

DEFENCE

# Operational Energies



**GICAT**

The French land defence and security  
industry association



# Operational Energies





## THE ENERGY OPERATIONAL SUPPORT, A CHALLENGE AND A KEY FACTOR FOR THE ARMED FORCES

The GICAT set up in 2021 a committee dedicated to operational energy matters. This committee has been christened Operational Energies, with an S, in order to stress how important is the diversification of the energy sources on the operations theater to procure mobility and power to the military assets. If fossil energy remains, and will remain for decades, the main source of energy used in the battlefield, other ones take a larger place in the landscape : synthetic or bio fuels, LNG, electricity provided through batteries or photovoltaic panels and used in hybrid engines, to-morrow hydrogen based solutions.

### The institutional framework

The energetic transition has been recently taken in account as a major issue by the French MOD. The creation of an Operational Energy Division inside the Defence joint staff (EMA/DIVIEO), in 2020, marked an important milestone.

The Ministry of Defence signed an Energetic Strategy of Defense in 2020 and the Joint chief of staff an Operational Energy Policy in 2022. The aim of this policy is « consume safely, consume less, consume better ».

GICAT followed this important move by setting up the Operational Energies committee, who gathers companies providing all sorts of means, materials, vehicles, engines, tanks, products and services needed by the Armed Forces to be efficient, autonomous and resilient alongside the Operational Energy Logistical chain.

### The operational context

Strategic Since WW1, supplying the Armed Forces in fuel on the battlefield has been a key element of the logistics maneuver. The POL (petrol, oil, lubricants) logistics chain is at the heart of the operational planning process. Prepositioning storage capacities, pushing forward the fuel alongside the axes of advance of the forces, refuelling permanently military forces in order to secure their mobility, is a top priority for the commanders.

The RETEX of the on-going conflicts and the perspective of high intensity war show how essential

is the protection of military (and civilian) oil depots and power plants. Moreover, to be able to accept losses and destruction and to respond to massive attacks, more storage and production locations are needed and the forces must rely on more simple, resistant and easy to maintain materials and equipments.

Another important challenge is to face the always increasing need of energy to support the modern and connected military equipments, from the soldier to the combat vehicle and the military camp : ensuring a strong energy support to allow a constant and safe flow of communications, permanent data exchanges, capacity of operating drones and battle robots, is a key issue. And for this, the forces must rely on high capacity batteries, on local energy production capacities and on performant refrigeration systems.

The 35 companies members of the GICAT Operational Energies committee, who offer made in France materials and products to the Armed Forces, work together, and with SEO and Defence Joint Staff, to shape the future of the energy support in the operational theaters.



**Séverine LE ROUX D'ORVEN**  
**MAISONNEUVE CITERNE**  
Chairwoman of the Operational  
Energy Committee



## TRUCKS

GICAT Operational Energies committee companies can supply all kinds of vehicles for armed forces logistics for fuel, water and chemical products transportation. Specialized trucks for carrying and delivering oil and related products are the bulk of Defence POL logistics. Trucks are often designed to be employed in the tactical area in operations: robustness, autonomy, manoeuvrability in rough terrain are key factors of success.



## TANKS

Relying on adequate mobile storage capacities is a key factor in POL maneuver, in operations as well as in the permanent posture of armed forces. Mobile refuellers of various capacities able to operate in hostile areas (rigid or semi-trailers units), containerized storage capacities air-lifted on operations theaters, aircraft refuellers and refuelling carts, hydrant dispersers are on the top of the dedicated GICAT Operational Energies committee companies catalogs.



## STORAGE & HOSES

Defence POL logistics is mainly based on operating and maintaining ground tanks of various capacities: easily transportable (rubber bladders), more fixed (larger bolted tanks easy to assembly) or permanent (high capacity tanks, mainly on national territory) to deliver fuel and other oil products to the Armed Forces (vehicles, assault tanks, aircraft, ships). As a necessary complement to these capacities, a various set of hoses are needed as well in the permanent fuel depots as in the forward tactical deployments in land operations and on the logistics Navy ships.



## EQUIPMENT & DISTRIBUTION

In Defence POL logistics, complex installations for storage and distribution, as well as trucks and trailers, need to be equipped with efficient, robust and reliable components, such as refuelling skids, filtration units, metering and loading solutions, fuel management systems, turbines, pumps, connectors, dry break couplings, filling nozzles,... Security of operators, protection of environment, accuracy of measurements and speed of implementation are taken in account by the GICAT Operational Energies committee companies supplying these key equipments.



## SECURITY & SUSTAINABILITY

High protection of equipments and of the men operating them, ability to last in rough climatic and terrain conditions are strong requirements in the Defence POL logistics, especially on operations theaters. Firefighting equipments, protected or armoured vehicles, hardened equipments (fuel tanks, tires, wheels,...) are needed at any time. Additionally, a global logistic support for the military camps on operations theaters is supplied as well as water treatment systems and rapid deployment systems of tents to protect equipments and personal. The GICAT Operational Energies committee companies members dedicated to security and sustainability meet these requirements.



## PRODUCTS / PROTECTION SERVICES & TRANSPORTATION

Defence POL logistics need high quality products: fuel itself, key factor of mobility for vehicles, assault tanks, aircraft and ships; lubricants and greases for various engines and equipments; industrial paintings and coatings for external protection of vehicles and other key Defence assets. Transportation of the POL equipments and vehicles to and from the operations theaters is also a critical point. All these challenges are met by the dedicated GICAT Operational Energies committee companies.



## POWERPLANTS / BATTERIES / SOLAR ENERGY & HYDROGEN

The ability to supply electrical energy to military forces in operations, whether to military camps or to vehicles engaged in the field, relies on classical or innovative assets and solutions offered by the industry: power plants, generators, power convertors, smart grids, solar energy, hydrogen solutions, hybrid engines,... all technologies mastered by a large panel of GICAT Operational Energies committee companies. Energy support to military camps also includes water treatment units and refrigeration capacities for which our companies are present.

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## Operational Energies





**PRODUCTS /  
PROTECTION  
SERVICES &  
TRANSPORTATION**



**POWER PLANTS  
BATTERIES  
GENERATORS**



**AWT2590  
(BB 2590)**



# ACCUWATT TECHNOLOGIES

## LITHIUM BATTERIES AND PORTABLE RECHARGEABLE POWER SOLUTIONS

A French manufacturer of high-tech professional batteries and power units. After years of experience in the field of energy storage in harsh environments, **ACCUWATT Technologies** is strengthening its positioning in high-end technical Lithium batteries and UPS solutions (mobile Uninterruptible Power Supply or portable power units). The company and its products are today recognized as strategic to the French ministries of the Interior, Defense and NATO as well as many largest civil contractors in French Defense Industry.

