SECURITY

CAPABILITY APPROACH
CROWDS MANAGEMENT

FRENCH EXCELLENCE
IN DEFENCE AND SECURITY

GICAT

The French land defence and security
industry association

GICAT.COM

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EDITO

Controlling crowds, managing their movements and guaranteeing their safety, including in times of tension, is one of the major roles of the French Gendarmerie. The protection of life, property and institutions, as well as the vital preservation of public freedoms, all depend on this specific ability.

Throughout its history, the Gendarmerie has adapted, specialised and evolved with the creation of the mobile force, almost a century ago. Building on extensive experience gained from repeated engagements, in mainland and overseas France, and abroad, the Gendarmerie strives to bring about changes, both in its modes of action and dedicated equipment. Ranging from riot control vehicles, armoured cars and drones, to individual camera systems and tagging products, technology can clearly be beneficial, in parallel to human action, to escort flows, hold ground, inform, identify troublemakers and, above all, help protect the physical integrity of both demonstrators and law enforcement officers.

Of course, technical resources are nothing without the self-control and bravery of the crowd-facing personnel. But they provide valuable aid in manoeuvres, helping to save time and contributing to safer policing for all.

This is also true in peaceful situations, when large crowds must be managed and kept safe. Technology is now vital to guarantee safety at large events or in busy places. The reason for this is simple: technology improves rapidity, safety and lucidity, to inform what will ultimately always be a human decision, strategy or action. A human force is never incompatible with a modern force, quite the contrary.

With this unfailing belief that human situational intelligence is vital in any manoeuvre, the Gendarmerie is working alongside security and defence industrialists, to identify new technologies to serve its doctrine and ethics. Areas of application abound, between the development of artificial intelligence and improving video tools. If they enable us to provide better protection, then we should use them, in compliance with the democratic principles governing law enforcement in France. But always, may I emphasize, based on the human decisions which must prevail.

As director of the Gendarmerie, I firmly believe that technology can serve Mankind, both for our safety and our freedom. The Gendarmerie, which has already experienced a significant digital and technological transformation, has proved this on several occasions in recent years. And it will continue to do so, driven by the ambition to see a new breakthrough in these areas as part of the «Gend 20.24» strategy.

There is no doubt that our mindful and demanding dialogue will help us to achieve our goal.

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CHRISTIAN RODRIGUEZ
General
Director General of the
Gendarmerie Nationale

CROWDS MANAGEMENT

Thanks to a strong background of social mediation, France has built up indisputable, proven expertise in crowd control, carried out with respect for the law and personal rights.

French law enforcement agencies work closely with French industry to continue developing a variety of products suitable for all types of operational situation.

This brochure aims to present a complete range of crowd control products available on the market. It sets out the various types of crowd control and then suggests potential solutions based on products and services from companies that are members of the GICAT.

Security forces have a permanent mission to maintain order. Their scope is wide ranging:
- marshalling: large peaceful gatherings (concerts, festivals, sports events, etc.);
- enforcing the law: authorized demonstrations of all types, public disturbances (incidences, sit-ins);
- restoring order: riots, violence.

Difficulties in carrying out the above are due to:
- the size and the concentration of people within a defined area in urban or rural zones;
- the movement caused by the circulation of people;
- the diverse nature of the demonstrators (peaceful, hostile, etc.).

Depending on the situation, security forces respond in a restrained, proportionate way. Crowd control involves employing security measures to protect people or protect against them. These measures relate to intelligence, organization, equipment, service logistics and training.

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CAPACITIES

"Crowd control" comprises the following functions:

INTELLIGENCE AND ANTICIPATION
Possessing knowledge of a crowd's movements is vital to provide a fitting response in limited time. Security forces involved in controlling peaceful and non-peaceful crowds need to consider a range of security constraints for the crowd itself, third parties and the infrastructures and installations they pass through. To carry out tasks like crowd counting, channelling flows of people, detecting sudden movements, and predicting routes, digital data can be a precious resource if used correctly to find the right security solution.

MODELLING AND REAL-LIFE SITUATIONS
Simulation involves modelling people and their environment to create realistic virtual situations that provide a viable substitute for hard-to-access real-life conditions. With the introduction of behaviour patterns, crowd modelling can produce a highly realistic dynamic portrayal of tactical situations. This type of « behavioural » simulation makes it much easier to understand a crowd's complex and changeable attitudes and also improves training for security forces. Simulation can be used to anticipate which security measures to put in place and can become part of the planning process.

SURVEILLANCE
Aerial video surveillance and closed-circuit television
Footage from aerial video surveillance and closed-circuit television is currently capable of exceptional image analysis, combining great precision with very high definition, in all weathers and locations. It has become an indispensible intelligence tool for detecting and identifying abnormal or suspect behaviour that is often difficult to identify by human resources during crowd control. Video surveillance perfectly supplements human resources and reduces the need for them. It also provides highly reliable proof. These modern video surveillance systems are generally connected up to command and control centres, also known as C2, which not only process information received from their own systems in real time, but are also frequently equipped to integrate in real time almost all information received from other sensors.

Drones
Drones can be used as part of crowd control to supply real-time information in the form of aerial images, overcoming natural and artificial obstacles. Drones can visualize « zones of interest » and make reliable appraisals of the environment in which events under surveillance take place. They provide a valuable decision-making aid for authorities responsible for security and provide irrefutable visual proof, in particular when incidents arise or activities degenerate, or when people's security is involved. Aerial drones provide a crowd-control aid at a lower cost, offering a rapid overview that can be used to decide whether to use resources on the ground, or in the air, how to use them best and how many.

COMMUNICATION SYSTEMS
Running crowd control operations requires access to diverse and appropriate means of communication. They should permit the operations commander to give out orders and instructions, coordinate the action of people out on the field, pass on information and report to authorities in real time. They should be plentiful, autonomous and mobile to guarantee permanent transmission, whatever the changes in situation and whatever the state of telecommunications networks.

CONTROL AND COMMAND CENTRE
To manage crowd control operations, you need access to a command centre located as close to the event as possible, equipped with information and communication systems for assessing the situation, running operations and informing the authorities.
A command centre should be able to inform and supply authorities with suitable information for appraising the local situation and rapidly evaluating the action required. It should make it easier to use security forces and coordinate action between the different resources deployed. It should be modular, autonomous and mobile, and easy to set up for quick action in the operation zone.

