

San Francisco International Airport



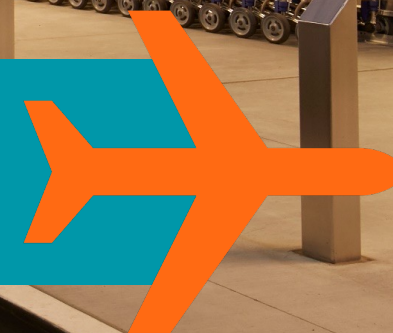
Harvey Milk

Terminal One

Operational Readiness
Case Study



**TEAMWORK. TENACITY.
TECHNOLOGY.**





SUMMARY

It was a tall order even in the best of times. On a date certain in May 2020, operations for thousands of passengers, concessions, airport staff, and airline employees were to simultaneously and seamlessly switch to new gates in San Francisco International Airport's (SFO) new Harvey Milk Terminal 1. One day, they would walk in and pass through the old facility. The next, they would use the brand-new check-in area and gates.

The second nine of the terminal's 25 gates were to be opened, marking one of the largest such transitions in airport history, but it had to go off without a hiccup. In the critical weeks immediately prior to launch, however, COVID-19 erupted. The operational startup of the massive project, requiring thousands of precisely coordinated activities, was in serious jeopardy as passenger traffic grinded to a halt and newly imposed restrictions limited the number of people allowed on the job site at one time.

Few would have been surprised if the opening of the Harvey Milk Terminal 1 project had been halted because of the global pandemic. Instead, it was guided to a successful opening in large part by the sheer determination of the teams responsible.

The SFO Activation Planning Services (APS) team, SFO Partners Joint Venture (JV), in conjunction with members of the Terminal 1 project management team formed the Terminal 1 CAS (Commissioning, Activation, & Simulation) Core team. As the COVID-19 crisis unfolded, the T1 CAS Core team responded quickly to the new reality, adapting their work processes and adopting new technology to keep the opening on track.





SUMMARY

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Most valuable was Citiri's software, designed to help airport operators execute their unique project scope, which had been in consideration since September of 2019. Designed to assist airport project owners in planning, coordinating and executing operational readiness, activation and transition of their capital projects, Citiri was brought onboard by the SFO APS team just a few months prior to the global COVID pandemic.

By providing a transparent, comprehensive operational readiness solution, Citiri became both the central operating system and a single source of truth. As teams became familiar with its functionality, planning, executing, tracking, reporting, and prioritizing work became a more natural and efficient process. Widely dispersed teams could work together inside a single environment, sharing information and real-time data freely.

This new, higher level of accountability, transparency and collaboration helped eliminate information silos and duplicative work, reduced the amount of time spent tracking down and formatting information, and freed up more time for acting on it. Despite the COVID challenges, the Terminal 1 CAS Core team persevered with leadership from SFO, and the technological advantages offered by Citiri.

In May of 2020, the CAS team orchestrated the successful Activation of a multiple airline relocation, including the relocation of all American Airlines' operations from Terminal 2 to Terminal 1. American's relocation included new ticket counter space, a new state-of-the-art baggage system plus baggage claim area and six of the nine newly activated gates in Boarding Area B of Harvey Milk Terminal 1. Despite the worldwide pandemic, this historic project was guided to a smooth operational startup.





Harvey Milk Terminal 1 is the heaviest trafficked terminal at one of America's busiest airports in one of the world's most iconic cities. Often, it's San Francisco's first impression on visitors from the US and abroad and so is a very high-visibility asset for SFO. That's one reason why the airport's \$8-billion capital improvement plan included \$2.4 billion for the design, construction, and activation of a new Harvey Milk Terminal 1 that would include 25 new gates, hosting four major airlines, and serving thousands of passengers daily.

The ambitious opening schedule called for nine gates to be opened in July of 2019, another nine in March of 2020, and the last seven to come online in Q2 of 2021. The airport's leaders knew their progressive design-build model could ensure that the construction was finished on time and to specification, but they had also learned from experience that on complex airport projects there were often major gaps between the construction completion and readiness for operations. It was a problem they were determined to solve with careful planning and strong leadership.