### THE 4 MAIN CHARACTERISTICS OF OUR BATTERIES AND POWER SOLUTIONS ARE:

- 1-extended performance in harsh environment
- 2-longevity
- 3-operational reliability
- 4-security

To date, the Lithium batteries produced and supplied to our French military or industrial customers have made the strong reputation of ACCUWATT Technologies reliability in France, and are used for almost all communication devices, in robotics, for UGV/UAV/UUV, SATCOM devices, portable and rugged electronics, sensing devices and jammers, Autonomous and monitoring remote sensors, AN/PRC-104, 119.

### THE SOLE FRENCH MADE PORTABLE MILITARY BATTERY BB 2590 : AWT2590

This military Battery AWT 2590 (BB 2590) is a battery which is of high interest for the Armed Forces and Defense industries worldwide.

Our battery AWT2590 (BB 2590) is made in France and is designed in conformity to the US Mil Specs MIL-PRF-32383 and MIL-PRF-32383, and corresponds to NNO: 6140-01-659- 6604. Our AWT2590 (BB 2590) battery operates at very low or high temperatures, well beyond the limits set by international

standards. This tactical equipment is manufactured, assembled and tested in France under ISO 9001 standards and CE, REACH, ROHS compliant and certified 38.3 for Air Transport.

### AREAS OF OPERATION

#### Military & Defense Applications:

- **Communication Systems:** power tactical radios such as AN/PRC-117, AN/PRC-148, and AN/PRC-152 used in field operations.
- **Drones & Unmanned Vehicles (UAVs, UGVs):** provide stable energy for reconnaissance drones and robotic military systems.
- **Surveillance & Sensor Systems:** use in long-range observation devices, perimeter security sensors, and motion detection systems.
- **Tactical Computers & Handheld Devices:** power rugged field computers and electronic equipment used by military personnel.
- **Night Vision & Targeting Systems:** provide energy for night vision goggles, laser range finders, and targeting systems.

#### Security & Surveillance:

- **Cameras & Monitoring Equipment:** power units used in surveillance devices for critical infrastructure protection.
- **Emergency Communication Devices:** power radios and communication systems used by security forces and special operations.



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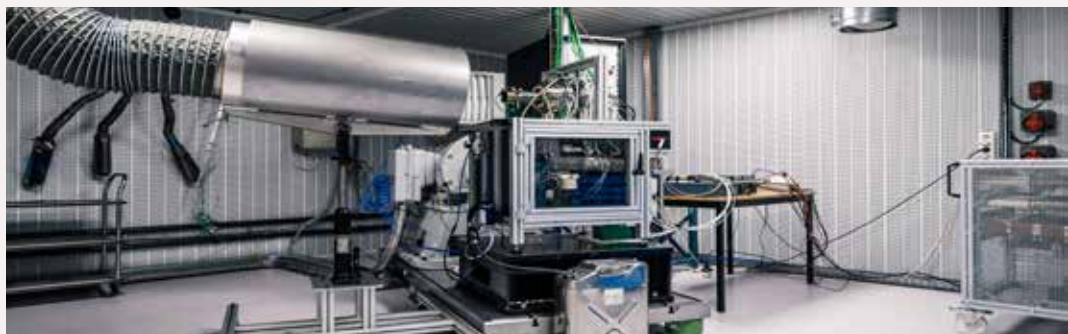




EQUIPMENT &  
DISTRIBUTION



POWER PLANTS  
BATTERIES  
GENERATORS



# AKIRA TECHNOLOGIES

ENGINEERING FOR PROPULSION, HYBRIDIZATION AND POWER GENERATION

Created in 2003 in Bayonne, Akira Technologies is a mechanical engineering company specialized in R&T and build-to-spec of test benches and rotating machine, including:

- Piston engines
- Turbomachinery
- Electrical machines
- Turbogenerators
- Gearboxes
- Specific pumps

Akira Technologies is a French SME with around sixty people spread across two sites: headquarters in Bayonne and a machining workshop in Bergerac. Akira's activity is divided into different industries (30% defense, 30% aerospace, 30% motorcycle and 10% for other industries such as naval, space and medical). Akira has high-performance in-house capabilities, including:

- Design office (mechanical, hydraulics, electrical, electronics, software & instrumentation)
- Machining workshop
- Balancing division
- Inspection and metrology
- Test cells (engine test benches, microturbine test benches, modular partial test benches...)

## DEFENSE SECTOR

Regarding defense activities, Akira develops innovative and strategic solutions, such as specific pumps and innovative compact turbogenerators. Two examples of defense activities carried out by Akira:

- The development of a **new generation of compact power unit** from 5 to 70 kW based on microturbine technology. This product has many advantages compared to conventional units: compactness, light, silent, and significantly reduced maintenance.
- The development of LAKA, a **small versatile piston engines**, designed for various applications such as propulsion unit, hybrid systems or power generators.

## RESEARCH & DEVELOPMENT

Akira is also actively involved in R&D projects, developing innovative power generation and propulsion systems (hybridization, hydrogen, ...). For example, Akira has converted turbines and engines to hydrogen, using its two fully equipped and certified hydrogen test cells.

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## EQUIPMENT & DISTRIBUTION



# ALMA

## METERING & TRANSFER SOLUTIONS

Metering system dedicated to the loading/unloading of hydrocarbons

### AIR-TRONIQUE

The Air-Tronique is a dedicated turbine measuring unit for metered distribution to aircraft refuellers. It allows the metered, with free-mode or pre-determined distribution of aviation fuels.

The Air-Tronique is MID compliant and its compact size allows easy installation on tanker distribution lines.

Its Microcompt+ calculator allows autonomous control of the various steps of distribution, ensuring successful transfers, and its ADRIANE turbine ensures high reliability, making this product a durable and high-performance solution.

You can also find our Mobicompt and terminal Microcompt+ solutions for fuel deliveries in oil terminals.

### LOADING SKID

- Custody transfer turbine metering system for top or bottom loading of tank trucks
- Injection system for additives, dyes and biofuel blending

### ALMA SERVICES

ALMA offers also an after-sales service with more than 60 technicians specialized in the maintenance and calibration of equipment for the metering field.

Thanks to its team, its 7 regional agencies and 2 subsidiaries, ALMA SERVICES covers the entire French territory as well as Guadeloupe, Martinique, French Guiana, Reunion and Mayotte.

### OUR FIELDS OF INTERVENTION:

- Metering systems for tank trucks
- Metering systems for terminals
- Maintenance of tank trucks, terminals & privative stations

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**ALMA**  
ALMA GROUP







SECURITY &  
SUSTAINABILITY

CaRaPACE



S3X Opex



# ARMORIC HOLDING GROUP

ESSONNE SÉCURITÉ & SIDES COMPANIES OF THE ARMORIC HOLDING GROUP

## ESSONNE SÉCURITÉ

ESSONNE SÉCURITÉ develops and produces ballistic solutions adapted to the needs of the Armed Forces. ESSONNE SÉCURITÉ offers protections on cabins or vehicles up to STANAG 3 level.