LAW ENFORCEMENT PROTECTION
To satisfy the level of excellence required by mobile crowd control units, French protection equipment has been constantly developing over recent decades, in terms of the level of protection, comfort and flexibility. Because security forces can find themselves faced with highly unusual situations, we have developed a comprehensive, coherent range of protection items and non-lethal weapons that can be adapted to match specific units engaged in law enforcement requirements.

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CROWDS MANAGEMENT

CAPACITIES

INTERMEDIATE RESOURCES FOR SECURITY FORCES
So-called « intermediate » weapons are an alternative means of defence that can be used to protect, dissuade, intimidate and counter attack appropriately. The objective is to protect security forces without harming opponents or causing them irreversible damage, to manage and contain the action of « demonstrators » or law breakers without bringing about irreversible injury or other accidents.

MOBILITY
Vehicles adapted to security force missions offer mobility, protection and flexibility. These armoured vehicles often dissuade by their simple appearance. They offer the police essential mobility for rapid deployment. They can be adapted to provide security forces with a response that matches the threat in hand. An armoured vehicle is also a major asset for protecting convoys, control points and strategic installations. Lastly, armoured vehicles make it easy to evacuate injured civilians and police from dangerous zones.

TRAINING, ADVICE AND ASSISTANCE
French security forces have developed efficient usage guidelines that are constantly updated thanks to feedback and experience. Law enforcers regularly have to deal with controlling and managing crowds, and they have adapted remarkably well to the changing threats and circumstances of the last few decades. Their capacities and high-level technical skills have been acquired thanks to continued training and regular coaching for units. Training concerns individuals as well as groups and units, and involves becoming proficient in using equipment and all kinds of techniques. Missions of this kind are physically, mentally and technically challenging and can only be carried out by specially trained, well-equipped units. French operators and industrials are in a position to propose all levels of human and technical training in national training centres. They are also capable of teaching most of their courses in other interested countries.

SUPPORT FOR SECURITY FORCES
Moving and stationing security forces calls for basic services such as catering and sanitation (e.g. showers, toilets). This kind of support equipment is designed to recreate acceptable living conditions for people working on operations, and also plays a role in the comfort and morale of teams responsible for crowd control. Pre-tested, all-weather mobile support systems are devised to satisfy these needs and can take the form of lightweight modules or equipped vehicles. For longer operations, fast set-up camps that include heating and air conditioning can provide solutions for accommodation, workrooms, canteens or command centres.

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AERACCESS

Intelligence & anticipation

Surveillance

Law enforcement protection

Intermediate resources for security forces

Mobility

Support for security forces

AERACCESS designs and manufactures UAVs for Defense and Security, able to fly:
- **In all-weather conditions (heavy rain, night, fog);**
- **In strong winds up to 80km/h;**
- **Inside unprepared buildings for intelligence and inspection.**
AERACCESS drones meet the highest aeronautical standards and are homologated by the French DGAC and equivalent NAA around the world to perform automated, autonomous and critical missions.

THE FRENCH EXPERT IN UAS FOR DEMANDING DEFENCE & SECURITY APPLICATIONS

ROBUST, RELIABLE, MODULAR & SIMPLE TO USE

AERACCESS proposes multi-mission solutions: tethered crowd surveillance AND target tracking once released, fully-automated perimeter inspection AND radio-active mapping, convoy protection in follow-me mode AND remote reconnaissance in autonomous mode, etc.

The Q800X is a multi-mission drone interfacing multiple payloads:
- EOIR x30 zoom; PHOTONIS NOCTURN camera for night operations; IPMESH; Laser Range Finder; Laser Designator; IMSI catcher; CBRN sensor.

The Q800X has a max flying time of 50mn, with a range from 3 to 15km for a total weight of 4 to 8kg including a payload up to 3.5kg. The set-up time is less than 10mn and the training takes no more than half-a-day for immediate operations.

The Q800X integrates a safety parachute and is approved to fly over crowds and manned areas.

ARTIFICIAL INTELLIGENCE (AI) AND UTM
AERACCESS drones integrate AI.

Their roadmap includes Geocaging and Anti-jamming and are compatible with the Unmanned Traffic Management (UTM) under the latest drone reglementations in France and Europe.

The **HawkEye** is the local operator drone. With a total weight from 1 to 2.5kg, it offers a range of 3km with a visible and a thermal sensor. Man-transportable and easily operated, the HawkEye offers all automated-flight functions and emergency procedures. Designed and manufactured in France, the HawkEye is made solely with French or European components.

The **NanoHawk** is a nano-UAV capable of flying indoor to perform intelligence and inspection taking into account the difficulty of flying indoor. The NanoHawk is fitted with both a visible camera with night mode and a thermal camera as well as indoor semiautonomous flying modes. The NanoHawk can fly outdoor for a few hundred meters and then perform its indoor mission up to 3 levels above (or below) the operator and team.

AERACCESS drones are in operation in France, the UK, Luxembourg, The Netherlands, Greece, the UAE, Singapore, South Korea, Japan, Canada, the US, Switzerland, etc.

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Intelligence & anticipation

Modelling & real-life situations

Surveillance

Communication systems

Control & command centre

Intermediate resources for security forces

Mobility

Training, Advice & assistance

Support for security forces

AIRBUS

For more than 30 years, Airbus is a key French partner in both the security domain and securing international events. To respond to future requirements and new threats, Airbus proposes a global and innovative offer in four main domains: communication, intelligence, site security and cyber protection.

AIRBUS PROPOSES COMMUNICATION & SITE SECURITY SOLUTIONS

RESILIENT COMMUNICATIONS

Airbus offers advanced communication and collaboration solutions enabling to gather, process and deploy intelligence. It includes infrastructure, devices, applications and services based on TETRA, TETRAPOL and LTE/5G technologies compliant with 3GPP standards. Airbus is also a supplier of solutions based on secured connectivity services using both satellite and ground networks, delivering our customers' critical needs and providing a comprehensive level of security.

Airbus develops scalable dedicated secured solutions to fulfill the requirements of the security market. These solutions secure critical infrastructure as well as both land and maritime frontiers.
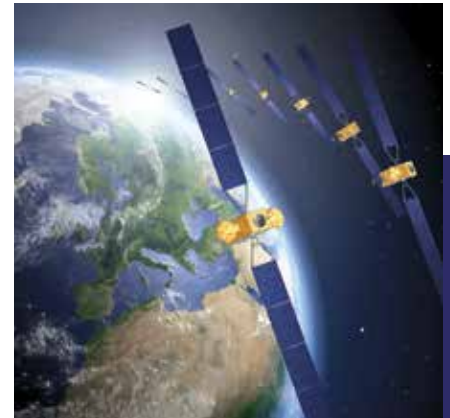
ACTIONABLE INTELLIGENCE

Airbus is a trusted data and information partner for Public Safety and Security organisations and operators. With knowledge and assets across the data value chain, Airbus offers sensors, digital tools and platforms in support of sharper and faster situational awareness and data sharing. Customer partnership and innovation from across multiple industry sectors allows Airbus to bring Actionable Intelligence, new analytics and AI driven capabilities.