SFO BACKGROUND



OPERATIONAL
AIRLINES



FLIGHTS
PER MONTH



PASSENGERS
PER MONTH





UNDERSTANDING ORAT

Unlike typical businesses, the world's top airports can't simply close for renovations. The show must go on, and smoothly since delays and operational disruptions have global ripple effects and cost airport operators and stakeholders millions of dollars. The complexity of delivering construction in an airport environment makes ORAT (Operational Readiness, Activation, and Transition) essential to project success. Facilities like the Harvey Milk Terminal 1 must come online seamlessly for all stakeholders – airlines, passengers, agencies, concessionaires and staff. ORAT is best practice for this work. It involves four critical elements:

OPERATIONS & TECHNICAL MANAGEMENT aligns the project's stakeholders, identifies, develops and aligns operational concepts and standard operating procedures, and validates and verifies O&M handover deliverables.

TRAINING & FAMILIARIZATION transfers knowledge to stakeholders by familiarizing them with the new facilities, infrastructure and processes, aligns training programs with the airport's requirements, ensures and validates contractor training deliverables.

OPERATIONAL TRIALS ensure all facilities are in place and all systems are running without interruptions, and that stakeholders are ready to confidently operate the facilities and systems with success on opening-day and beyond.

TRANSFER/TRANSITION involves detailed planning, stakeholder engagement and complex logistical coordination to guide and monitor successful execution of operational transfer and startup.



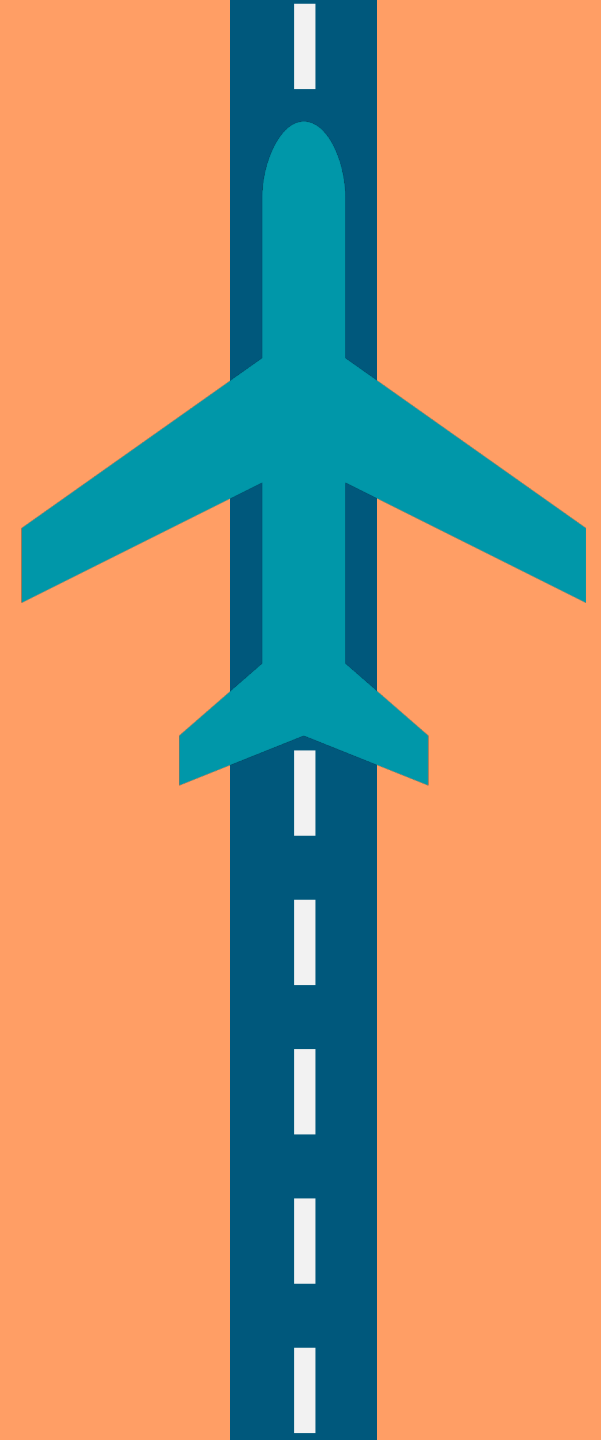


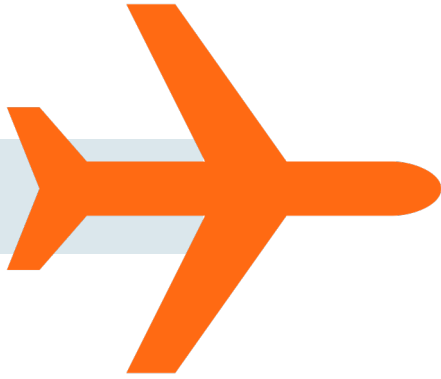
LESSONS LEARNED FROM PREVIOUS EXPERIENCES

SFO's leaders recognized that ORAT or as they refer to it, the commissioning, activation, and simulation (CAS) process was the critical link that determined the success or failure of a project's operational launch. Past airport projects around the world have suffered because they failed to maintain alignment with the needs of operations, airlines, vendors, security, and other stakeholders. Decentralized, fragmented and manual processes created silos, injecting new risks into an already risk-rich endeavor and led to missed opportunities to identify and resolve issues before launch resulting in avoidable costs and embarrassing operational failures that captured media headlines, destroyed customer experiences, fractured stakeholder relationships and lost millions in revenue.