ESSONNE SÉCURITÉ works with major contractors through various projects that focus on:

- Design and integration of ballistic solutions on vehicles (national and foreign customers)
- Armoring adaptation for the SEO
- Maintenance in operational condition of the fleet

## SIDES

SIDES is specializes in the design and manufacture of fire fighting vehicles, with the control of its own components (pump, dosing, control and projection) for Airports, Industries and Civil Security and the Service.

SIDES is strongly present on most of the air bases, naval air; and military camps but also in the Maintenance in Operational Condition of the entire Armed Forces Park. 440 multi-brand equipment (Army Fuel Service, Navy, Air and SEO) supported

in mainland France in global MCO (on more than 60 sites).

OPEX equipment with technical assistance and spare parts supply.

Obsolescence tracking and vehicle reconditioning (over 20 years old).

French territory as well as Guadeloupe, Martinique, French Guiana, Reunion and Mayotte.

## OUR FIELDS OF INTERVENTION:

- Metering systems for tank trucks
- Terminals

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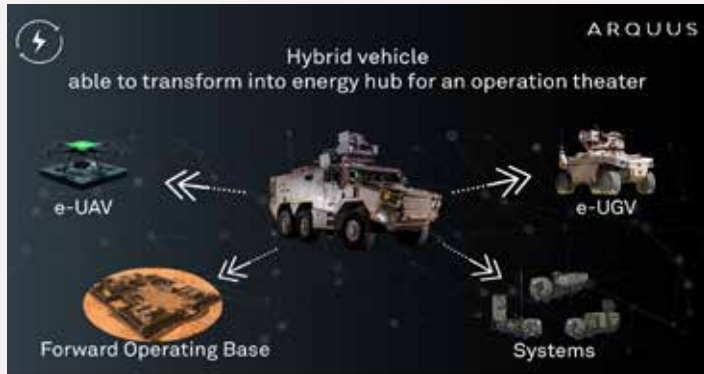
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**A** Armoric  
Holding





# ARQUUS





Arquus, a French defense company and leader in ground mobility solutions, joined the industrial group John Cockerill in July 2024..

With nearly 30,000 vehicles in service across five continents, 22,000 of which are directly supported by its teams, Arquus is a key player in global defense. As a historic partner of the French Army, it has designed over 90% of the wheeled vehicles for the Army and develops autonomous military platforms to modernize armed forces.

## A PIONEER IN ENERGY SOLUTIONS

Against a backdrop of technological progress and geostrategic upheavals, Arquus has constantly innovated to meet the needs and expectations of our customers, in every field and on every front.

To prepare our forces for high-intensity conflicts, ARQUUS has positioned itself as a major player in the field of mobile energy production, storage and distribution, via the hybridization of current or future land-based equipment. These hybridizations will not only meet the rapidly growing on-board energy requirements, but also transform equipped vehicles into veritable "Energy Hubs", increasing the maneuvering agility of bases and systems deployed in the field, improving their energy resilience, recharging e-UAVs and e-UGVs, and reducing fuel logistics while cutting CO<sup>2</sup> emissions.

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TANKS



EQUIPMENT &  
DISTRIBUTION



# AVIFIL

## Equipment for the refuelling and filtration of aviation fuels

For over 30 years, AVIFIL has been supporting armed forces and civilian operators by offering high-performance solutions for the refuelling and filtration of aviation fuels. Thanks to its expertise and cutting-edge equipment, the company guarantees safety, reliability and compliance with the strictest standards.

## Fuel filtration: the guarantee of optimum quality

Avifil offers a wide range of filtration equipment and sensors. From stationary or mobile filter housings, coalescers and separators to electronic water sensors, Avifil markets innovative technologies for the entire supply chain. By eliminating impurities and contaminants, Avifil's solutions extend the life of equipment while reducing operating costs.

## Refuelling equipment: speed and safety

As a specialist in the intoplane refuelling, Avifil supplies highly adaptable equipment of proven

quality: underwing and overwing nozzles, valves, couplers and hydrant equipment. These solutions ensure smooth, reliable refuelling, both at air bases and on operations.

## Handling and quality control: a complete offer

Avifil offers field equipment for checking compliance in real time, guaranteeing risk-free operations.

## Refuelling systems: all-terrain solutions

Drawing on its expertise in the filtration, storage and refuelling of aircraft and helicopters, Avifil develops customised refuelling packages: fuel farms for external operations, mobile and transportable filter housings, fuel transfer systems, portable refuelling units, etc. These made-to-measure modular solutions mean you can operate whatever the terrain.

Thanks to its expertise, partnerships, support and commitment to innovation, Avifil is a reliable, high-performance partner for the Petroleum Oil and Lubricant Handling industry.



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**PRODUCTS /  
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TRANSPORTATION**



**POWER PLANTS  
BATTERIES  
GENERATORS**



# BREN-TRONICS

**POWER & ENERGY SOLUTIONS DESIGNER & MANUFACTURER**

## DESIGN, ENERGY STORAGE, SMART CHARGE

BREN-TRONICS focuses on bringing armed forces around the world the latest and most efficient expeditionary power solutions for uninterrupted autonomy in the field since 1973.

Bren-Tronics' expertise remains focused where no one can compromise safety, reliability and performance. We offer the next generation of Li-Ion batteries as an advanced energy solution for use in multiple applications including tactical radiocommunication, optronic, electronic warfare, weapon system, robots and more.

When it comes to helping military vehicle manufacturers and customers, Bren-Tronics answers three basic needs with the Li-Ion 6T format battery: Energy, weight and space. With this solution, they can drastically optimize their autonomy during silent watch missions.

## POWER SOLUTIONS FOR VEHICLES

### An intelligent battery - a real system

Building a safe and capacitive battery requires a real expertise. Our 6T Lithium-ion incorporates

multi superior electronic protections and safety features as well as a CAN BUS data access to monitor all battery parameters at all times.

### A solution for today's requirements with a reduced cost of ownership

Bren-Tronics' 6T batteries dramatically changes the operational capabilities of armored vehicles and the way in which military organizations manage the inventories of their vehicle batteries.

The battery cycle life is extended from hundreds of charging cycles to thousands of cycles compared to lead acid and the maintenance is reduced to only one complete charge every two years while in storage conditions.

### Operational advantages

Bren-Tronics's 6T batteries offer the best trade-off between power and energy density. While the battery is able to sustain the vehicle pulse cranking requirement to start the engine, the battery can also be charged in less than one hour and provide enough energy to multiple loads. Several batteries can run in parallel for extended silent watch missions.

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an EnerSys company





PRODUCTS /  
PROTECTION  
SERVICES &  
TRANSPORTATION



# DAHER

## TRANSPORT PROJECTS

A dedicated offer for aerospace and defense sectors

### TRANSPORT

The Group offers transport solutions for exceptional and specialized loads, as well as associated services (reconnaissance of itineraries, customs engineering, chartering of aircraft, AOG).