Cyber Protection

Airbus keeps an eye on the IT environment and our customers' connected assets 24/7 from our Security Operations Centre (SOC) with specialised surveillance and detection tools combined with our cyber threat analysis services.

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AIRBUS

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ALSETEX

Intermediate
resources for
security forces

ALSETEX, is a subsidiary of Etienne Lacroix family group created in 1848. ALSETEX offers non-lethal pyrotechnic weapons systems to equip agents, vehicles and infrastructure, public and private, dealing with internal security issues.

WORLD EXPERT IN PYROTECHNIC LAW ENFORCEMENT SOLUTIONS

LAW ENFORCEMENT

The 56 mm caliber range offers a wide range of non-lethal effects, tear gas, kinetics, flash & bang, lighting, signals,…
It allows a graduate answer by its modularity of range and effects.
This particular 56 caliber, its confection, the effects, the design of the products, theirs rules of use, guarantee their non-lethality.

URBAN VIOLENCE AND SPECIAL OPERATIONS:

The Alsetex 40mm (NATO standard 40 x 46 mm) intermediate force products allows an adapted and sharp response.
It offers a range of kinetic, tear gas, or special effects on a two way using, manually with an hand fuse or with the COUGAR 40 ALSETEX launcher and the various delay propulsion devices.
The hand grenade range completes the 56mm and 40mm ranges.
It offers a wide range of various effect, smoke, sound and light effects for training, signaling or intervention.
It allows safe use for the operators in all conditions, thanks to thef ALSETEX hand fuse.

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ALSETEX

ALSETEX
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Surveillance	Control & command centre	Training, Advice & assistance	Support for security forces

AQUILAE

Aquilae is a technology: target tracking, a vertical: security, and a vision: «Video Analytics is more than video surveillance». By its solid interaction with academic ecosystem, Aquilae is designing cutting-edge AI-based technologies. We propose advanced and certified software 100% made in France in order to deal with various complex situations in video analytics.

SOFTWARE SOLUTIONS FOR AI-BASED VIDEO ANALYTICS

VALUABLE AND RELIABLE DECISION-SUPPORT

Use and safety: Hereafter the main 2 aspects where Aquilae proposes its know-how when dealing with crowd surveillance and monitoring. Founded in 2017, Aquilae has already collaborated with 30 customers for safety and security critical infrastructures. The spread of surveillance cameras allows an extended coverage in public spaces. However, the operator workload is becoming too complex, many events are then missed when monitoring a huge number of cameras. Aquilae software tools are aimed at equipping the control center with automatic decision-making capability compatible with all cameras brands and easily integrable in existing video management systems (VMS).

ADAPTED SOLUTIONS

• Bi-directional counting by virtual line crossing.
• Scene counting: people density inside a monitored region.
Complementary technologies. Taking into account the overlap of cameras fields of view, in order to enhance the processing performances. The counting results can be filtered according to many criteria (street, place, hall…) and not only by camera. The objective is to output accurate information robust to the camera deployment configuration.
• Crowd movement monitoring.
• Specific anomaly detection (falling, fighting, loitering, suspicious trajectories,…).
• Unsupervised anomaly detection: After a training period, the camera is able to detect an anomaly deviating from the nominal behavior, taking into account various heterogeneous data (weather, events,…).
• Waiting line: estimation of the waiting time, automatic segmentation of waiting lines, trajectory analysis…

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10430 Rosières-près-Troyes - France

ARQUUS

European leader of land protected mobility, ARQUUS is a major actor of the French Defense industry. Its expertise ranges from vehicle design, propulsion and mobility, to systems integration, automation and support. Manufacturer of world-renowned vehicles such as the VAB, the VBL, the Bastion and the Sherpa families, ARQUUS is a dedicated partner to more than 60 countries' armies all around the world.

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PROVIDING MOBILITY IN EMERGENCY SITUATION

MILITARY-GRADE VEHICLES FOR SECURITY PURPOSES

In its Security range, Arquus offers military-grade vehicles, specifically designed for the internal security purposes: police, National Guard, intervention units, counter-terrorism, and border guards.

The Dagger is a light (5.5 tons) armored command and liaison vehicle that offers excellent protection levels in its category.

The Sherpa Light is available in several variants and multiple configurations sharing the same chassis. This family of vehicles has been specifically designed to provide excellent payload capacity and protection, while maintaining tactical and strategic mobility. The Sherpa Light has convinced numerous armies and police forces, in France and several NATO countries, the Middle East, Asia and Latin America.

Equipped with an assault ladder, the Sherpa Light is notably serving in French Gendarmerie's elite force GIGN, as well as in several forces around the world. In its police version, the Dagger is currently used within the RAID in France.
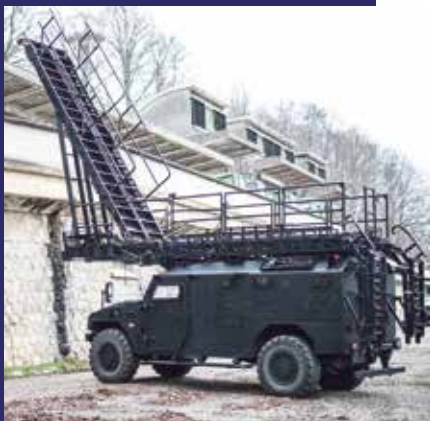
DIFFERENT VARIATIONS

The ISV (Internal Security Vehicles) range from Arquus includes specific variants of purpose-built tactical vehicles. They benefit from specific features: greater internal volumes, protection against security threats (ballistics, stones or Molotov cocktails) and specific equipment such as, front blades to clear obstacles, public address systems, and non-lethal weapon systems (tear-gas, water cannon).

The Trapper (3.5t), Sherpa Light (11-11.5t) and Bastion (12t), are all available in specific ISV variants for deployments in both urban and off-road environments.

Arquus offers a comprehensive range of drivelines for tactical vehicles from 5 to 32 tons, in 4x4, 6x6 or 8x8 configurations. These drivelines can include all or part of the powertrain, the cooling system, the transmission, the axles and differentials, the wheel reduction gear, the braking system, the steering, and the suspension.

