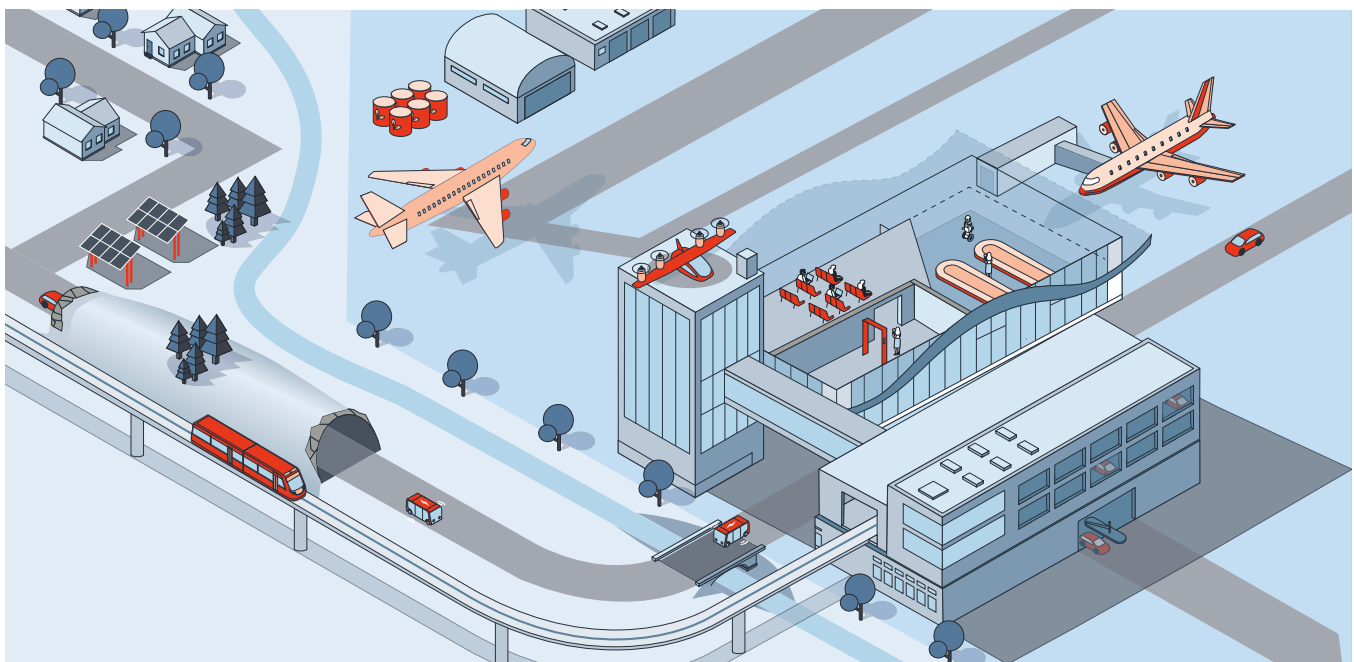




ORAT Provides Full Support from Initial Planning to Airport Operation

Engaging early enables a smooth transition to a successful outcome.

March 26, 2024



Alexander Jackson
Vice President,
Aviation
United States

Alberto Ruiz
National Director,
Transportation
Systems
Canada

Amr Elbarbary
Project Manager,
Aviation Supervision
Middle East

Contents

Early Start: Why?	2
Mitigate Risk	3
People Focus	3
Proactive Approach	4
Systems Thinking	4
Asset Management	4
Moving Forward	5
Opportunity Areas	5
Key Takeaways	5

When opening newly developed or renovated airport infrastructure, Operational Readiness, Activation, and Transition (ORAT) can make the difference between a troubled launch and a smooth start on opening day. ORAT is a program intended to mitigate many types of risk during the delivery of capital projects such as the introduction of a new airport terminal; the overarching goal is to help airport owners, operators and other project stakeholders prevent errors and develop error-resilient systems to achieve a successful opening day.