A long-standing partner to the Defense sector, Daher is specialized in the transportation of sensitive equipment to and from theatres of operations for the Armed Forces.

### MULTIMODAL TRANSPORT

- Aircraft chartering know-how: urgent flights (AOG), perishable foodstuff flights, specific equipment, oversized goods, dangerous products, hostile lands
- Vessel chartering solutions: voyage or time charter, full or part-charter, direct route without transshipment, regular liner operations

### DEDICATED & PROVEN EXPERTISE

- Downed aircraft repatriation • Helicopter transport
- Engine packaging and transport
- Implementation of specific means (handling, lifting equipment) • Exceptional transport operations
- Service Desk / Engineering

### EXPLOSIVE PRODUCT TRANSPORT

- Specialized multimodal transport solutions for munitions and explosives requirements
- Military or civilian
- In complete compliance with international transport regulations

### CUSTOMS

- Authorised Economic Operator status guaranteeing state level recognition, simplifying customs clearance operations, and offering security and safety
- Central structure performing internal surveillance audit, regulatory monitoring, AOG committee function, advanced declarations, management and set-up of customs procedures (single and domiciled customs clearance procedure)
- Local structure with strong business expertise, handling relationships with customs offices, and with a good knowledge of customer processes

### COMMITMENTS

- Security • Confidentiality • Reliability
- Back-up solutions

 [www.daher.com](http://www.daher.com)







**SECURITY &  
SUSTAINABILITY**



**PRODUCTS /  
PROTECTION  
SERVICES &  
TRANSPORTATION**



# DESAUTEL

## FIRE PROTECTION

The Desautel group has been, since 1932, a major player in the industry dedicated to hazard. With more than 1,800 employees, the group generates nearly 290 million euros in turnover. It manufactures more than 500,000 fire extinguishers, more than 300 fire-fighting vehicles exports to around thirty countries. Drawing on its many years of experience, the DESAUTEL group deals with fire issues as a whole (military, tertiary, industrial, airport, chemical sectors, etc...).

Its local establishments in France (27 DESAUTEL agencies) and abroad allow it to provide a very good support to partners and customers in the study of needs and the responses provided. This meshed network also makes it possible to carry out preventive and corrective maintenance of equipment, systems and vehicles.

Alongside the departmental fire and rescue services, army rescue services, industrial rescue services, the DESAUTEL group is evolving and expanding its skills.

The group is also a historical supplier of the armies in the field of oil refueling. Established in the Lyon region, the group has manufacturing sites located in France.



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TRUCKS



PRODUCTS /  
PROTECTION  
SERVICES &  
TRANSPORTATION



POWER PLANTS  
BATTERIES  
GENERATORS



# FEV FRANCE

WE DRIVE INNOVATION FOR DEFENSE MOBILITY

FEV is a global leader in engineering, specializing in powertrain, vehicle, and energy solutions.

With over 45 years of experience in mobility, we bring cutting-edge expertise to the Defense Industry, delivering high-performance, safe & reliable solutions.

Our expertise in **Model-Based Systems Engineering (MBSE)**, **advanced system design**, and **safety standards** ensures that we meet the most demanding defense challenges. We shape the future of defense mobility by enhancing **efficiency, resilience, cost competitiveness and technological excellence**.

## ENGINEERING GLOBAL EXPERTISE

With **7,000+ experts worldwide**, including **550 in France**, and **300 testing facilities**, FEV provides a robust foundation for innovation.

Transposing our **high technology expertise** from the **automotive** industry, we extend our capabilities to **aerospace, defense**, and next-generation mobility solutions.

## FEV SOLUTIONS:

- **Integration & Testing** – Comprehensive validation of vehicles, powertrains, software, and components
- **System Design** – Advanced requirements engineering, system architecture, and simulation
- **E/E Architecture** – High-voltage & low-voltage systems, harness design, and electrical integration
- **Powertrain & Controls** – Alternative fuel engines, hybrid & electric powertrains, power electronics, and intelligent control systems
- **Safety & Security** – System & functional safety, cybersecurity, high-voltage protection, and risk analysis
- **Autonomous Defense Technologies** – HMI design, sensor fusion, drive-by-wire, and intelligent automation

**At FEV, we drive innovation to empower defense forces with the solutions of tomorrow.**

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FEV





**POWER PLANTS  
BATTERIES  
GENERATORS**



# HENSOLDT IN FRANCE

## POWERING EMBEDDED EQUIPMENT ON DEFENCE PLATFORMS

Guaranteeing energy sovereignty is a strategic challenge that is played out at every level. The convergence of the energy strategies of the government, industry and the armed forces is essential to providing autonomy and superiority in theatres of operation. Military advantage, particularly on land, will only be possible if we can ensure energy security and supply on the field. Promoting eco-design and on-demand power supply are part of the response.

Military platforms are increasingly carrying energy-consuming equipment, while at the same time stepping up their transition to hybrid and all-electric propulsion. It is becoming essential to significantly increase the performance of power supply and conversion solutions to feed this equipment, networks and embedded systems.

### **LATEST POWER ELECTRONICS TECHNOLOGIES**

HENSOLDT offers a range of field-proven products that meet operational requirements. It responds

new standards of performance, safety and reliability. An armoured land vehicle or an aircraft have no right to break down. We must be able to ensure optimum performance in critical conditions. The latest power electronics technologies are implemented in our products. Modularity is one of them. It enables to answer the specific needs of each platform and its evolution throughout its life.

### **POWER CONVERTERS, INVERTERS, RADAR POWER SUPPLY AND SERVICES**

HENSOLDT provides AC/DC and DC/DC power supplies, from 1kW to 12kW with a variety of voltage, configurations, and air or liquid cooling. These solutions are integrated into the latest generation of ground-based radars (ECO, off-the-shelf product) and military helicopters (SkyVolt, off-the-shelf product). HENSOLDT is also committed to working alongside its customers to deliver products with maximum lifespan. This means a comprehensive-services offer including integration, maintenance, storage and obsolescence management.



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**HENSOLDT**





SECURITY &  
SUSTAINABILITY



# HUTCHINSON

## DEFENSE & MOBILITY SYSTEMS

Hutchinson Group is a global leader in Acoustics & Vibration, Sealing, Fluid & Thermal Management, Material and structure and Power Transmission. With 40,000 employees in 25 countries, we generated revenues of €4.8 billion in 2023. We tackle **safety, comfort, and energy efficiency challenges** in demanding environments through engineering of **multi-materials sustainable solutions** across markets (Automotive & e-Mobility, Aerospace & Defense, New energies & Industry). For this purpose, we leverage **science and technology expertise** in **materials and composite, mechatronics, sensing, and data management**.