Arquus can also integrate electronic control technologies for engines, gearboxes, the CTIS (Central Tire Inflation System) and the ABS mechanisms.

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Intelligence & anticipation

Surveillance

Communication systems

Control & command centre

Law enforcement protection

ATOS

HOMELAND SECURITY MISSION SYSTEMS

CRITICAL COMMUNICATION SYSTEMS

Atos critical communication solutions respond to situations where communication is a vital issue. It consists of a complete product portfolio and promises you a tactical, secure and resilient network. It allows you to build a customized solution for all your needs with, among others:

- Air-Lynx professional network cores based on 4G/5G;
- Hoox ultra-secure smartphones for the exchange of your sensitive data;
- The Hub, a mobile box that allows you to switch automatically from one network to another without interruption;
- Gateways to interface LTE with other communication technologies;
- City Safe, an integrated C2 and LTE communication solution, and CALM, an MCPTT software;
- The Multi Network Voice Dispatching Device, a state-of-the-art C3 solution that integrates many network technologies.

HOMELAND SECURITY 3.0

Atos has developed a comprehensive homeland security offering consisting of solutions to improve the emergency and risk identification process, the effectiveness of interventions and the security of agents.

- **GEMMA** is the specialized solution for emergency management. It is designed to assist call centers and response organizations. Its emergency call processing centre is equipped with a real-time geographic information system coupled with secure mobile technology.
- **The Codex** offering is an innovative solution that uses Big Data analysis of data collected from multiple sources to provide an intelligent response to incidents. It thus provides forecasts allowing the triggering and management of a response in real time.
- **Polyalert** is a population alert solution that can cover a city, a region or an entire country. It coordinates different types of alarm systems by offering a single system that can be piloted by independent public organisations. It has now been adopted by Switzerland.

Atos (European Company) is an international leader in digital transformation with 110,000 employees in 73 countries and annual revenues of EUR 12 billion. It is the European leader in Cloud, Cybersecurity and Supercomputing, providing integrated solutions for Cloud, Big Data, business applications and connected work environments. Worldwide IT Partner to the Olympic and Paralympic Games.

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Atos

ATOS
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BERTIN TECHNOLOGIES

As a recognized partner of public institutions & industrial contractors, Bertin Technologies - a CNIM Group company - relies on its long experience to develop, produce & market a wide range of high added-value systems & instruments, in response to the major technological challenges of kingly sectors such as Defense & Security.

CUTTING-EDGE OPTRONIC SYSTEMS FOR THE PROTECTION & MONITORING OF PEOPLE, GOODS & CRITICAL INFRASTRUCTURES

- **A lightweight night; day vision enhancer (FusionSight®)**, combining 2 viewing modes - color low light; thermal - to use separately or in smart fusion.
- **OEM camera modules** to be integrated into complex optronic systems (CamSight®), available in 3 versions: thermal, low-power thermal; low-light level. Ultra-compact, they can be loaded on tethered aerostats.
- **Unattended Ground Sensor (UGS)** networks (Flexnet®), for remote detection, classification & identification of any threat, over broad zones.
- **Situational awareness system for vehicles, ships & critical sites** (PeriSight®), offering thermal, day/night visualization & short- or long-range vision up to 360°.
- **Tethered aerostats** (CNIM Air Space, CNIM Group), capable of taking onboard any kind of payloads up to 250kg. & transmitting to the ground station reliable information.

HIGH-PERFORMANCE SOLUTIONS TO BETTER ANTICIPATE & ACT IN CASE OF CBRN THREATS

- Nuclear & Radiological:
    - **Special Nuclear Material detection system (SaphyGATE GN)**. It monitors illicit movements of radioactive materials in critical sites such as customs, harbours or airports, while providing a non-invasive inspection of vehicles, loads & luggage.
    - **Automatic real-time Gamma spectroscopic monitor (DIRAD)** which continuously monitors the flow of goods, people & vehicles.
    - **Autonomous radiation monitoring probe (GammaTRACER)** dedicated to the measurement of radioactivity in air, soil & water. The Spider version is especially designed to meet the needs of the first responders in an emergency scenario. Self-deployable, the probe can be easily dropped out of a vehicle or a drone.
    - **Multi-probe survey meter (SaphyRAD® MS)** to be used by the military & hazardous materials; emergency teams, in operations under harsh conditions.
- Biological:
    - Standoff chemical & toxic gas cloud detector (Second Sight®): real-time surveillance & source localization.
- Chemical:
    - Portable bio-air sampler (Coriolis® Compact) & all-in-one qPCR kit (Biotoxis).

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Surveillance

Communication systems

Control & command centre

Law enforcement protection

CEGELEC DÉFENSE

C2 SUPPORT - MOBILE OPERATION CENTRES

STANDALONE INTEGRAL FAST DEPLOYMENT CONTAINERIZED COMMAND POSTS

Deployabe Command and Control Equipment MC2P: ISO 20ft shelters in transportation/Air transport, storage mode expand with six cells offering a 80 m2 Command area fully wired and environment controlled.

Modular Command Post Shelters AMPC: Air conditioned networked and pre wired 20 ft containers. The modules are deployed alongside with interconnecting corridors to offer large dimension rooms with integral command and control or crisis management services.

SECURITY FORCES DESIGNATED AREAS MOBILE PROTECTION

• Modular protection and security kits for temporary deployments: close protection of mobile command posts and non-permanent designated or staging areas.
• Passive protection of buildings - design and upgrade of protected and secured infrastructure against environment threats (Seism, Climate, Floods etc) or kinetic, cyber, Radio frequency attacks (including HA NEMP) or CBRN.
• Design of composite systems for Access Control, video and perimeter surveillance of buildings and designated areas.
• Expertise and design of intrusion detection and monitoring on critical sites or infrastructure.
• Design of reinforced security systems: Faraday cages, anti-ram or IED vehicles, anti-blast, anti-kinetic etc.
• Design of survivable redundant utilities: Power, Lighting, Communications, Water, Air filtration, HVAC etc.

CEGELEC Défense is a provider of Crisis Management commodities such as expandable and mobile Operation Centres, Water Purification Units and other support equipment for the collective protection of Security Forces. The experience gathered through the operational deployment and C2 support is leveraged by the expertise in mobile integral protection kits for critical facilities and infrastructure.

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CENTIGON FRANCE

Control & command centre

Law enforcement protection

Mobility

With over 70 years of experience in the integration of ballistic protection and armor materials, CENTIGON France produces all types of armored and protected vehicles: transport of funds, civilians, law enforcement and pa-ramilitaries. Combining industrial know-how and ballistic expertise, our vehicles offer protection against multiple threats.

