BUILDING A **SECURE EUROPEAN METROPOLIS**

Deployment of Teleste's video security system in Paris
Case reference

TELESTE

SECURING PEOPLE
IN THE GREATER PARIS AREA

Teleste's video security installation in Paris is one of the most advanced public space security systems in the world. It brings safety to the entire Greater Paris area with more than 10 million inhabitants, and tens of millions of tourists and other visitors annually. It connects all of the current video protection systems of the Paris metro and railways together, and allows thousands of operators with different access privileges to monitor public safety activities.

Project overview

Teleste's deployment in Paris is built for the direct management of more than 1,300 cameras within the Paris metropolitan area. Today, the system covers more than 25,000 cameras and 2,500 operators with different access privileges in the entire area. In addition, it interconnects and inter-operates with various other video security networks across the Paris area, e.g. the entire Paris area metro and rail services (SNCF, RATP). The system is constantly expanding to cover also other parts of France.

A CITY-WIDE **SECURITY TOOL**

Since launching the project in 2010, one of the key objectives for Teleste's installation has been to offer a single tool that meets the needs of efficient decision-making and those of multiple authorities, including the police, the fire department, traffic enforcement, criminal investigation and counter-terrorism, among others. The system is operated by the Paris police authority, Préfecture de Police de Paris.

The system is built on Teleste's video security and management solution, which is dedicated and tailored to the project's specific needs. Based on a networked system architecture, the system includes and interconnects several elements that can be easily adapted according to further requirements, including integration to various third-party subsystems. Overall, the implementation has gradually become highly complex and sophisticated.

S-VMX — the heart of Teleste's video security system

Teleste's video security solution

The S-VMX is an IP-based, distributed and centrally managed system that is designed to maximise added value to our customers. It is ideal for projects where everything is built from scratch, but it also allows cost-efficient upgrades to existing security systems and renovation projects where the customer wishes to utilise the previous infrastructure as widely as possible. The solution allows virtually unlimited federation of different types of security and information subsystems. They make it possible to efficiently use video to recognise behaviour as well as detecting and tracking individuals, objects, events of interest and even trends.

Evolution path to situational awareness

We are able to provide security operators with an evolution path to a smart situational awareness security system. Typically, the integration of different sub-systems into a single entity is time consuming, requires system-specific work, and hence is expensive for operators. To overcome this challenge, Teleste is constantly expanding its range to enable the connection of different security and information subsystems and applications together into a future-proof security hub.

S-VMX benefits in a nutshell

- Scalability: The S-VMX allows you to build a security system that is fully secured, easy to expand and ready to grow with your future needs.
- Modular and flexible architecture: The S-VMX consists of modular elements that can be easily adapted to the needs of a specific project.

- Unlimited integration: Offering simple and fast integration, the S-VMX allows the use of data produced by third-party systems, and operating those systems from a unified interface.
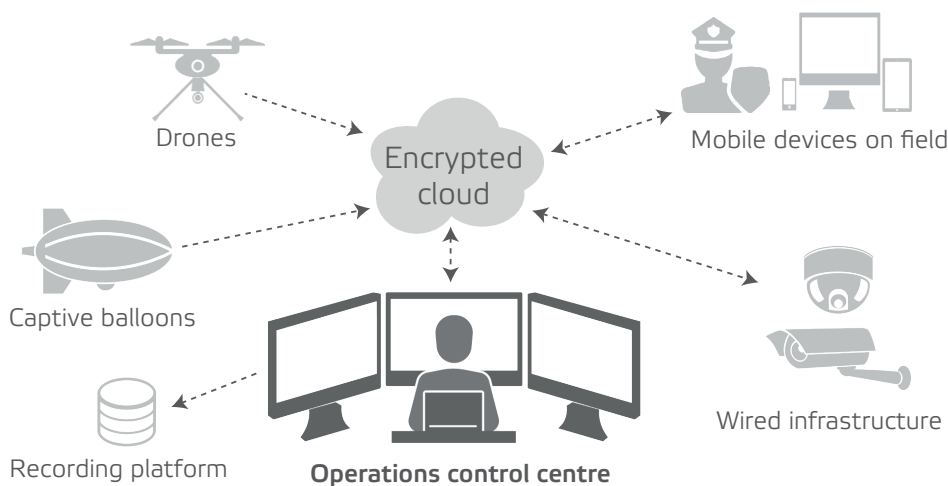
Main features and functionalities

- Networked system architecture
- Authentication of users with different user privileges
- Access to live and recorded video with indexed date and time stamps
- Authentication and watermarking of evidential video material
- User-friendly and unified user interfaces
- Easy federation and control of sub-systems and third-party systems
- Support for an unlimited number of simultaneous camera connections
- Support for a Geographical Information System (GIS) with sharing of live streams and interactive map overlays on the same monitor view
- Secure storage and interface to digital locker for digital signature and authentication
- Advanced information and cyber security for signing, encryption, authentication, PKI, and deep IT integration
- ONVIF-compliant, gateways to multiple interfaces and third party products
- Network extensions for mobile operators

Project in brief

- Approximately 2,500 operators
- Over 1,300 cameras within the entire Paris area
- Recording platform for 1,300 cameras, for 30 days
- Backbone of a 400 km and 2 x 10GE fully secured and redundant optical network
- Currently 25,000 cameras in total
- More than 600 operating positions
- More than 55 monitoring centres

Drones

Encrypted cloud

Mobile devices on field

Captive balloons

Wired infrastructure

Recording platform

Operations control centre

VIDEO SURVEILLANCE
ON THE MOVE

Nowadays, video surveillance technologies cannot stay confined to operations centres, but have to be available everywhere on the move. Emergency and security forces need a reliable tool to access video information in real time, but also to feed operation centres with live images when and where necessary.