**Defense & Mobility Systems** is a division of Hutchinson Group. It is a leading global supplier in mobility components for vehicles for Defense and Security markets. Our mission: **“soldier protection by ensuring mobility”**. Our product range includes rubber and composite **runflats** for all size of vehicles and performance, light-weight single or multi pieces aluminum **rims** with integrated CTIS valves, **tire shields** to reduce the risk of puncture and improve stealth, rubberized **road wheels** and **track components, self-sealings** for fuel tanks and tankers, and **blast shields** for battery packs.

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**POWER PLANTS  
BATTERIES  
GENERATORS**



# INEO DEFENSE

ADVANCED TECHNOLOGY AND HIGH-VALUE SERVICES

The company is dedicated to its products and services throughout their entire lifecycle, from the research stage to operational maintenance in complex environments.

Faced with the resurgence of high-intensity warfare and increasing combat distances, energy and supply chain efficiency have become critical. As a result, Ineo Defense has positioned itself as a key player in this sector, recognized for its expertise and reliability. To meet your needs, we have developed a broad range of innovative solutions, from logistics services to energy saving.

## SUPPLY OF TIRES, CELLS AND BATTERIES FOR THE DEFENSE VEHICLE FLEET

Each year, and at least until 2033, Ineo Defense manages the supply, storage and distribution of 1.2 million cells, 25 000 batteries and 20 000 tires. We understand that customized solutions are vital to military efficiency. Thanks to our 300 sites across France, we offer flexible delivery times, tailored to the urgency of your needs.

## SUPPLY OF MOBILE WATER TREATMENT FACILITIES


Ineo Defense designs, manufactures, and supports a system that can produce drinking water independently, using natural sources even in harsh environments. We can treat all types of freshwater, seawater or chemically or biologically contaminated water. This mobile solution supports the deployment and autonomy of forces abroad through simple and efficient installations.

## ACTIVE PARTICIPATION IN ENERGY INNOVATION PROJECTS


Ineo Defense has actively contributed to an European program focused on decarbonizing military operations and enhancing energy efficiency and autonomy. Our company has developed a system that connects any means of production and/or storage to a single interface while optimizing energy yields and using renewable energies.

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TANKS



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# MAGYAR

## MILITARY TANKERS

Founded in 1945, G. MAGYAR designs and manufactures in **France** more than 1 400 tanks per year for customers in **45** countries. As a European Leader, our company uses the latest technology to ensure high quality and reliability.

We market tanks for the transportation of all liquid products (edible, chemical or petroleum) by road (rigid tankers, drawbars tankers or tank semi trailer) or intermodal (swap tanks or tank containers) and by rail (tank wagons).

Defence is a strong focus for MAGYAR. In the last 20 years, we have delivered more than 800 tanks to various European and NATO armies.

### Our range of products for defence includes :

- Tactical aircraft refueller
- Refueller
- Transport tank
- Water storage, treatment and distribution tank
- Tank for liquid radioactive waste

Tanks are built in full respect of regulations (ADR, health and safety ...).

Those tanks can be air, sea, rail transportable, have off-road capacities, measuring units, water treatment system, extreme working temperatures (-32°C +49 °C)...

Our after sales department and European repair network of skilled professionals are at your service to maintain your tankers all through their life.



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 **MAGYAR**  
Constructeur





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# MAISONNEUVE CITERNE

## REFUELLERS & WATER TREATMENT SYSTEMS

Maisonneuve Citerne, a Benalu Group company, is one of the leader in design and manufacturing of equipments for fuel and water logistic support.

Located in normandy, with a total of 60 000 m<sup>2</sup> workshop area, Maisonneuve Citerne is able to supply according to special needs requested by military forces.

### REFUELLERS

- Semi trailer with high mobility, off road designed, to operate in France and all over the world for most hostile operations.
- Rigid for airport refuelling
- Method of projection: Air, Sea and Rail
- Standalone refuelling unit with high compatibility: Gasoline, Diesel, Jet A, Jet A-1, AVGAS 100LL, F54, F63, F67, F18, F34, F35, F44, JP5, JP8.
- From 5 000L (rigids) up to 22 000L (semi-trailer) of capacity

### WATER TREATMENT SYSTEMS

- Containerized or trailer-mounted, our Water Treatment Units are specially designed for 100 to 5000 men military camps under all climatic conditions.
- **Sanitary Treatments Units, TEI** are able to treat all sewage, black, grey and galley waters. Treated water is according to discharge standards for irrigation purposes or reuse.
- **Water Purification Units, WPURO** produce potable water as per WHO standards from any available surface water and well including any sub surface water source and sea water.

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**MAISONNEUVE**







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# MANKIEWICZ FRANCE

## DEFENSE COATINGS

Trusted & customized product solutions

Customized solutions are an essential part of success – especially in the Military sector. Mankiewicz combines the conformity of standards and approval of the Military sector with the individual needs for your vehicles.

### OUR TRADITION: CREATE THE FUTURE

Over a century of taking pleasure in innovation have made us one of the leading manufacturers of high-quality coating systems worldwide for industrial series production in the business sectors of General Industry, Aviation and Automotive.

### GROUND FORCE - APPLICATIONS

ALEXIT® Defense Coatings are tailored to fulfil both current and future demands of OEMs and MROs in the military sector and combine these with the potential available to the modern paint industry. Requirements such as chemical resistance to a multitude of fuels, brake and hydraulic fluids, lubricants and cleaning agents as well as ease

of decontamination (CARC) are complied with. ALEXIT® Defense Coatings are available in both waterborne and solvent-based systems. It goes without saying that the performance of these coatings is equivalent to that of conventional coating systems.

### YOUR ADVANTAGES

- Customized coating solutions according to a large number of national and international specifications
- Full range of approvals
- Advisory support during development of coating strategy
- Global technical support & dedicated research
- CARC (chemical agent resistant coatings) in accordance with STANAG 4630
- Advanced camouflage technologies (infrared, thermal insulation, low solar heat absorption)
- Wide range of camouflage colours, IR values and gloss levels
- Special products available as non-skid or EMC



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**MANKIEWICZ**  
Peintures Industrielles





## TRUCKS



# Mercedes-Benz Defence Trucks

## TRUCKS YOU CAN TRUST

Mercedes-Benz offers the right trucks for your missions.

### In a nutshell:

- **Complete range of trucks (articulated and rigid)**
- **All well prepared for various superstructures**
- **Several variants in terms of performance, cabin size, wheel base, payload**
- **Our engines meet your expectations with regard to emission standards and fuel categories**

Mercedes-Benz presents several models of vehicles well prepared for various superstructures and various fittings intended for customers of the sector of the security and defense forces as well as authorities and organizations in charge of security missions.

Mercedes-Benz offers a complete range of trucks (articulated and rigid) in several variants (cabin sizes, wheel bases, performances, pay loads etc...) as well as engines that meet the expectations with regard to fuel categories and emission standards in order to suit the intended logistics and tactical tasks.

Some models are also available with the Euro VI emission standard and can therefore be approved in accordance with legal obligations in place at the moment.