EXPERTS IN VEHICLE SHIELDING SOLUTIONS

ARMOURED VEHICLES

In the field crowd management, Centigon France offers multiple armored vehicles to which traditional and innovative riot control equipment has been added to better protect the crew and intervene in a timely manner. For example, anti-riot vehicles armored by Centigon France can be fitted with water cannons, holding cells, siren, bull bar, and anti-barricade protection… Multiple platforms are available (Mercedes Atego / Unimog / Actros, Renault Trucks …) and offer protection up to level B7 (VPAM Klasse 9).
CENTIGON France SAS is one of the 5 factories of the Centigon Security Group.

BALLISTIC & BLAST PROTECTION

- Several types of vehicles available: troop transport (APC), command, vehicles fitted with water cannons, etc.
- Ballistic protection starts at level B4 and can go up to level B7 (VPAM Klasse 9); some configurations are also available according to standard STANAG 4569 level 1 to 3.
- The blast protections offered are: AT mine, DM31 mine.
- Centigon France has experience with several chassis including the Mercedes Atego, Mercedes Unimog and Renault Trucks.
- Depending on the configuration and the options selected, the vehicle can carry a team of 10 or more people.

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Centigon™
Centigon Security Group

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DCI

Training,
Advice &
assistance

The state-owned company **Défense Conseil International (DCI) acts as reference operator for the French Ministry for Armed Forces, in close coordination with the Ministry of the Interior. Its mission is to transfer all the technical and operational know-how of the French National Gendarmerie and Special Forces, adapting them to the needs of the supported forces.**

REFERENCE OPERATOR FOR THE FRENCH MINISTRY FOR ARMED FORCES

RECOGNIZED EXPERTISE

DCI relies on the best experts to conduct its consulting, training and assistance actions in the fields of excellence developed by the gendarmerie. These services are delivered for the benefit of France-friendly units, in a spirit of brotherhood in arms.

This mission's conduct is characterised by the following capabilities:

- Violence control: restrained and gradual, proportional and non-lethal response;
- Responsiveness to the opening of fire;
- Use of helicopters, by day and night;
- Actions in rural peri-urban and urban areas;
- «Square» organisation of mobile gendarmerie squadrons;
- Intervention capability;
- Interoperability with the armed forces and national police.

TAILOR-MADE TRAINING COURSES

The training, consulting and assistance services provided by DCI in the specific field of crowd management are:

- Basic training for personnel required to intervene, manage and control a very hostile crowd or a crowd in degraded situations in a theater of operations: law and order enforcement, law and order restoration in an insurgent situation;
- Advanced training for officers (instructors and/or unit commanders) required to perform the same crowd management missions;
- Immersive training and as an observer of the techniques of command and intervention of officers (senior and/or junior officers) required to lead a unit in charge of law and order enforcement faced with a calm or hostile crowd in a large gathering, major event, demonstration, or in a theater of operations.

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D C I

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EVITECH

Intelligence & anticipation

Surveillance

Intermediate resources for security forces

Support for security forces

Founded in 2005 following a MOD funded project, EVITECH develops and commercializes one of the most reliable and robust video analytics solution for the protection of sensitive sites and for crowd management. EVITECH aims at providing highly performant image analysis solutions, to optimize the efficiency of protection systems for a controlled cost.

EXPERT IN VIDEO ANALYSIS SOLUTIONS FOR GLOBAL SECURITY

TO DETECT AND TO PROTECT

EVITECH solutions have been endorsed for their unrivalled performance and robustness. Our products have been developed following strict and proven industrial standards, to be used in the most demanding environments with maximum stability.

EVITECH combines traditional image processing technologies with Artificial Intelligence, to bring to its solutions the best of both worlds, with the intrinsic performance of neural networks for specific features, and the expected determinism for detection with classical image processing.

Finally, EVITECH is well known and recognized for the quality of its customer support, its reactivity and the care given to both recent and old customers.

MEASURES AND ALERTS IN CROWD SITUATIONS

LYNX, our solution dedicated to Crowd Management provides a richness of functions for the User of a site dealing with crowds:
- Line counting (passing through a line or a set of lines);
- Density measurement (number of people inside a given area);
- Alerts on various counting thresholds (number, speed, density percentage, …);
- Abnormal situation detection (smoke, congestion,…);
- Lynx is strongly meant for dense areas, with high performances (95 to 99% accuracy).

During an international MinInt competition, 5 solutions were tested, Lynx proving to be the only one reaching above 90% on counting. A large international railway operator has also tested and validated Lynx since 2013. Finally, Lynx is used on a regular basis for counting on outdoor events (festivals) with an accuracy often above 99,5%, even on crowds of more than 20000 visitors.

Note that Lynx does not usually impose the installation of new cameras, if the monitored zone is clearly visible without occultations.

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Our eyes never close...

EVITECH
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Communication systems

Mobility

Support for security forces

LUCEOR

Luceor is the pioneer and leading provider of high-performances wireless mesh private mobile networks.

Luceor's WiMesh private networking solutions are designed for critical applications requiring a secured high level of services. They perform under the most demanding circumstances including fast mobility, in open, dense or changing environments, where traditional wired or wirelss technollogies are not suited.

Luceor WiMesh network deployments can be fix or mobile, permanent or temporary (hours/days/months), whether in context of events or emergency situations.

Luceor WiMesh 's networks can seamlessly integrate with existing IT infrastructure and/or in full autonomy. Their flexibility allow multiple network and scalable topologies from fix point to point to highly mobile fully meshed architectures. They are fault tolerant and designed for simple and rapid deployments by non-technical personal.

With unmatched performances – up to 600 Mbit/s TCP - 1ms latency – total full multi-radios flexibility – handover-free even in fast mobility-.

MOST POPULAR APPLICATIONS INCLUDE:
- CCTV / Urban videosurveillance;
- Events security: Sports, Cultural, Government summits, Congress...
- First-Responders Emergency Systems;
- Sensitive Sites Protection;
- Inter-building broadband connectivity (VoIP, data, video);
- V2X & V2V (Agents, Robots, Drones) broadband embedded connectivity;
- Real-time video-HD Ground-to-Train/Vehicles for public transports.