Also utilised in Paris, Teleste's mobile technologies allow secure mobile connectivity between the operations centre and the police and security forces in the field. They enable many different possibilities and functions for CCTV mobile operation, including pushing HD video from the operating centre to mobile devices, and controlling mobile cameras from tablets.

Our solution allows the control centre to utilise tablets and smartphones for accessing live and recorded video pushed by, for instance, the police using phones in the field. Through the system, the control centre can also push 'spot video' to the field, enabling the coordination and guiding of tactical forces.

Teleste's solution makes it possible to stream high-quality live video, and take video clips from a phone's

camera and store them in a central recording platform on the fly as evidence material. To increase situational awareness and decrease response times, phones and tablets — together with camera controls and positions — can be geo-located in real time on the operations centre's tactical map system as well as on tablets used by first responders.

As one of its key benefits, our solution offers extensive cyber security and communication encryption. Tablets, phones and laptops can connect to the central video management system, using a fully built-in secured connection over public or private networks. The best of cryptographic technologies (PKI + RSA and multi-factor authentication, TLS, Blowfish and AES) ensure that secrets remain secret – a fundamental criteria in a security application.

Enabling a large array of devices

An entire city-wide mobile system can include and connect a large array of devices, including:

- Video resources such as mobile cameras, smart phone front cameras, and body worn cameras

- Video clients such as tablets with access to full camera control, live view and playback, emergency video channels pushed by operating centres to first responders, as well as mobile command cars equipped with Teleste's Command & Capture™ software

FAST, SECURE
AND COST-EFFICIENT
INTEGRATION

Drones, captive balloons and temporarily placed video cameras are increasingly used in different security operations: traffic control, special events, crowd surveillance and general law enforcement. They expand video management beyond the conventional CCTV and broaden the ability to react to any situation. Fully utilising their capabilities requires real-time integration of information in every part of the video management system. Teleste's Command & Capture™ application forms the essence of these kinds of future extensions.

All events and tasks under a single operating point

Teleste Command & Capture™ is a patent-pending application that allows operators to integrate any remote or local video, or information management application and system, into a single unit. The integration process is fast, secure and cost-efficient, and it is independent of the operating system, or of the software that is used for the different applications within the controlled system.

The Command & Capture™ creates an affordable, real-time decision-making tool for operations centres. It allows seamless federation and control of all events and tasks, centralised to a single operating point. Information from mobile and aerial devices, for example, can be integrated in real time into the overall video management system, and full situational awareness is achieved by visualising all the information through the same GUI and on a video wall.

The size of the controlled system can be dynamically expanded, or scaled down, and interconnection to any kind of third-party system can be built within a couple of days. The application can adapt to even the most complex systems as well as third-party applications without the need for any application-specific integration. All you need is a PC, an internet connection and the Teleste Command & Capture™ software.

SECURING **SPECIAL EVENTS**

Conferences, summits and sporting events often require that a temporary yet extremely reliable and sophisticated video surveillance and management system is built and different technical video resources are mobilized for the venue. The target is to ensure the safety of as many as tens of thousands of attendees and spectators for the short time that the event takes place.

Teleste's video security system was intensively used in Paris to protect **COP21, the 2015 United Nations Climate Change Conference**. The event was one of the largest international conferences ever held in France and it attracted close to 40,000 attendees including 25,000 official delegates from governments, inter-governmental organisations, UN agencies, NGOs and civil society. In addition, 180 heads of state and government took part in the event.

The conference was subject to high levels of surveillance by the Paris security and emergency forces. Teleste's solution offered all its assets to fully secure their various operations. It guaranteed the authentication and encryption of all the transferred data, and enabled the secure integration and interconnection of mobile and temporary command centres and video sources to the core security system.

On top of allowing the mobile police teams to access the central video surveillance system and all its regular cameras, our solution offered the teams additional access to video sources deployed specifically for the conference: drones, captive balloons with long-range video cameras, and helicopter cameras. As with any other video source, the mobile video streams had to be recorded with metadata to ensure any possible evidential use of the material.

Police officers on the move could directly access and control any camera in the entire video security system, and the system helped them to prevent crime and vandalism as it happened. At headquarters, as well as in multiple control sub-centres, operators and officers were able to watch live and recorded video evidence pushed by police officers' mobile phones, watermarked to be used in court as evidence if needed. The headquarters was also able to push 'spot video' to the mobile devices in the field, enabling them to directly coordinate and guide tactical forces and operations.

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