

CBNW Deputy Editor David Oliver meets Ludovic Ouvry, founder of protection systems company Ouvry

French company Ouvry specializes in the development and production of CBRN personal protective systems based on air-permeable filter textiles

CBNW: Could you give CBNW a short history of your company, and how it became involved in the market?

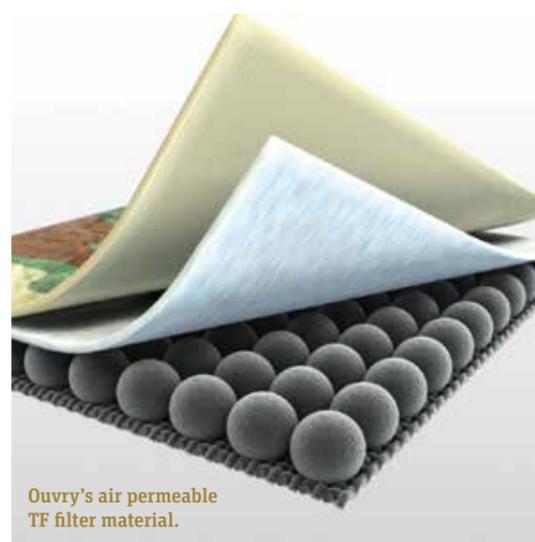
LO: As a textile engineer with a specialty in chemistry, it was my first experience in the manufacture of technical textiles for

the space industry – which convinced me to create in 2003 my own company in CBRN personal protection and to develop solutions based on innovative technologies in this high-tech industry. Fifteen years later, Ouvry specializes in personal and respiratory protection systems.

Our innovative products are intended for all operators of defence, safety and security interventions: those who risk their lives to defend ours. We have a dual field of expertise. Our equipment and systems are also appreciated in health crisis and industrial disasters with the more frequent use of preventive personal protection for the industry, agriculture and critical infrastructure.

Ouvry's head office is located in Lyon, a major industrial and technological centre whose history is strongly marked by textiles and chemistry, particularly in the Vaise district, in the former spinning mills of Rhodiacéta – where our offices and production facilities are located today.

We are at the heart of a true industrial and technological ecosystem that includes



Ouvry's air permeable TF filter material.

weavers, suppliers of chemical products, garment makers, technical and research centres and laboratories, and universities. This fits perfectly with our DNA. Today, Ouvry is more than ever a creator than a follower, knowing how to integrate innovative technological bricks designed with the partners of this ecosystem.

CBNW: How many staff do you employ and how many are involved in research and development?

LO: Ouvry employs about 20 employees but its workforce reaches 50 when taking into account the whole of its 'ecosystem' that includes student researchers, military advisers and consultants. The R&D centre is composed of four employees as well as an engineering doctor, two laboratory technicians, and a scientific university.

Ouvry invests in various R&D activities and programmes in the field of its core business, CBRN PPEs and decontamination. The main activities are flame-resistant, anti-trauma, self-detoxifying textiles, human factors with three pillars: ergonomics, physiology and sensorial tolerance, and decontamination technologies (active, absorption, neutralization) for chemical and biological agents.

CBNW: Can you explain the products that are marked under your main brands?

LO: Through years of experience in the creation of CBRN systems, Ouvry has developed a large product portfolio covering a wardrobe of PPE and masks, decontamination solutions, accessories and innovative products.

Polycombi is a personal protective suit designed for first responders. Based on an air-permeable technology incorporating activated carbon spheres, the Polycombi is compliant with NATO standards and is also CE certified as a category III PPE. The suit includes an internal filter lining with activated carbon spheres and an external oil- and water-repellent-treated outer shell. Polycombi protects against CBRN agents and TICs in liquid, vapour and aerosol form for 12 hours, radioactive particles suspended in the air, and biologically contaminated aerosol and dry microbial penetration. Extremely lightweight and ergonomic, it gives the user comfort and optimum protection. It allows a rapid evacuation of heat, thus reducing the risks of heatstroke. This suit has been tested and adopted by many firefighters and rescue services, medical units, law

enforcement units, and other first-responder services.