KEY MARKET REFERENCES INCLUDE
- Events Security: France Ministry of Interior's operational systems division (STSI^2) selected Luceor WiMesh technology as their standard for HD video in real time transmission in large events (G7, Euro 2016, Le Mans, etc....). RAID (the elite unit of the National Police) and CRS (mobile units of the National Police) are among the most prestigious users.
- Major industrial or logistics sites for their critical security and/or operations applications, such as connecting agents and vehicles (First-responders patrols) and or industrial or logistics systels and machinery for real time connectivity to the Corporate Information Systems. Ports of Le Havre and Eurofos (Dubai Port World & CMA-CGM JV) or Eurogate-NTB Bremerhaven (4th European Containers Terminal) or Orano are world leader users who did choose Luceor WiMesh.
- Cities & Metropoles: Over 200 cities have deployed LuceorWiMesh for multi-services networks and for video surveillance applications. Nice and Le Havre Matropoles have deployed Luceor WiMesh for their WiFi-HD and/or Real-time video-HD Ground-to-Train Communications for their Tramways.

VIDÉOSURVEILLANCE
AUTONOME & MOBILE

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LUCEOR
WiMESH NETWORKS

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MC2 TECHNOLOGIES

Surveillance

Control & command centre

Intermediate resources for security forces

Support for security forces

MC2 Technologies for Microwave Characterization Center was created in 2004 as a spin-off from IEMN (Institute of Electronics, Microelectronics and Nanotechnology). Today it is an SME with more that 50 employees, specialized in the field of microwaves mainly applied to security and defence. The company's turnover in 2018 was about 8 million euros.

EXPERT IN THE FIELD OF MICROWAVES AND IN THE SERVICE OF SAFETY SINCE 2004
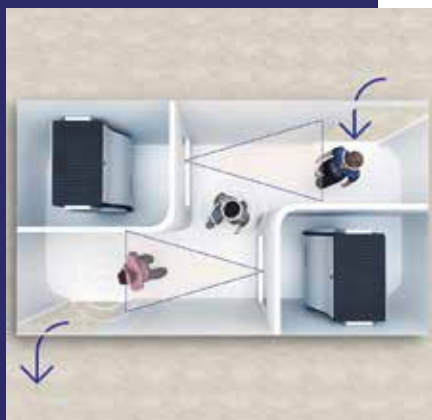
MM-IMAGER

MC2 Technologies has developed a passive millimetric radiometric camera: MM-Imager. This camera allows the detection, through clothing, of hidden objects worn by people. MM-Imager is totally passive which makes it totally safe for people. It works in real time at 16 frames per second and can work up to several meters away unlike competing products. This camera can detect all types of materials such as metals, wood, plastic, ceramics, powders, liquids and gels.

SACOP

The SACOP system consists of incorporating two MM-Imager cameras associated with various other sensors in a corridor. The objective is to offer a mobile solution to scan people in real time. It can be proposed as a fixed solution or as an easily deployable mobile solution.

The system is specially designed to secure places receiving the public allowing the detection of dangerous objects without creating bottlenecks in the flow of people. The system will ensure rapid implementation, whatever the configuration of use.

Thanks to this solution, the palpation of individuals is therefore no longer mandatory, which removes a potential danger for the security guard, who is not always equipped to deal with an attack, and also removes certain ethical problems while making control more fluid.

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MC2 TECHNOLOGIES
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Intelligence & anticipation

Surveillance

Law enforcement protection

METRAVIB DEFENCE

All over the world, METRAVIB DEFENCE provides defense and civil security actors with effective solutions for monitoring, detecting and locating threats. The systems developed by METRAVIB DEFENCE use the sound waves generated by the firing of arms to detect and accurately identify their location in real time.

ACOUSTIC DETECTION OF THREATS

MAKING THE WORLD A SAFER PLACE

METRAVIB DEFENCE, created in 2019, is a subsidiary of ACOEM Group. Over 25 years in the service of world-wide security for the protection of people, sites and vehicles, METRAVIB DEFENCE has developed high-performance threat surveillance, detection and localization solutions for the defence and civil protection sectors. Our Combat Proven solutions are in more than 30 countries and are both certified ISO 9001 and ISO 14001.

We rely on the expertise of our teams to offer our customers innovative, reliable, high-interoperability and value-added products that meet their evolving crowd management needs.

By reducing this urban violence, METRAVIB DEFENCE is helping law enforcement to improve community security and save lives. We are proud to help make the world a safer place.

SEVERAL APPLICATIONS:
• Protection of the sensitive infrastructures and events;
• The system listens to the acoustic waves emitted by the shot and provides real-time alert to the operator. The systems can use multiple collaborative acoustic sensors and can be interfaced with video surveillance (CCTV) equipment to improve security through wide-area monitoring and reporting events;
• Allow law enforcement to prepare and respond with a better understanding of the situation;
• Augmented protection of law enforcement.

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Metravib Defence
ACOEM Group

NUANCES TECHNOLOGIES

Intelligence & anticipation   Surveillance   Law enforcement protection   Support for security forces

A wireless communications security expert since 1991, Nuances Technologies designs, manufactures and integrates advanced solutions dedicated to armed forces and homeland security forces. These tactical systems are intended to control, simulate, detect, intercept, jam, block, locate or secure any type of wireless communication.

WIRELESS COMMUNICATIONS CONTROL

MONITOR, DETECT, NEUTRALIZE

The systems designed by Nuances Technologies offer permanent electromagnetic protection against many threats: radio-controlled explosive devices, illegal communications, drones, remote-controlled devices, etc. Depending on the choice of the user, systems can monitor, detect and neutralize (or not) the threat.

The company has developed a solution dedicated to crowd communications control. This system allows to monitor, block or authorize communications within a defined perimeter in order to prevent malicious acts. Several options are available to meet specific needs. In case of an emergency, it is possible to send alerts to the crowd via mobile phones.

SOLUTIONS ADAPTED TO EVERY NEED

Portable and quickly deployed on the ground, our systems are dedicated to the tactical support of units whose mission is to ensure security and maintain order. They can be part of a permanent installation for ongoing security or they can be integrated in any type of vehicle. Modular, they are customized for each need.

Capabilities
- Monitoring the radio spectrum.
- Detecting wireless communications.
- Identifying and locating the transmitters.
- Blocking, jamming or filtering communications.
- Collecting data.
- Real-time data recording and analyzing.

Solutions
- Real-time RF sensors for detection and localization.
- Anti-drone solutions with safe landing.
- Communications jammers.
- RCIED jammers.
- Communications filtering solutions (white/black list).
- Access control and WiFi monitoring.
- Mobile private communication networks.

Services
- Site survey.
- Simulation.
- Specific design.
- Integration.

- Efficiency measures.
- Training.
- Maintenance.