SFO determined it was critical for CAS to be integrated into the project's delivery from planning all the way through final handoff and post opening-day. By doing so, they believed that detailed planning, early stakeholder engagement, transparency and clear communications would head off potential problems, facilitate collaboration where there was often friction, and deliver a final product that matched the stakeholders' real-world needs. An additional benefit would be overall cost-savings.

In order to accomplish the integration, SFO tapped in-house expert Anthony Bernheim, Healthy & Resilient Buildings Program Manager, to assemble and lead an activation planning services (APS) team. Bernheim, along with SFO Partners Joint Venture (JV) and members of the Terminal 1 project management team, formed the Harvey Milk Terminal 1 CAS (Commissioning, Activation, & Simulation) Core team.





DOING THINGS DIFFERENTLY

One of the immediate challenges faced by the CAS team was firmly establishing its role and place in the delivery process. Even though activation was required to be included in every step of the process, it was yet to be determined how that would work in practice.

SFO had taken steps in the right direction by adopting a “big room” process that brought all the project team members into the same physical space to facilitate collaboration and reap its benefits. The big room worked well for the core construction process, but it still needed strong leadership and oversight for the activation component. Originally, this too was the responsibility of the design-build team, but it was eventually, SFO’s CAS team that took on the leadership responsibility and carried the ball.

That made sense because the team included both airport personnel and private-sector airport consultants who had existing relationships and established credibility with the stakeholders. As a result, the CAS team was in the best position to serve as both intermediary and organizer – facilitating communication between construction and stakeholders and leading the overall ORAT effort.



One of the main reasons why we selected Citiri’s platform is because it could so readily incorporate our framework, the work we had done and the data we were collecting already. We explored the idea of automating the process ourselves, but Citiri included many of the capabilities we would need to create. As a result, we were able to move to a more efficient management program without diverting key resources or losing significant time in the process.





CITIRI EMERGES AS THE SOLUTION



Executing the successful Harvey Milk Terminal One Transition in the face of a global pandemic was a spectacular feat that could only be accomplished with a talented team of experts who embraced the challenge with enthusiasm.



The CAS team included several veteran leaders who had participated in other airport projects. Among them was Richard Forbes, a senior project manager for AECOM. Forbes recognized that a significant problem with the ORAT process was that it relied on far too many independent, manual systems and processes. The progress (or lack of it) could only be quantified by assembling data from multiple spreadsheets, documents, and proprietary report formats – and never in real time.

Forbes knew that automation could streamline the management and reporting. More importantly, he believed it could give the CAS team a single dashboard from which it could monitor and coordinate the myriad of tasks required for a clean handoff and terminal opening. Independently, SFO had arrived at the same conclusion and had been working on developing a framework of its own.

After weeks of research, Forbes discovered Atlanta-based Citiri Inc., an Owner Scope Management software company led by CEO Ortez Gude. Citiri's platform was built on best practices and offered the right features, functionality, and adaptability, to make it a near-perfect fit for the new Harvey Milk Terminal 1 and future SFO projects.

Forbes discussed Citiri with Bernheim and the two pulled in other members of the SFO Partners JV: Gerardo Alfaro, project manager from ASL; Norman Clevenger with Faith Group; and Curtis Monette with The Allen Group. Together, they decided to pursue negotiations with Citiri and won approval for the contract, just four months before the scheduled March completion date.

Such a small window of time meant that Gude and Citiri would have to work with the SFO Partners JV to expedite the planning and implementation process. In just two months, the group incorporated 90 percent of SFO's unique CAS processes into the Citiri platform and launched.



COVID-19 BRINGS CHAOS

By February of 2020, with the platform in place, SFO's CAS team began the challenging effort to ensure it was adopted and in active use by all the project's players. There was initial skepticism from some because they expected Citiri to be another burdensome requirement, while others had reservations about abandoning their old methods. There was even a small group who worried that Citiri offered too much transparency.

