# Nantes Metropolis

**Name**
The Nantes Metropolis

**Scope**
620,000 inhabitants in 24 communes, including the city of Nantes

**Products used**
Genetec™ Security Center, Genetec™ Omnicast™

**Area**
Public service

**Headquarters**
Nantes

**Partner**
Pentasonic Groupe Scriba

**Since 2001, the Nantes Metropolis has used Genetec solutions to gradually monitor access points to pedestrian areas, improve traffic flow and now maximize the security of its citizens.**

## The challenge of finding the best partner for each use

Seventeen years after installing its first cameras to control access to pedestrian areas, the Nantes Metropolis remains loyal to Genetec and today manages its road traffic through a federation of video surveillance hubs. It has also recently built an urban supervision center (CSU) that allows it to support police and fire brigade operations with maximum efficiency.

For each new project, the Nantes Metropolis assessed all the video surveillance solutions on the market to find one which was: compatible with its various cameras; had the most features; could share frames between different control stations without taking control of frames; and was user-friendly. Genetec products best met all the requirements.

## Building, developing and coordinating video surveillance hubs

The Nantes Metropolis has 24 communes and 620,000 residents. The industrialization of its video surveillance system dates back to the early 2000s, when the decision was made to create pedestrian zones with retractable bollards to restrict access to authorized vehicles. In addition to residents and shopkeepers who had a badge to lower the bollards, the Nantes Metropolis installed an intercom system so that exceptional traffic – delivery drivers, paramedics, etc. – could request access. However, cameras needed to be added to visually approve requests.

"From that point on, we chose Genetec's video surveillance solution. Firstly, because it was the only system that was compatible with a wide range of camera brands. Secondly, because it let us automatically display the camera associated with a person's call on the operator's screen," says Gildas Grenier, traffic regulation department manager for the Nantes Metropolis. At the time, the system consisted of around twenty cameras.

Five years later, in 2006, the city began building a full-fledged traffic control station. Extending video coverage to strategic routes, the traffic control station took over the management of pedestrian access points while monitoring current vehicle traffic so as to regulate it in real time by activating traffic lights and signs. To date, its network of cameras totals 81 units dedicated to road traffic and 35 more for controlling access to pedestrian areas. "At the time, we were considering changing our video surveillance solution. However, our market research confirmed our existing choices by showing that the Genetec Omnicast solution was the best of all. So all we had to do was increase the performance of our servers," explains Gildas.

It was at this point that the city came up with the idea of bringing together the images from the various transport monitoring centers in the area. In addition to the city's traffic control station, integrating into the system frames from public transport (the transport company Semitan, responsible for buses and trams) and the ring road (under the supervision of the western interdepartment road directorate (DIR) Ouest) was designed to manage traffic more effectively. "Genetec already had a federation feature that gave everyone control over their frames, while making it easier to share them with other units. As early as 2009, we were able to pool our shots by simply configuring interconnections with the Genetec systems of Semitam and DIR Ouest," says Gildas.

## Genetec Security Center to make operations a success

After the success of using cameras to improve traffic flow, the Nantes Metropolis set out to implement a similar system for the safety of its citizens in the 2010s. The project became a reality shortly after upgrading from Genetec Omnicast to the more comprehensive Genetec Security Center solution in 2017.

"We were again considering changing providers, but the ease of use offered by Security Center won us over," says Catherine Ménétré, director of the new CSU. "As a result, two of the operators we recruited to the CSU had no experience of video surveillance software, but it took them only a day to get to grips with the tool; the terms are clear to everyone."

Security Center provides each operator's station with three screens: one is used to select shots by clicking on camera icons placed on a map of the city, while the other two display a kaleidoscope of images in the form of tiles, the graphics system typical of consumer Windows systems. The solution is completed by an image wall of 12 55-inch screens that are permanently visible to the two or three operators who are present at the control station day and night.

"With this system, we can detect a crime or an attack and call the police immediately so they can intervene as quickly as possible. If the police are planning a raid, they let us know in advance so that our operators can focus on images of the area in question. The officers on the ground then communicate with our services by radio. And when people are arrested, all the police have to do is put them in front of the cameras to immediately identify the perpetrator," explains Catherine.

She adds that since the installation of the CSU and its Security Center video surveillance system, the police and emergency services have always been able to operate successfully. "It has maximized their efficiency," she says.

## A virtualized, secure solution that meets the most demanding requirements

In its new Security Center version, the video surveillance solution installed by the Nantes Metropolis takes the physical form of a hyper-converged infrastructure. It runs the Security Center software and its services – the federation directory (which connects the other video surveillance hubs), the camera directory and the Plan Manager software for selecting cameras on a map – as virtual servers. "This virtualization means that the Nantes Metropolis only has to buy a single hosting platform, despite having two very different applications: the traffic control station on the one hand and the CSU on the other, while guaranteeing the necessary security levels and tightness," says Damien Véron, consultant and infrastructure architect at Pentasonic Groupe Scriba, the integrator that installed the solution.

The equipment also includes four 48 TB "archiver" servers, providing a total capacity of 192 TB for storing shots. "Our urban supervision center, for example, needed to be able to identify people, so we had to add higher-resolution cameras to our network, operating at 25 frames per second. At the end of the day, the feed from a video surveillance camera is forty times greater than that from a camera installed to monitor road traffic," explains Gildas.

In addition to extra storage capacity, Damien explains that he has deployed around a hundred network switches to recover these new feeds in the city. The traffic equipment still communicates with Security Center via DSL links.

The four operator stations are high-performance HP Z240 stations with a 4 GHz Core i7 processor, 16 GB RAM and NVidia Quadro P2000. These stations decompress some of the images themselves, thanks to a Genetec patent, to get the maximum number of frames with outstanding fluidity.

Following the recommendations of the French National Cybersecurity Agency (ANSSI), the stations were locked so that no shots could be extracted from removable media (USBs, CDs/DVDs/smartphones). While it was not possible to build a dedicated network, it was possible to fully seal feeds by using VLANs and filtering network cores.

**"Our aim is for all security actors to become adept users of the tool for each of their investigations – so that Nantes is one of the safest cities, where the fire brigade intervenes in time when someone leaving a nightclub gets too close to the banks of the Loire, and where the police have a live image of the person they need to arrest."**

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