The traditional complexity associated with bringing airport facilities into operational use is intensifying today with the increased role of technology, sustainability initiatives and changing regulatory requirements. A successful ORAT plan helps airport owners and operators navigate the matrix of

operational challenges, control costs, save time and adapt to unanticipated occurrences.

By building in and strengthening the ability to manage the unexpected, a successful ORAT plan also contributes to airport resilience, an essential capability to address impacts from circumstances both within and outside of the airport’s control.

ORAT¹ reflects a journey centred around people and the work they do to operate the facility, requiring months, or years, of methodical planning and training to make sure they are prepared and confident to carry out individual responsibilities from day one. The program—best initiated early to integrate with upfront planning—creates a full

picture of the requirements needed for operational readiness and excellent customer service. The scope is wide-ranging with numerous interfaces and interactions involving people, activities, systems, processes, procedures and equipment, all forming a highly complex operational landscape captured in the ORAT program.

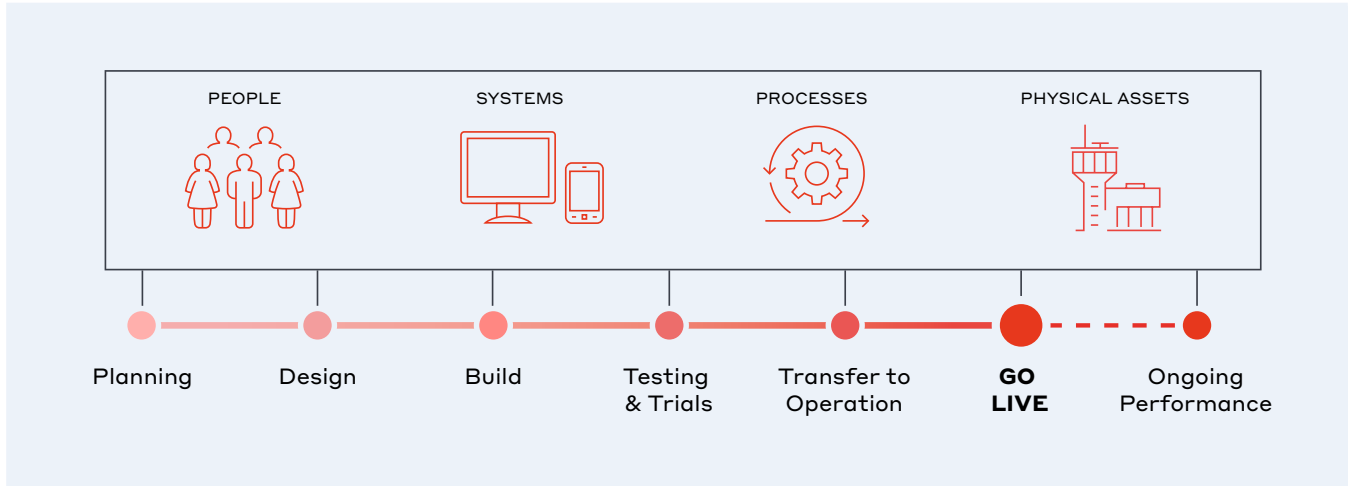


Figure 1 – Key elements and stages an ORAT program can address

Early Start: Why?

Too often, we see major projects proceeding without ORAT guiding the way from the start, either due to a lack of awareness of ORAT or because of a misperception that ORAT is not needed to begin until before transfer to the operational stage.

Integrating ORAT into a project upfront allows for robust planning and multistakeholder engagement with the opportunity to minimize costs, bring to attention ideas that could influence the design and establish contractual requirements for ORAT items. This proactive, foundational approach sets the stage for early detection of risks and implementation of measures to

resolve issues, avoiding added costs, delays and ultimately operational problems.

