The Master Systems Integrator (MSI) Program Management Role Explained

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Case Study – John F. Kennedy International Airport, New Terminal One (NTO)

In 2017, the Port Authority of New York and New Jersey released "A Vision Plan" for John F. Kennedy International Airport (JFK) that established goals, objectives, and a roadmap for development of a 21st century JFK. The outcome of the report was the development of global, world-class standards that would govern the planning, design, construction, and operation of all terminal facilities at JFK. Faith Group was selected as part of an international consortium consisting of Design/Build team members AECOM Tishman and Gensler to deliver the $9.5B New Terminal One (NTO) development.

The firm is playing two critical roles on the project: one as the engineer of record for design and construction administration services for the NTO security and IT systems, and the second as Master Systems Integrator (MSI) Program Manager in coordination with MSI consortium members SITA, ADB SAFEGATE, Schneider Electric, and Vanderlande. The program consists of a multi-year redevelopment program, spread over phases, which completely rebuilds a new 23-gate facility on the footprint of existing Terminal 1, 2 and 3. The design of the facility is focused on enhancing passenger processing through the deployment of advanced systems including creation of a single token biometric-enabled travel experience and flow analytics from curb to gate. The design approach includes a comprehensive common-use environment featuring 120 self-baggage drop units, 150 CUSS kiosks and self-boarding e-gates, and an immersive audiovisual experience.

Supporting infrastructure includes a software-defined secure network architecture and high-density Wi-Fi with comprehensive real-time location services (RTLS) to support informed decision making with modern analytics dashboards. The approach to security systems includes the use of biometric enabled access devices, 100% employee screening, shot detection, and the use of video

analytics to support both security and operation landside to airside.

The airside technology systems will introduce advanced aircraft visual docking and guidance systems focused on improved safety while reducing operating costs and enhancing aircraft servicing the turns times. Command and control of the 75+ technology systems and software suites, airport operations, security, and maintenance will be managed from a centralized Integrated Terminal Operations Control Center (ITOCC). The ITOCC features 27 positions for operators and key stakeholders, four positions for the airside ramp control, and an emergency operations center designed to house NTO senior staff, along with responding PANYNJ and federal agencies. When the first phase opens in 2026, the facility will be the most advanced highly integrated facility in America and will fulfill the PANYNJ vision of providing 21st century world-class services.

What is the MSI Program Management Role and How Does it Benefit Large Programs?

As mentioned in the JFK NTO overview, Faith Group was selected to provide MSI Program Management as part of the JFK MSI consortium. NTO Owners and Operators knew from the start that core to the success of delivering a world-class airport was creating an integrated project team of the best product manufacturers, developers, and integrators working seamlessly together to deliver a technologically advanced facility. Early in the planning phases of the project, NTO created the MSI Consortium concept to assure successful delivery of the program.

Why is the MSI Consortium Program Manager (PM) an essential part of any major construction project? Simply put, MSI PM's make sure all systems are designed, installed, and configured to meet stakeholder requirements, budget constraints, and schedule demands, at the highest level of the program. They collaborate with hundreds of building owners and operators, design team members, airlines, agencies, and contractors to ensure coordination between all parties. They strive to achieve a uniform delivery approach and collaboration between MSI partners, which in turn

reduces the risk to the general contractor and delivers an improved product to the building owner/operator.

MSI PM's can work as part of the MSI Consortium, Program Manager, or Construction team. They ensure that software and systems selected meet the vision articulated in the Concept of Operations, are technically compliant with codes and designs standards, and meet IT security requirements. For the NTO, Faith Group's role also includes development of a detailed RACI matrix focused on identification of roles and responsibilities of all technology, security, and infrastructure providers. The firm is also providing leadership in the development of detailed use case documentation which will drive integration strategy and coordination of commissioning and ORAT activities across the consortium membership.

What Expertise Should the MSI Program Management Firm Have?

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Firms providing the MSI PM service need to have a wealth of vast experience delivering complex solutions, while keeping all stakeholders informed and ensuring their goals and objectives are met. The MSI PM needs a team of internal subject matter experts with experience working on all levels of a technology program, from management and design to construction and testing, along with experience in integrator and vendors roles. They must understand products in the marketplace and the unique differentiators between systems providers. Most importantly, staff must have passion for the work and industry they serve. With the right combination of services and skillsets, the MSI PM can help assure delivery of world-class facilities and services to a wide range of markets.

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