NUANCES TECHNOLOGIES

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Intelligence & anticipation	Surveillance	Law enforcement protection	Intermediate resources for security forces	Mobility	Support for security forces

PHOTONIS

HIGHLY SENSITIVE IMAGING SOLUTIONS

DIGITAL CAMERA SOLUTIONS FOR 24/7 MONITORING

Photonis is a high-tech organization experienced in innovating, developing and manufacturing photo sensor technologies.

Photonis offers a variety of solutions to help address the security and surveillance needs of today's most critical scenarios. As world leader in night vision, Photonis provides appropriate solutions for demanding supervisors, looking for a high performance imaging systems dedicated to long range surveillance (up to 20km) or for a handheld device for closer monitoring.

Photonis understands the need for reliable 24/7 surveillance applications under a wide range of conditions and offers a broad range of products based on technologies as day-through-night CMOS imaging or using EBCMOS (Electron Bombarded CMOS) or ICMOS (Intensified CMOS) technologies for specific applications.

APPLICATIONS USING PHOTONIS TECHNOLOGY

To ensure safety in public places, supervisors must be equipped with the best camera systems to monitor closely and avoid any possible threat. Systems integrating Photonis technology are used in many demanding surveillance applications.

Applications are:
• All weather and 24/7 operations;
• Perimeter security;
• Large area control;
• Long range live observation;
• Fast deployment;
• Mobile squads (police, firemen, coastguards...);
• Search & Rescue.

Multi-sensing payloads for drones (indoor & outdoor)

In partnership with gimbal manufacturers Photonis developped ultra-compact payloads equipped with low light cameras, multi-spectral cameras (low light/thermal/swir). These payloads provide supervisors excellent vision to monitor public places at night, under rain or through smoke.

Portable long range imaging

High sensitivity of Photonis technology provides a clear superiority to all long range systems and is implemented in SYT systems. It captures and broadcasts video situations up to 20km and can be operated completely remote.

Imaging cores for handhelds

TacFusion fuses digitally visible day and low light with a high definition thermal channel and enables easy detection and heat decamouflaging (human body, fire...).

Photonis is experienced in innovating, manufacturing, and selling photo sensor technologies for more than 80 years and has always been preferred partner to highly demanding users.

Photonis solutions are highly qualified in extreme demanding environments, such as nuclear safety, night vision, electronic warfare and in scientific and medical environments (e.g. Special Ops, Hubble Telescope and Laser Megajoule).

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PHOTONIS

PHOTONIS
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PROTECOP

Law enforcement protection

Intermediate resources for security forces

Support for security forces

For more than 40 years, PROTECOP has been designing and manufacturing personal crowd control equipment for first responders. As the first French company to have created protective equipment for crowd control, Protecop is proud to equip the French forces and worldwide.

Our commitments: Costumer focus / Innovation / Quality / Deadlines / Traceability / Satisfaction

DESIGNER AND MANUFACTURER OF CROWD CONTROL EQUIPMENT

DESIGN, CREATE, DEVELOP, PROTECT
With 40 years of experience feedback, PROTECOP is positioned as a known and recognised expert in the protection of first responders in both crowd control and ballistics.
Equipped with the latest technologies, PROTECOP develops exclusive equipment via integrated services: R&D department, design department, prototype workshop, etc.
As the owner of its production tool, PROTECOP controls the process of its products from design to manufacture. With innovation at the heart of its development strategy, PROTECOP offers its customers an ever more comfortable and high-performance range.

Since 2014, PROTECOP integrated a new technology: the design and manufacture of ballistic plates, allowing it to offer its customers a global solution, 100% French.

OUR OFFER
Crowd control
• Modular anti-riot equipment.
• Modular tactical vest.
• PROTECOP crowd control equipment meets the requirements of French standard NF S74-303.
This standard measures the physical integrity of the equipment's user and gives precise indications as to whether or not there is a risk of injury.

Ballistics
• Bullet proof vest.
• Plate carriers.
• Ballistic plates (ICW &SA).

Demining
• Demining suit.

All ballistic solutions developed by Protecop are tested in approved laboratories and are the subject of patents.

PROTECOP

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Intelligence & anticipation   Surveillance   Law enforcement protection   Intermediate resources for security forces   Mobility   Support for security forces

SURYS

CROWD CONTROL AND AUTHENTICATION SOLUTIONS

AUTHENTISCAN™: CONTROL & AUTHENTICATE

Crowd management implies the implementation and rapid deployment of effective security infrastructures. SURYS offers a technological solution that allows an automated and fast authentication of identity documents presented to security forces in the context of crowd management. Easy to use, this tool allows the verification of a large number of national and international identity documents in circulation, in multiple contexts and for various needs. The management of a high influx of people can also be made more fluid by an identity verification anticipated by users. Available in mobile or fixed version, functionalities such as facial recognition or data storage can be added to the device.

PHOTOMETRIX™: SECURE, CONTROL, AUTHENTICATE

As part of crowd management, security forces must be equipped with reliable support to identify the population seamlessly, without any problem. For various reasons, the latter may be required to create a means of identification for the control of a large numbers of individuals. For example, the management of a large crowd can be handled remotely by checking users ID in advance. The innovative nature of the Photometrix™ solution lies in the fact that it allows the deployment of a simple infrastructure without any software support, allowing the creation of a unique identifier (2D code) through simple tools (smartphone), and which can be deployed in the form of a physical or digital ID in accordance with the needs. This code includes the proof of the photo as well as, additional information about the individual, allowing him to prove his identity and access the places or services to which he has access. The control of these means of identification can also be carried out using simple tools such as a smartphone or an access gate, without having the need for a connection or a database.

Global reference in the field of security, SURYS offers a meticulously crafted range of innovative optical and digital solutions to authenticate, track & trace documents and products in four different markets: Identity, Banknotes, Vehicles and Brands & Products. SURYS has more than 30 years' experience in holography and is certified CWA/Intergraf Governmental class.

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SURYS

THALES

Managing crowds of people raises some real security challenges. Event organisers must be flexible and responsive, and participants need to be able to move around easily and safely. Thales draws on wide-ranging expertise in security and public safety to help meet these challenges.

Intelligence & anticipation	Modelling & real-life situations	Surveillance	Communication systems	Control & command centre
Law enforcement protection	Intermediate resources for security forces	Mobility	Training, Advice & assistance	Support for security forces

EXPERTISE IN PROTECTION AND PUBLIC SAFETY IN LARGE URBAN AREAS

People gather at major events for a short period of time, usually in cities, where public safety and security are already high on the list of priorities. Organising these events entails all kinds of risks, from accidents and unexpected crowd movements to acts of terrorism, and managing these risks mustn't hinder the smooth running of the event.