### Our products:

- **Atego:** 6.5 to 16 tons
- **Arocs:** 18 to 250 tons
- **Actros:** 18 to 250 tons
- **Unimog:** 4x4 10 to 16.5 tons
- **Zetros:** 4x4, 6x4 and 6x6 18 to 27 tons
- **Econic:** 4x2, 6x4, 6x2 and 8x4 18 to 26 tons including electric version
- **Fuso Canter:** 3.5 to 8.5 tons including an EcoHybrid version



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Mercedes-Benz  
Trucks you can trust





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**POWER PLANTS  
BATTERIES  
GENERATORS**



# MONKILOWATT

## ON THE MOVE SOLAR SOLUTIONS

Monkilowatt specialises in developing mobile solar solutions for on the move operations and off grid base camps.

### EASE OF USE

Tough, reliable and dependable, our range of products will provide silent and renewable energy wherever you are. Easy and fast to deploy, all our products will immediately provide your operation with clean power. Our solutions are fully wired and connected; they are ready to work without the need for electrical knowledge thanks to their true Plug&Play design.

### CONTAINWATT: THE MOBILE, SOLAR-POWERED SHELTER

Housed in a 20ft container, Containwatt deploys up to 150m<sup>2</sup> of solar panels (30kWp) at a 3m-height. With up to 45kVA power and 74kWh storage capacity, Containwatt will provide your camps with clean power. Installed in less than a day by 2 people, Containwatt is the only mobile solar

solution that will accommodate shelters under its solar roof, saving important space. As a bespoke product, Containwatt is customized to your specifications and have a large selection of options (military grade tents, BIY modules, clean/grey water tanks...). Containwatt can be connected to an existing grid (actual grid and/or generator) thus reducing fuel consumption and dependency on an unreliable grid. Built to last, Containwatt thrives in the most challenging environment

### WATTONBOARD: THE SOLAR GENSET

Compact and highly mobile, Wattonboard deploys in less than 15mn by 1 person. With its 4.5kWp solar panels, its 5kVA inverter and 12kWh of batteries, Wattonboard is the ideal solution for powering on the move operation. In addition to trucks, you can transport Wattonboard on a trailer, on the back of a flat-bed pick-up truck, in a van and even by helicopter. Fully wired and connected, Wattonboard provides on the go clean power at the flip of a switch in total silence.



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# MUSTHANE

**DELIVERING, SAVING AND PROTECTING ENERGIES IN FORWARD AREA OPERATIONS**

MUSTHANE has a significant and successful experience in breakthrough innovations for delivering, saving and protecting the necessary Energy for the military equipment in Forward Area Operations Bases.

Our engineering department skills are based on 2 core expertises:

- Design and manufacturing of composite and elastomer made products
- Design and manufacturing of fluids' transfer and management equipment

Our brand *Muststore*® addresses most of the critical issues faced in forward area operations:

- **Safe storage and transportation of fuels or hydrocarbons:** our storage or transport flexible tanks are made to highly reduce the pollution of the fuels (bacteria, water, sediments). Their outstanding low logistic footprint is a very smart way to optimize space. The flexible tanks can be transported full on a trailer, in an airplane or by helicopter thanks to slings.

- **Distribution equipment** such as: aviation fuel filtration and transport equipment, refueling pumps...The equipment can be delivered on a chassis or be mounted on any mobile platform.
- **Self-sealing protection** polymer film to be placed on tanks or reservoirs to increase the vehicles and fuel farms resilience in combat configurations. This ballistic protection is efficient for projectiles up to 14.5 mm.

Our engineering team will configure or design the appropriate solution in case our standard range does not meet your expectations.

- **Tire sidewall protection and camouflage** : increase the survivability of the vehicles for delivering fuel in combat zones.



Mr REZA ROSIER



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## Musthane





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# NOF METAL COATINGS EUROPE

## INDUSTRIAL COATINGS FOR METALLIC PARTS

For more than 40 years, NOF Metal Coatings Group's mission has been to add value and durability to metallic parts. We provide high performing coating solutions and invented the world leading GEOMET® zinc flake anticorrosion technology. Our activities and research focus on developing water-based functional coatings and their application processes.

We offer innovative coating solutions with low thickness for many industries: automotive, truck, defence, wind power, solar power, oil & gas, electrical equipment, construction, industrial machinery.

Our coatings ensure enhanced equipment durability and contribute to the operational maintenance of forces deployed. Today, many customers in the military sector have specified our coating solutions.

### Our range of products for defence includes:

#### GEOMET® 321

Silver waterbased zinc flake basecoat for high corrosion protection at low thickness.

#### GEOMET® 500

Silver self-lubricated waterbased zinc flake basecoat to obtain a stable and controlled friction coefficient.

#### PLUS® L - PLUS® ML

Clear color topcoats to obtain stable and controlled coefficient of friction.

#### GEOBLACK® ML

Black color system composed with GEOMET® 321 + PLUS® ML Black topcoats. It provides outstanding tribological performances.

#### SPRAY FOR REPAIR TOUCH UP

Aerosol zinc flake coating for touch-up repairs on slightly corroded areas.



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NOF METAL COATINGS  
EUROPE

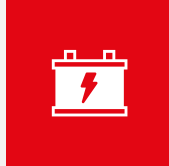




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**POWER PLANTS  
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# NOVAKAMP

**MORE THAN A CAMP**

NovaKamp and its affiliated companies operate in the energy and infrastructure sector. We design, manufacture and integrate smart-off grid energies and critical services for remote sites : from energy production, transformation and distribution, to mobile water treatment and purification units, or waste treatment.

Our factory is specialised in the design and construction of standard and specific gensets for all applications, ranging from 5 to 3000 kVA : hardened, variable speed, for the power supply of weapons systems.

NovaKamp handle logistics, spare parts management and all major maintenance, revamping and retrofit operations. Tailored services adapted to the context of use (dust, altitude, high temperatures, etc.).

We deploy our people and mobile solutions around the world, in the field, as close as possible to the users.

Thus, providing long time and field-proven expertise, NovaKamp brings innovative equipment and competences, to lower fuel costs, improve camp autonomy and support the backbone resilience of your base-camp.

Indeed, we designed a solution where the energy-hungry camp and operations devices, and power generation mix, is built around a backbone providing extended autonomy, maximised autarcy, cost reduction and quality output even in degraded mode.



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**novakamp**







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# NYCO

## DEVELOPMENT AND MANUFACTURE OF HIGH-PERFORMANCE LUBRICANTS

More than 60 years field experience in the defence business and pioneer research in the development of turbine oil have made NYCO a key partner for MROs, OEMs, Airlines, Armed Forces and Aero derivative Gas Turbines users around the world. We offer a wide range of lubricants for aircraft, helicopters as well as Air, Land and Marine military equipment; qualified under civil and military international specifications and approved by OEMs such as engine manufacturers and aircraft manufacturers.