Despite the pushback, the CAS team continued to work with the project team design-builders, and stakeholder groups to achieve 100-percent Citiri adoption. As it happened, however, they got an extra push from an unexpected source.

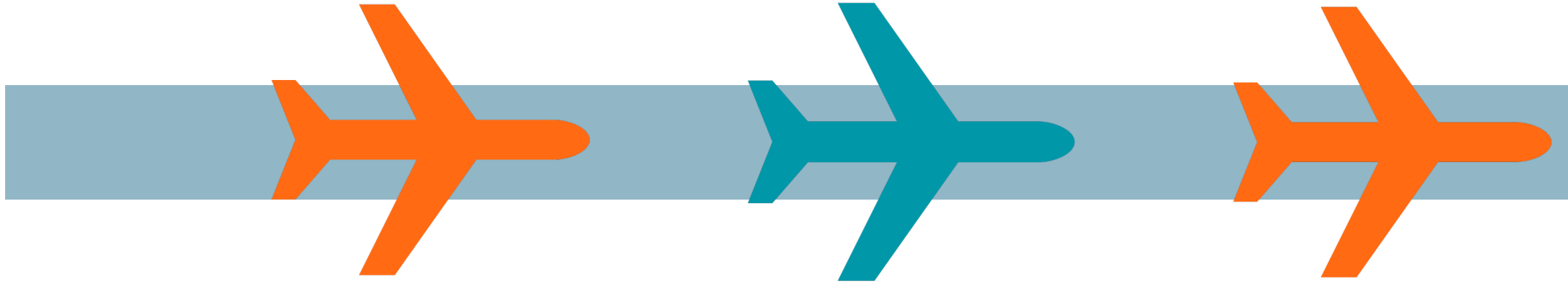
By the end of February, news of the COVID-19 pandemic was spreading. Public and private-sector employers began taking precautions to protect their workers. By the time a shelter-in-place order came in mid-March, it was clear that the Harvey Milk Terminal 1 opening was in jeopardy.

The ability for workers to travel to and from the site was limited. The number of employees onsite was severely restricted. Team members were instantaneously geographically dispersed as meetings that had been held in person had to move online. What everyone needed was a central operating platform with guided, systematic work architecture for CAS – which is exactly what they had with Citiri.

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This is a signature facility for SFO, and it took heroic work from our team to get everything right. Citiri's operational readiness platform was an important part of that story, automating and coordinating many of the tasks that were being done manually.

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BRINGING THE PLAYERS & PIECES TOGETHER

With Citiri, SFO had an operating platform that eliminated the need for troublesome spreadsheets and disparate, ill-fitting, inefficient systems. It offered an enterprise-grade, virtual, common workspace that enabled the now widely dispersed teams to continue working together collaboratively, sharing data, and providing real time progress reporting to executives and stakeholders. It was the single source of truth on operational readiness that had been missing in earlier projects.

Even those who had been ambivalent about the platform initially, now saw it as essential to their work. COVID-19 forced the operational readiness process to evolve. Fortunately, the next level of operational readiness execution was already in place.

The CAS team's work not only continued without missing a beat, but it was also able to deliver considerable savings in time and money to the airport while at the same time delivering a successful operational launch.



LOOKING TO THE FUTURE

SFO's success was remarkable even under normal circumstances. Relocating multiple airlines and bringing, what is now 25 new gates online, sixteen of those during a global pandemic, offers operational readiness execution lessons for future projects at SFO and at other airports around the world. By fully integrating operational readiness into the capital program, SFO successfully bridged the gap between construction and operations, resulting in an elevated level of stakeholder engagement, and delivering a better product at a lower total cost of ownership without any costly or embarrassing operational anomalies.

