



Large-area surveillance with 90% fewer cameras

# FROM RUNWAYS TO TOWER OPERATIONS: STL AIRPORT DEPLOYS 360° SURVEILLANCE WITH PANOMERA®



## Requirement

- Surveillance of more than 70 mil sq. ft. infrastructure
- Monitoring of runways, taxiways, apron areas and terminal operations
- High-resolution coverage across large spatial areas
- Future-ready platform for AI-supported operational processes

## Solution

- Panomera® for large-area coverage
- Digital 360° surveillance concept with only a few camera systems
- SeMSy® Compact video management system
- Scalable infrastructure ready for AI-based analytics



**70 Million**  
Square feet secured



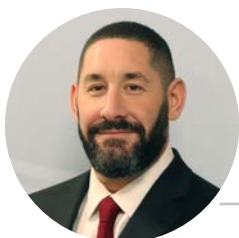
**75 %**  
Less infrastructure required



**360°**  
Surveillance

## Result

- ~ 90% fewer cameras compared to the original design
- 75% less infrastructure required
- Complete high-resolution situational awareness across critical airport areas
- Improved operational efficiency and passenger flow



*“Our decision to deploy Panomera® cameras significantly enhanced overall surveillance coverage across the airport while reducing the technology and infrastructure footprint.”*

**David Kulinsky**, Deputy Director of Operations & Maintenance at STL





As Missouri's largest and busiest aviation facility, St. Louis Lambert International Airport (STL) welcomed more than 15 million passengers in 2025. To implement a digital 360-degree surveillance system and secure over 70 million square feet of airport infrastructure, STL required a solution capable of covering vast spatial areas while significantly reducing infrastructure costs and complexity. At the same time, the airport aims to implement AI-applications to optimize its operations. With Dallmeier's Panomera® multifocal sensor technology, STL achieved comprehensive high-resolution coverage with approximately 90 % fewer cameras and 75 % less infrastructure compared to the original surveillance design.

#### Securing Large Airport Areas with Maximum Efficiency

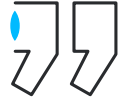
Due to the continuous growth in passenger numbers, the STL Operations and Security Teams decided to modernize the existing video security system in June of 2018 in two areas: Firstly, in surface parking areas to increase customer safety and eliminate criminal activity such as vandalism and theft. The second solution targeted the airport's four runways, the taxiways, and all terminal buildings to monitor the activities of aircraft, ground vehicles, and airport personnel.

#### Traditional Camera Concepts Reached Their Limits

STL Airport Operations Team contacted their security integrator, Tech Electronics, to design and deploy an updated camera solution. The initial design used a combination of PTZ and single sensor IP cameras and would have required more than 130 cameras in total. From an infrastructure perspective, this would have required the installation of more than 42 new camera poles and the corresponding infrastructure (cable, network, power, etc.). The airside solution required significantly more technology to achieve the desired surveillance coverage. So, STL and Tech Electronics decided to look for another, more economical solution.

#### Panomera® – The Surveillance Technology that Changed Everything

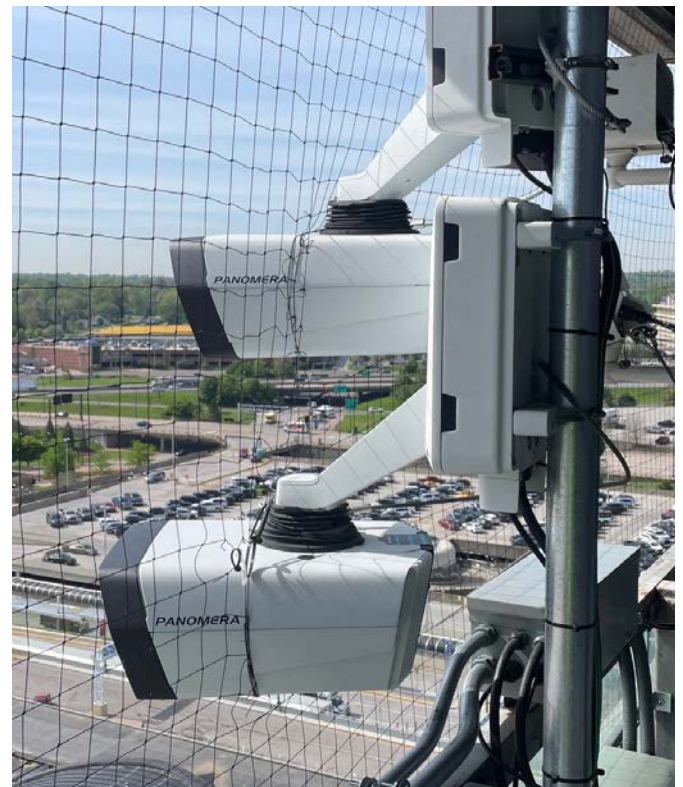
During their technology search, STL discovered the Dallmeier Panomera® multifocal sensor technology, which