With its special focus on urban security and protection of sensitive sites — airports, stadiums, government agencies, etc. — Thales provides security operators with a complete set of tried and trusted solutions that improve decision processes and response times in the event of an incident or major crisis.

INNOVATIVE SOLUTIONS FOR EACH EVENT

Thales's new digital security platform is a game-changer for event organisers, bringing them the agility and intelligence they need to provide optimum security for each programme. The Thales platform addresses the full spectrum of operator requirements, processing data from thousands of surveillance sensors in real time to make security systems smarter, more agile and more automated, while ensuring they're always at the forefront of the latest technological advances. The solution helps anticipate incidents and resolve issues quickly and efficiently so that operators and security personnel can focus on the tasks where human expertise and judgement are the most critical. With the Thales digital security platform, security stakeholders share information on a need-to-know basis and retain full responsibility for their respective roles and functions. The solution uses video analytics algorithms to quickly anticipate and detect crowd movements, better qualify situations by cross-cueing information from multiple sensors and enabling all stakeholders to respond faster.

The Thales platform is a key enabler of next-generation solutions for operators in charge of urban security, sensitive site security and large-scale event security. Thales also provides advanced sensors for wide-area surveillance, CBRNE threat detection, biometric control and other crucial functions needed for access control, videosurveillance and managing people flows and accreditations.

SOLUTIONS ALREADY DEPLOYED

Thales helps protect four million pilgrims at the holy Muslim sites in Saudi Arabia. The company has deployed the security operations centre in Mecca, which incorporates smart image analysis technology to manage flows of pilgrims and prevent accidents caused by overcrowding.

A Thales solution also protects the pilgrimage to the Basilica of Our Lady of Guadalupe, which each year attracts over 6.8 million people. A mobile command centre with cameras and drones is stationed near the site, where it analyses crowd densities and movements.

The 2016 Olympics in Rio de Janeiro and the contactless wristbands trialled by fans of the Saracens Rugby Club in the United Kingdom have also demonstrated the company's ability to go beyond security to ensure a better user experience for all.

THALES

THALES
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Control & command centre

Mobility

Support for security forces

TOUTENKAMION GROUP

TOUTENKAMION GROUP, A KEY MANUFACTURER FOR ALL YOUR MOBILITY PROJECTS

DESIGN CAPACITIES, TECHNOLOGIES, TAILOR-MADE

Toutenkamion Group is a French group in full expansion with a turnover of 24 M€, and a workforce of 230 employees. **It's the European leader in design, manufacturing and transformation of truck cabs, mobile units and shelters.**

With our means, our know-how and our experience, **we support you from the study to the homologation/qualification of your solution.** Thanks to our design capabilities and the variety of technologies we master, **we cover a wide range of operational applications.**

The aluminum or polyester composite technologies we use for our large size panels, combined with adhesive bonding or continuous welding assembly processes, ensure **the operational efficiency, light weight, strength and durability of our products.**

MOBILE UNITS MANUFACTURING, TRUCK CABS MODIFICATION

- **According to your needs,** we offer our **mobile units** in **several formats**: carrier, semi-trailer, shelter, extensible or not.
    - **Command Post,** allows to be operational as close as possible to the crisis centre in order to control crowd management.
    - **Personal Reconditioning Vehicle,** allows to respond to the well-being of the attack teams during stressful interventions.
    - **Mobile laboratory,** allows the analysis of various substances on site.

- We work on **the adequacy of the cabin to the specific needs of the security forces: protection** of personnel thanks to approved roll bars, reception of the whole team by increasing the number of seats and enlarging the cabin, modification of the cabin to adapt it to the **on-board equipment...**

Security forces must optimize their mobility to manage crowds: transport, safety, health and comfort of personnel on operations, mobile units as close as possible to the theatre of operations, ultra-fast deployment times, severe environmental constraints, autonomy. Our achievements grant innovative and quality solutions to answer these requirements.

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Toutenkamion Group

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VERNEY-CARRON S.A.

Intermediate resources for security forces

Training, Advice & assistance

Verney-Carron is the oldest French weapons manufacturer. Bicentennial, Verney-Carron has long been focused on hunting weapons and has been a subcontractor of state arsenals. For 30 years Verney-Carron has designed a complete range of Less Lethal Weapons with the famous Flash-Ball®. More recently we have created a full range of assault and marksmanship rifles.

DESIGNER AND PRODUCER OF LESS LETHAL SOLUTIONS

FLASH-BALL®, THE MOST SOLD LESS LETHAL WEAPON

Verney-Carron Security is the division of Verney-Carron in charge of the design and production of Less Lethal Weapons.

In the 90s, the company has developed the Flash-Ball® technology. A complete solution made of weapons and ammunitions based on a dedicated caliber called 44/83 Flash-Ball®. This proprietary ammunition has been designed to ensure, in case of direct fire, maximum stopping power while mitigating its lethal power. The weapon was also designed to be able to carry out indirect fire with tear gas and thus address groups. This makes the Flash-Ball® system ideal for both Law Enforcement and day-to-day policing.

It is still the most used solution in France and in the world.

A RANGE OF PRODUCT FOR EACH SOLUTION

Verney-Carron's know-how gathered over the past 30 years in the Less Lethal Weapons sector allows us to offer the following products:
• Flash-Ball® Over and under Less Lethal Weapon;
• Flash-Ball® Mono Less Lethal Weapon;
• Flash-Ball® direct fire ammunition;
• Flash-Ball® indirect fire ammunition;
• LP40 40mm Less Lethal Grenade Launcher;
• LP40M 40mm Pistol Less Lethal Grenade Launcher;
• LG40 Explosive 40mm Grenade Launcher;
• LG56 56mm Tear Gas Grenade Launcher;
• 12 gauge Pump, semi or Auto shotguns.

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GICAT

The French land defence and security industry association

GICAT, a professional group, created in 1978, has over 270 subscribers, corporations, midmarket companies, SMEs and startups. These members cover a wide range of industrial, research, service and consulting activities for military and civil organizations, of national or international scope, involved in land and/or airland security and/or defence.

The international ambitions of GICAT are reflected in its international exhibitions, EUROSATORY in France, Expodefensa in Colombia, ShieldAfrica in Ivory Coast, and Platinum Security Exhibition in Monaco, organised by its subsidiary, COGES, and a certain number of other defence and/or security exhibitions overseas.

GICAT.COM

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