ORAT enables a full view and understanding of all critical activities and requirements involved to successfully open a new terminal or other airport facility. These are wide-ranging such as construction coordination requirements that will be implemented during the build stage, getting the language right in tenant lease agreements to avoid conflict and added costs later, making sure internal airport experts in their field have a good grasp of technical design material to validate that requirements are met, assisting

with a shutdown process or impact coordination regarding existing spaces or systems impacted during the construction phase, testing the passenger journey, and helping to ensure that responsibility for every system and function is in place, which is then played out with staff in the testing and trial stage of the ORAT program.

Facility readiness centres around the people responsible for each system and associated activities. Real-world testing—using simulation to practice and to identify areas in need of attention as well as the opportunities for improvement—is the activity commonly associated with ORAT.

¹ The ORAT methodology has been described in various ways—as Operational Readiness, Activation, and Transition; Operational Readiness and Airport Transfer; or Operational Readiness and Transfer.

Mitigate Risk

An effective ORAT program mitigates many types of risk—financial, safety, security, reputational—through extensive planning, preparation and execution to support continuous operation of a new or refurbished facility.

Financial risk primarily falls into two categories, the first being direct costs associated with changes to the project due to lack of operational coordination; the second is indirect costs to tenants and passengers due to operational impacts or issues after opening.

The biggest risk associated with safety, a top priority of any project, is lack of training; for example, the lack of site familiarization or specific training on a new piece of equipment can lead to accidents. This also comes into play if there are phased openings where construction is still in progress adjacent to operational areas.

Security is multifaceted, encompassing physical security, cybersecurity and personnel security, among others. Similar to safety, a security risk can arise due to lack of training; risk can also result from lack of clarity—for example, if multiple groups erroneously assume others have taken the primary responsibility for a facet of security.

With the increasing use of digital systems, airports face a growing threat of cybersecurity breaches. Cybersecurity concerns have arisen on projects when one team has selected a new product or system without the IT team leading the decision-making process. This has led to implementing a solution that might meet the needs of operations or a customer-facing group but may also breach the network security

protocols of the IT team, leading to cybersecurity compliance concerns.

Sometimes reputational risk is outside of the scope of an ORAT team's control, but other times there are opportunities for the team to help—for example, when publicly discussing opening dates, it is important to align communication with the activation and transition completion timeframe. Delays in opening can be mitigated by creating a realistic activation timeframe that does not commence until construction has reached a specific milestone. This in addition to open and honest communication with executives about the readiness state of the facility and employees can help guide alignment with the activation and transition completion timeframe rather than construction completion.



People Focus

An effective ORAT plan puts humans at the centre; skilled and knowledgeable people drive successful planning across functional areas of the facility. The ORAT plan enables proper preparation of staff, and thus the facility, to meet an agreed acceptable state of operational readiness. This involves public engagement, trials and training to make sure staff are ready for all potential situations and to meet passenger expectations.

The more effective an operational readiness plan is the more successful the employees will be in their roles during standard, contingency and emergency operational scenarios. This preparation covers numerous activities. Do all airline staff members know how to operate their stations with full confidence?

Are the mechanical, electrical and maintenance teams, airside ground handlers, terminal operations teams, security system teams and border service agents ready for operations? The activation team must understand each of the critical elements to “go live” in order to develop a comprehensive plan and training process for effective preparation.

Collective success depends on early engagement with a number of stakeholder groups—including operators, contractors, airlines, concessionaires, suppliers, the executive airport team, behind-the-scenes staff and frontline employees, as well as local communities—to understand their individual challenges and concerns and how best to address them from a holistic perspective of the given project.

Proactive Approach

Systems Thinking

The various factors affecting operation—including regulatory compliance, employee requirements and passenger questions and concerns—need to be carefully managed to ensure the airport is fully prepared for operational activities and to meet travellers' expectations. Reliance on technology and digitalization are adding greater complexity due to system interdependencies. As a result of the diverse factors and complexity of each project, a systems-thinking perspective brought through a holistic ORAT plan can foster problem-solving and coordinated action toward project delivery. Systems thinking can also create cohesion and bridge gaps in understanding—for example, potentially between project management teams and airport leadership. It can help project and operational management teams

control and structure delivery to realize the intended benefits for all stakeholders.