- 300 employees around the world
- 80% of turnover in export sales
- Customers in more than 100 countries
- Comprehensive range of 300+ products

### Products:

#### NYCOLUBE® 127 CLP BIO

Synthetic weapon lubricating oil (CLP), containing anti-corrosion and anti-wear additives (operating temperatures from -51°C to +71°C). Excellent water-displacement properties.

#### NYCO GREASE® GN 145

High performance grease designed to lubricate bearings, pins & sliding parts in military automotive equipment. Fortified with anti-corrosion, antioxidant & anti-wear additives.

#### HYDRAUNYCOIL® FH 3

Primarily used in tank recoil mechanism and hydraulic systems of ground equipment. It enables safer handling and operation at high temperature.



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# PRONAL

## DEFENSE & FLUIDS LOGISTICS

With their **60 years plus experience working** in collaboration with few armed forces, Pronal has developed a range of solutions that are perfectly designed to meet the challenges of **fuel and water logistics**. Our solutions can be rapidly deployed and implemented on-site. All can be easily transported: mounted on trucks, suspended by helicopter, or towed behind vehicles. These mobile solutions are suitable for transportation by a wide range of methods: by land, sea, or air.

### Our solutions in Defense area are:

#### Bolted fuel tanks (RAM)

RAM is a bolted tank that combines the advantages of conventional steel tanks and those of flexible tanks for the storage of hydrocarbons.

- For fuel tank depots, capacity 135 000 USG (500 m<sup>3</sup>),
- External part : bolted metal frame,
- Internal part : liner made of nitrile rubber reinforced,
- Transport in two ISO 20' containers,
- Simple assembly & disassembly (in 5/6 days),
- Label "as used by the french armed forces".

#### The Pumping Filtration Measurement Module (MPFM)

Measuring Pumping Filtration Modules (MPFM) are key elements in downstream fuel logistics for diesel, kerosene, petrol, or avgas. When employed in a secondary or advanced fuel depot, in both civil and military contexts, this single unit can house all the devices that are required for:

- Unloading
- Loading (dome or source),
- Micro-filtering particles (up to 10 microns),

- Separate water from the product,
- Degassing the fuel before it is measured,
- Measuring delivered or received fuel.

#### Flexible fuel tanks:

Flexible fuel tanks represent the best logistical solution for storing hydrocarbons. Their modest volume when "emptied and folded" is only equal to about 1% of their nominal storage capacity meaning that they can be simply and rapidly transported, no matter where they are to be installed.

The strength of these tanks coupled with the rapidity of their installation (less than 4h for a 300 m<sup>3</sup> tank) means that they have become the preferred fuel storage system for organizations working in remote areas.

#### Others solutions:

- Towable and heli-transportable,
- Helitank flexible heli-transportable tanks,
- Motor pump
- Forward area Refueling solution,
- Water purification systems & Flexible water tanks,
- Aircraft recovery.



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# RELLUMIX

## FILTRATION & SEPARATION OF LIQUIDS

Experience, Mastery and Innovation

Rellumix is a French company recognized in the industry for its expertise and the reliability of its equipment. Our experience is based on our know-how of nearly a century in the field of filtration and separation techniques of liquids. Our mission is to respond to our customers' problematics in highly complex and technical markets and processes. Conscious of the importance of the challenges that filtration represents for these industries, we put our know-how at the service of our customers in order to propose equipment adapted to each application. We control end-to-end our commercial chain, ensuring the design and production of our equipment.

### A TAILOR-MADE APPROACH

- Study of your needs • Conceptualization
- Realization of your installations • Start-up
- Maintenance • Spare part replacement

### EQUIPMENT ADAPTED TO YOUR SECTOR OF ACTIVITY

- Petrochemical industry • Industry • Defense
- Naval industry • Space industry • Aeronautics
- Nuclear industry • Water treatment

### FILTRATION & SEPARATION OF LIQUIDS

- Static filtration • Self-cleaning filtration
- Mechanical filtration by separation
- Filtering elements and accessories

### HYDROCARBON DISTRIBUTION SYSTEMS

- Refueling skid for onshore and offshore installation
- Refueling skid for helipad
- Mobile container for hydrocarbon storage and distribution
- Refueling mobile group: GDSA - EFDA
- Aircraft engine test benches:  
Compressed air start / Fuel supply
- Hydrocarbon distribution accessories:  
Breather - HIFR: Helicopter inflight refueling  
Ariane coupler - refueling beaks

### IRIS WATER TREATMENT

- Filtration skid for process water
- Capacity: 10m<sup>3</sup>/h - 20m<sup>3</sup>/h - 40m<sup>3</sup>/h (more on study)
- Suspended matter, hydrocarbon, heavy metal, and PH

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## TRUCKS



# RENAULT TRUCKS

Renault Trucks is one of the world leaders in heavy goods vehicles. The 9 400 employees of our company are involved in the design, production and sales of trucks and services.

Due to the various activities of our customers, we offer a wide range of new and used trucks (from 2.8 to 60 t), that can fit all types of military uses. We offer our truck ranges with military adaptations such as air transport, blackout lights, raised fording... As a provider of vehicles to the French armed forces Renault Trucks seize any opportunity to adapt its trucks and offer its military customers the same quality, costs, and delay than for other customers.

Moreover, Renault Trucks vehicles and their related services are delivered to customers through a worldwide network of over 1,400 sales and service outlets in more than 150 countries.

Whereas Renault Trucks sale trucks provide aftersales all over the world, it develops and manufactures its trucks and most of their components in France. Innovation is a crucial lever for anticipating the requirements of our specific customers in Defense, security, humanitarian sectors but also to meet energy savings expectations.



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# ROTH<sub>2</sub>

## INNOVATIVE HYDROGEN SOLUTIONS FOR THE DEFENCE INDUSTRY

RotH<sub>2</sub> designs and manufactures certified storage tanks, refuelling stations, stationary and transportable storage racks capable of meeting complex energy requirements in theatres of operation. These solutions offer a sustainable, high-performance alternative to traditional energy sources such as oil and electricity, by providing a reliable source of energy directly in the field. RotH<sub>2</sub> is also one of only two companies in Europe to produce Type II hydrogen cylinders at 1000 bar, guaranteeing unrivalled storage capacity.

To forge its seamless steel cylinders, the company has mastered a cutting-edge industrial technology: hot flow forming, a forging technique that enables complex metal parts to be shaped. This expertise opens the way to potential applications in the arms and defence equipment sector, strengthening France's industrial sovereignty.

Finally, RotH<sub>2</sub>, with over 50 years of expertise, produces diving cylinders, originally designed for underwater sports, but which also have strategic potential for applications in underwater operations. This equipment is adapted to demanding environments, consolidating the company's ability to meet the varied needs of the armed forces.