*"I was surprised at how few Panomera® cameras were needed to replace several PTZs and single sensor cameras and display the images in a much more user-friendly format."*

**Kevin Hubble,**

Services Manager for STL with Tech Electronics



*Panomera® technology enables high-resolution surveillance of extensive airport areas with significantly fewer cameras and reduced infrastructure requirements.*



*STL Airport operators monitor runways, taxiways, and apron operations efficiently across large spatial areas.*

was developed specifically for surveillance of large spatial areas using the fewest number of cameras to achieve the required surveillance coverage.

David Kulinsky, Deputy Director of Operations & Maintenance at STL, recalls: “When we discovered Panomera® and saw that one Panomera® camera can capture large areas at high resolution and replace several single-sensor cameras, including the costly infrastructure, it became clear that Panomera® provided STL a more economical solution with higher quality images at a lower overall cost.”

**Talking TCO: 90 % Fewer Cameras, 75 % Less Infrastructure**

The test installation at the airport proved the image quality of the Panomera®. Kevin Hubble, Services Manager for STL with Tech Electronics, comments: “I was surprised at how few Panomera® cameras were needed to replace several PTZs and single sensor cameras and display the images in a much more user-friendly format. The SeMSy® Compact VMS software enables the user to view a single

high-resolution image of the entire scene with simple digital PTZ controls to ‘zoom’ into any part of the image in greater detail. The result is an intuitive user experience resulting in greater operational efficiency – not to mention the superior high resolution video coverage.”

To date, STL has installed more than 27 Panomera® cameras. Multiple IPS 10000 recording appliances and 5 user workstations with the SeMSy® Compact VMS client software complete the video system. Compared to the original planning, this resulted in approximately 90 % reduction in the number of cameras and approximately 75 % reduction in infrastructure required for the installation.

**Digital 360° Surveillance with Only 10 Cameras**

A particular highlight of the deployment is STL’s digital 360-degree surveillance concept. Using only ten Panomera® cameras, the airport achieves comprehensive situational awareness across large airside areas including runways, taxiways and apron operations. Unlike conventional camera concepts that require numerous PTZ and



single-sensor cameras, Panomera® delivers a complete high-resolution overview in a single seamless image. This enables operators to monitor critical airport activities more efficiently across large spatial areas, while significantly reducing infrastructure complexity, maintenance effort and overall operating costs.

**AI-Supported Operational Efficiency and Passenger Flow Optimization**

Beyond security applications, STL is also evaluating Panomera® technology for operational process optimization inside the terminals. As part of a planned deployment in the ticketing area, a Panomera® V8 system will support AI-based video analysis functions such as passenger flow and waiting time analysis. The objective is to improve operational efficiency, optimize check-in processes and enhance the passenger experience — while leveraging the same high-resolution surveillance infrastructure already deployed throughout the airport.

**An Efficient and Future-Proof Solution**

David Kulinsky with STL summarises: “Any technology project at an airport must deliver a solution that is operationally efficient, resilient, and built for long-term performance. Our decision to deploy Panomera® cameras significantly enhanced overall surveillance coverage across the airport while reducing the technology and infrastructure footprint required to support it.

The system also provides the ability to zoom into specific areas without sacrificing full-scene situational awareness or recording capabilities—an operational advantage over traditional PTZ cameras, which only record the field of view being actively monitored and can limit broader operational visibility.”



*Patented Panomera® multifocal sensor cameras capture large areas and long distances.*

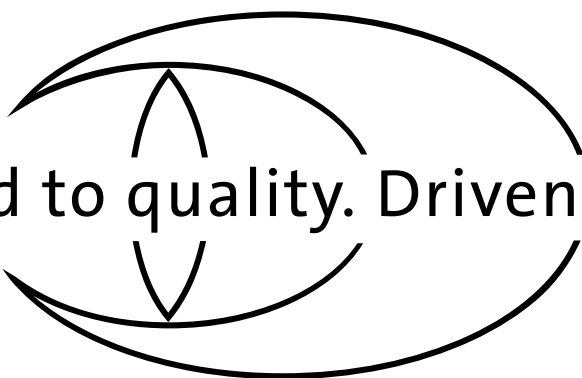
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Let's talk about your project!

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A large, stylized graphic of an eye, composed of two curved lines forming the upper and lower eyelids, with a central vertical line and two smaller curved lines forming the iris and pupil.

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