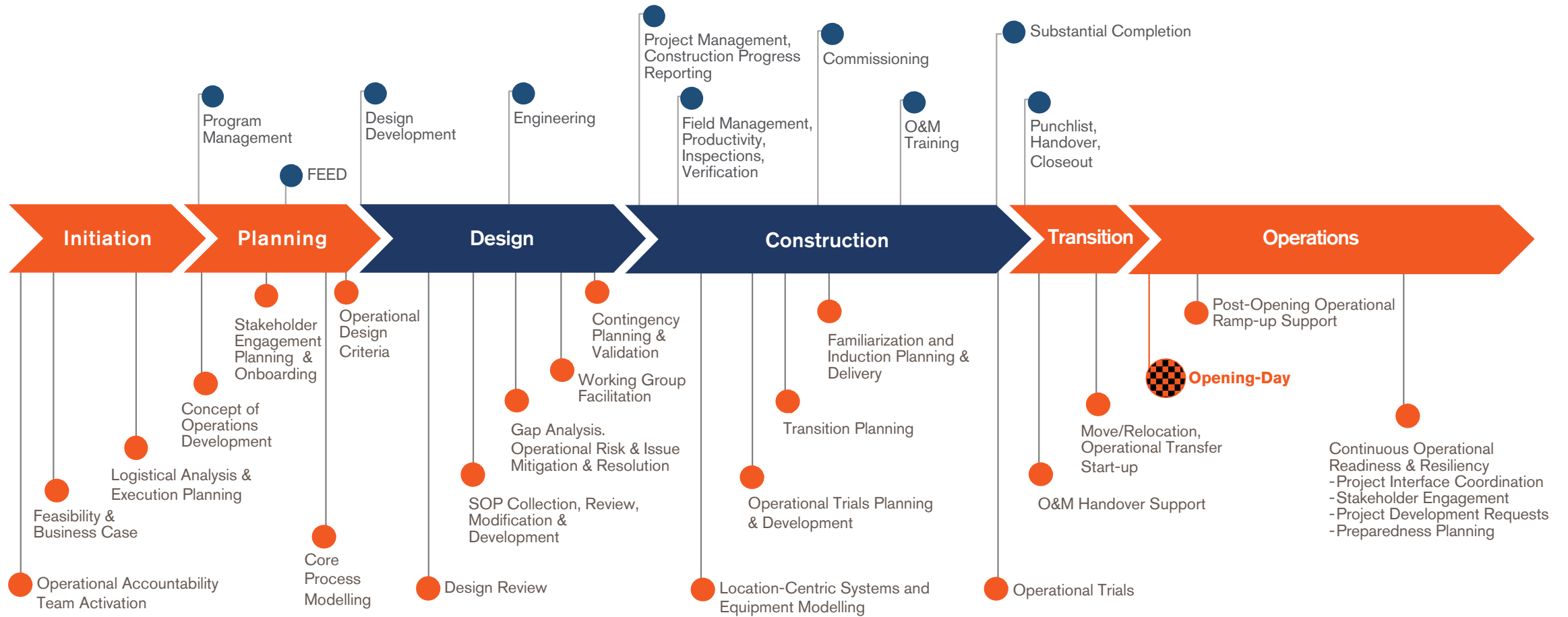
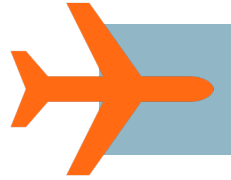
The introduction of Citiri's software provided an easy to use, airport-specific operating and reporting platform that allowed SFO to incorporate its CAS framework in a way that allowed all executives, relevant team members and stakeholders to connect, organize and collaborate. Citiri also enabled and allowed for the quick ramp-up of the remote work capabilities that were necessary because of COVID-19, but which will remain relevant even after the pandemic has been quelled.

SFO's Harvey Milk Terminal 1 project proves the combination of visionary leaders, strong teams, and state-of-the-art technology offer the ability to amplify capital program value for the same investment. Ultimately, that's the best hope for overcoming the challenges of a post-COVID-19 world.

“ Our team faced some enormous challenges and a lot of additional pressure as the COVID-19 pandemic struck only weeks ahead of the Harvey Milk Terminal One opening. Disruptions of that nature sometimes cause missed trials and simulations that can reveal serious problems before they affect the public. As a cloud-based platform, Citiri made it much easier to keep the work going remotely while coordinating on-site teams and schedules. In spite of the pandemic, our team was able to keep all our tasks on track so opening-day was smooth and corrections were minimal. The terminal has operated without any major problems. ”



Integrating Operational Readiness into the Airport Project Delivery Process



● Owner Scope includes Operational Readiness Activities

● Designers, Engineers and Builders' Output-Centered Workflows



The Owner Scope Management Platform



 Citirios



ESGScope

 Citirios



EnablementScope

 Citirios



EngagementScope

Citirios
OPSCORE

Citirios
ACTIVITYLISTS

Citirios
EXPERTONDEMAND

Citir AI

Citirios
ControlTower

Citirios
KnowledgeBase

Citirios
IoTPlus

FOUNDATION

Guided Workflows	Live Documents	Content Management	Embedded Collaboration	Alerts and Notifications	Augmented Analytics	Engagement Portals
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Common Digital Environment, Powered by AI: Secure & Mobile

STANDARD INTEGRATIONS