Systems thinking embeds flexibility within the ORAT process, which must be tailored to the specific needs and characteristics of the project it is supporting while being able to accommodate and manage emerging challenges, change and opportunities. Whether driven by shifting market dynamics, technological advancements or regulatory requirements, the objectives of a project may need to be revisited and adapted during the project development lifecycle. This might require adjustments to operational simulations, training programs and stakeholder engagement strategies to ensure that they remain in sync with the current project objectives.

Asset Management

ORAT also applies asset management principles starting at the early planning phases, bringing planning, engineering, operations and maintenance perspectives together and ensuring that asset decisions consider the future lifecycle maintenance, renewal and replacement decisions for major systems and assets. Formal lifecycle management plans ensure that inspection, preventive maintenance and renewal plans are in place before commissioned so that the airport can plan for sustainable long-term asset investments strategies from the start. This ensures that landside and airside investments can deliver on their promise to customers, regulators and other stakeholders—and achieve established service level, reliability and environmental outcomes with reduced risk both now and into the future.



Moving Forward

Opportunity Areas

Airports are progressively embracing technological advancements such as biometrics, artificial intelligence and integrated smart devices. Using the ORAT process to navigate the practical implementation of these technologies, to make sure they work with existing systems or procedures, is a significant opportunity as the ORAT program already brings together each necessary area. Equally important is the training of staff, updated or new services contracts, and revised budgets for adept utilization and maintenance of these technologies.

Today, airports are facing escalating expectations to prioritize sustainability. The integration of eco-conscious technologies and practices, such as energy-efficient systems and waste reduction measures, not only poses logistical challenges during the construction and activation phases but also requires careful consideration of potential disruptions to existing operations and funding. Balancing the imperative for sustainability with the need to maintain operational efficiency presents a multifaceted

challenge, necessitating thorough planning, innovative solutions and stakeholder collaboration as part of the ORAT process to ensure successful implementation.

Regulatory environments represent another area where ORAT can help. The aviation sector operates within a fluid regulatory framework, where regulations and security standards are evolving. ORAT helps airport projects remain flexible, to accommodate shifting regulatory demands throughout the project lifecycle, maintaining compliance and operational continuity.

Changing passenger behaviors and new travel trends, including the rise of low-cost carriers, the adoption of new travel technologies and the increasing demand for sustainable travel options, may require airports to recalibrate their operational approaches during ongoing major projects. The ORAT process can identify areas where issues may arise and provide the guidance to adapt as necessary.

Key Takeaways

The many steps and activities leading up to opening day create complexity for a range of airport stakeholders. ORAT prioritizes forethought, comprehensive planning and prepared people with in-built capability to manage the anticipated and respond to the unexpected.

Early ORAT involvement helps airports move forward on the right course, potentially saving time and cost over the long term. The industry will benefit not only from embracing ORAT in all large-scale projects but also by sharing data, lessons learned and new ideas to inform future ORAT programs.

Contacts



Alexander Jackson
Vice President, Aviation
United States
alexander.jackson@wsp.com



Alberto Ruiz
National Director,
Transportation Systems
Canada
alberto.ruiz@wsp.com



Amr Elbarbary
Project Manager, Aviation
Supervision
Middle East
amr.elbarbary@wsp.com



As one of the world's leading professional services firms, WSP exists to future-proof our cities and environment. We provide strategic advisory, engineering, and design services to clients in the transportation, infrastructure, environment, building, energy, water, and mining sectors. Our 67,000 trusted professionals are united by the common purpose of creating positive, long-lasting impacts on the communities we serve through a culture of innovation, integrity, and inclusion. Sustainability and science permeate our work.

