisory as an Assistant Project Manager.



**Noelle Scanno** will be graduating with a Bachelors of Engineering in Engineering Management with a focus on Systems Engineering. After graduation she will be working at the Mile Square Theater as a Set Designer.



**Julian Taborda** will be graduating with a Bachelors of Engineering in Engineering Management and a Graduate Certificate in Logistics and Supply Chain.



**Armando Vazquez** will be graduating with a Bachelors of Engineering in Engineering Management. Post-graduation he will be working for Gilbane Building Company as a Project Engineer.



# MTA Asset Management

*Improving Reliability through Business Process Analysis*



### The Team:

Joseph Ikuss  
Laura Roberts  
Noelle Scanno  
Julian Taborda  
Armando Vazquez

### Advisor:

Eirik Hole

### Sponsor:

Metropolitan Transportation Authority

## Background

The Metropolitan Transportation Authority (MTA), founded in 1953, is one of the largest infrastructures in the world and has a constant need to provide safe, reliable, and efficient transportation to the city of New York. They face many problems daily, however, and one of the biggest is that the technology and processes they use are quickly becoming outdated. They are in need of a system that not only supports running day-to-day operations, but also lays the foundation for continuous improvement, through the use of reliability engineering.

## Reliability Engineering

Reliability Engineering applies traditional engineering principles and techniques throughout the lifecycle of a product. It ensures that a product performs its intended function under stated conditions and specified time, without failure.



## Current State

The current daily processes of the MTA differ from hub to hub and have no set practices. This is caused by a gap between their top-down objectives and bottom-up operations in their Asset Intensive Business Architecture.



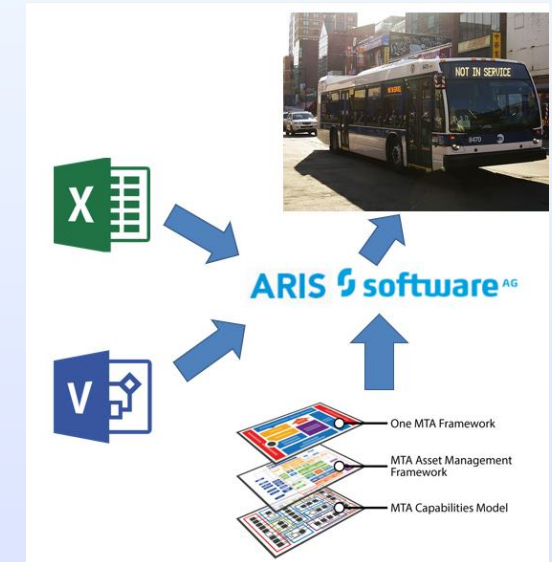
## Desired Future State

To provide the MTA with organized and streamlined process flow maps for seven different processes:

- Reliability Based Maintenance Hand Off
- New Asset Process
- Root Cause Failure Analysis
- Failure Modes and Effects Analysis
- Preventative Maintenance Optimization
- Maintenance Strategy Development
- Bad Actor Process

## Components of the Solution

Our solution combines data from process maps created in Microsoft Excel, Microsoft Visio, and different components from the One MTA Framework, MTA Asset Management Framework, and MTA Capabilities Model into useful and consistent models, for the desired future state of day-to-day processes. These models will enhance the Reliability Engineering for the MTA Bus Division.



## ARIS Architect & Design Software

ARIS models, analyzes, and optimizes business processes, for better productivity, to achieve continuous process improvement.