### Turnkey solutions dedicated to Defence

RotH<sub>2</sub>, the French leader in very-high-pressure gas storage, is developing turnkey solutions tailored to hydrogen: cylinders capable of withstanding up to 1000 bar, certified storage transportable racks, and refuelling stations. RotH<sub>2</sub> has positioned itself as the strong link in the hydrogen chain, providing the link between production and end use.



**MAXIME ROUSSEAU**  
HYDROGEN COMMERCIAL MANAGER



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GENERATORS

| Modular Data Center EcoStruxure



| Okken TM switchboards - Complete and customized low-voltage (LV) solutions for power distribution and motor control.



# SCHNEIDER ELECTRIC

## ELECTRICITY 4.0 BY SCHNEIDER ELECTRIC

For Armed Forces, we believe a **more electric and digital world** is key to addressing the **carbon/climate challenge**, enabling a **sustainable and resilient fighting** environment. **Electricity is the most efficient energy and the best carbon-independent mobility vector**, and with digital innovation it makes the invisible visible, unleashing huge potential for efficiency and the elimination of energy waste. Only by disrupting the way we manage energy and design infra and FOB grids, and mobility will we be able to deliver an one-step-ahead military **paradigm**.

The centuries-old electricity system is being ushered out, making way for the new. And with its scale, scope, and complexity, the transformation is unlike any in history. This is the convergence of digital and electric. **This is Electricity 4.0: Powering the New Electric World.**

Schneider Electric is accelerating the pace at which we can all address carbon change through **agile digital innovation**. We innovate at our core – The 'internet of Things' starts with great 'things'. We design with digital as default, with a software defined approach that extends and enhances the lifecycle of our offers. Being digital at our core means we enable software and analytics to interpret data, converting it into powerful insights that deliver end-to-end efficiency for any installation from design and build to operate and maintain.

Our solutions meet the highest cybersecurity standards for defense



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Life Is On

Schneider  
Electric







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# STÄUBLI

## ADVANCED CONNECTION SOLUTIONS FOR EVERY INDUSTRY

Stäubli is one of the leading manufacturers of quick release couplings, with over 60 years' experience in providing high-quality connection solutions for all types of energy in all industries.

Our expertise and global presence allow us to participate in all major international projects to provide highly effective and high performance technical solutions for targeted applications.

Stäubli develops quick connection solutions that are ideal for extreme operating conditions at sea, on land and in the air. With broad and profound expertise in the most specific applications, Stäubli offers an unlimited response to its customer's requirements.

We cover very demanding applications such as liquid cooling, air conditioning, oxygen generating, refuelling, breathing air, hydraulics, etc.

Stäubli ensures reliable and quick connection of refuelling hoses and refuelling tools on fuel logistics operations.

As examples the french army's TOE-NG trucks are equipped with our HCB28 product to connect the different types of refuelling nozzles.

Ideal for refuelling applications, HCB28 safety quick couplings guarantee clean, non-spill disconnections. Crafted from high-resistance aluminum alloy, they're lightweight and can be fitted with a hand wheel for easy handling. Thanks to the design and the automatic locking at the end of process the connection is very quick and reliable.

The Carapace trucks are equipped with our symmetrical full flow VSU38 coupling, suitable for motor pumps, distribution systems, fuel supply hoses, collapsible storage tanks, etc.

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# STÄUBLI





TANKS



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PRODUCTS /  
PROTECTION  
SERVICES &  
TRANSPORTATION



# TITAN DEFENSE

## TACTICAL REFUELLING

TITAN DEFENSE is the global **specialist in refueling solutions for military use** in tactical environments. The key benefits of our systems are **high mobility** and **flexible fuelling capabilities**. Our approach is customisation to fit your specific operations requirements as well as international standards.

As a historical supplier to many armed forces all over the world and with 60 years of expertise, we work closely with our customers to develop **specific refuelling solutions** for challenging environments. Our combat proven solutions meet the specifiquess needs of armies.

### INNOVATIVES SOLUTIONS FOR REFUELLING

We design, manufacture and support tactical refuellers, hydrant dispensers, containerized solutions, deployable systems and equipment for special operations and FARP. Reliability and quality are the main advantages of our solutions, for reactive, discreet and efficient operations.

We are also developing **innovative hybrid and electric solutions for refuelling**, to ensure the autonomy and discretion in operations.

Finally, TITAN DEFENSE offers ILS solutions with maintenance and refurbishment services as well as expertise in training and technical support.

TITAN DEFENSE is ISO 9001 and ISO 14001 certified.



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# TRELLEBORG

**EXPERT IN FLUID TRANSFER SOLUTIONS WITH FLEXIBLE HOSES**

## NAVY

SPECIFIC HOSES for underway replenishment.

### Applications

Flexible hoses for fueling at sea.

### Advantages

- High resistance product.
- Range of diameters enabling all couplings to be fitted by crimping or with aluminum safety clamps.
- NATO compliance.
- Full range of couplings (type and materials).

## GROUND FORCE

VOLUDEEC AND GUTTELING COMPOSITE HOSES for fuels distribution.

### Applications

Flexible hoses on road tankers reels and petrol pump station for fuel metered delivery.

### Advantages

- Light weight, flexible and abrasion resistant hose.
- Static electricity dissipated by conductive braid and hose tube.

- Hose assemblies are individually tested and supplied with a hydrostatic proof test certificate in accordance with EN 1360.
- Full range of couplings (type and materials).

## AIR FORCE

AEROKLER HOSES type C or F for air base fueling and mobile systems.

### Applications

Ground fueling and defueling of aircraft fuels (kerosene, Jet A1, etc.).

### Advantages

- Referenced by the major oil companies for civil airports.
- Highly resistant non fuel contaminating tube.
- Hose assemblies are individually tested and supplied with a tests certificate in accordance with ISO 1825.
- Light weight, flexible and abrasion resistant hose.
- Full range of couplings (type and materials).



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**TRELLEBORG**







**PRODUCTS /  
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**POWER PLANTS  
BATTERIES  
GENERATORS**



# ZHENDRE

## THE REFUELLING SPECIALIST

Zhendre is the brand of Eiffage Energie Systemes specialized in mobile solutions for extreme conditions for more than 65 years.

French designer and manufacturer, we offer converted containers, portable air conditioners and cold rooms meeting the most complex requirements.

Thanks to our industrial expertise, our products are suitable from -32°C to +60°C.

Our know-how is the result of experience in a wide range of fields: boilermaking, insulation, HVAC engineering, electrical engineering, floor (resin, sheet metal, painting), integration of specific equipment (pumps, fans, sensors, tanks, etc...), piping stainless steel and PVC, paint.

We also have a design office, climatic test chambers and a worldwide network of installers.

The company has adopted an ISO 9001 and 14001 certified environmental and quality management system

Thanks to our global offer, we support you throughout your project: design, installation, testing, training, troubleshooting and repair.



**MARC RIVIÈRE** | SALES MANAGER



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# ZHENDRE



# GICAT

The French land defence and security  
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