The DECPOL emergency decontamination mitt represents the next generation in emergency CBRN decontamination and is a simple, rapid and effective solution for chemical and biological decontamination. It avoids the potential for cross-contamination which exists with current systems. The DECPOL mitt is a polyvalent device which incorporates superabsorbent material with active agents for the destruction of chemical and biological contamination intended for military, first-responders and industrial use for the decontamination of people, weapons and sensitive equipment. The three main actions of the DECPOL mitt are absorption by capillarity, the fast transfer of contaminants within microfibrils. The contaminants will then diffuse throughout the thickness of the hyperabsorbent material, allowing an optimal



Ouvry protective equipment made of O'CPU is worn by an EOD team.



Fighter pilots are equipped with the Ouvry Personal Protective System (OPPS).

Strong

Suit

INTERVIEW

contact with the catalysts in the material. Catalysts are distributed homogeneously throughout the thickness of the hyperabsorbent material that enables decontamination of the chemical agents and disinfection of the biological agents. Degradation by-products are not toxic. Its physical design makes it possible to optimise its efficiency and prevents any release of toxic. DECPOL therefore avoids the risks of cross contamination by limiting the release of powder and inhalation that may contain toxic substances. Developed by Ouvry, DECPOL has been tested on several CWA agents conforming to NATO standards and is now in production.

The Ouvry SIM-KIT introduces a new

generation of realistic chemical simulants for the nerve agents sarin and VX and the blister agent sulphur mustard. They are specifically developed to simulate environmental behaviour of corresponding CWAs for appearance and detection response. The SIM-KIT works with equipment and detection systems in the following categories: Detector paper PDF1, CALID 3, Anachemia, flame or ion mobility spectrometers, detection, warning and identification devices AP2C, AP4C, LCD3 .3, etc. The simulants are also fluorescent, and therefore detectable due to the UV lamp supplied in the kit. They are easy to use, safe for both the user and environment, and biodegradable. Ouvry bought the patent of these simulants last year, and we now produce them in our facilities in Lyon.

CBNW: What are the advantages from your perspective of concentrating on air-permeable textiles?

LO: Based on air-permeable technologies, Ouvry provides a PPE portfolio as an alternative to impermeable plastic suits. Suits made with air-permeable technology are robust and physiologically tolerant, especially in sweat and thermal exchanges. Carbon microspheres allow a rapid evacuation of heat which thus

reduces the risk of heatstroke.

The operational benefits are clear, simultaneously giving comfort and optimum protection. Operators can work longer even in a hot climate, which will reduce rotation of personnel in a crisis management event – and give better resilience, which decreases the risk of secondary contamination when doffing. Air permeable suits are the best compromise for protection, durability and comfort.

CBNW: What are the advantages of your products over other PPEs in the market?

LO: Ouvry has developed a wide portfolio of products adapted to operational requirements. Our mission is to define with our customers the CBRN protection and decontamination system best suited to their mission and environment – then manufacture them in compliance with the standards and regulations in force.

Ouvry offers a complete system with optimised interfaces between different equipment, training solutions and intuitive and didactic documentation. Compared to other air-permeable PPEs on the market, our suits and products have a better durability, a higher protection factor, and comfort.



Top: French National Police Intervention Unit – RAID, wear Ouvry equipment.

Right: Special Forces wearing Ouvry desert camouflage suits.



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CBNW: What percentage of your business is in the military sector?

LO: The military sector represents 40% of our business in France.

CBNW: Could you highlight the advantages of your protection solution for fighter pilots?

LO: The Ouvry Personal Protective System (OPPS) is a whole system for fighter pilots, divided into two subsystems: above-the-neck protection with a specially designed integrated hood with oculars and a demisting system, a CBRN-reinforced oxygen mask – and below-the-neck protective equipment made of O'CPU, a CBRN protective undergarment, undergloves and socks.

OPPS provides total individual aircrew with respiratory and percutaneous protection against CBRN warfare agents. It is designed for sustained operations in the presence of these threats and is readily integrated with existing aircraft and crew-mounted breathing equipment.

By concept, this system is compatible with in-service helmets and flight suits and the interface is compatible with most in-service oxygen masks. An optionally CBRN-proof oxygen mask is also available. Originally designed for the most demanding fighter pilot requirements, the system works with all fixed-wings platforms and a rotary-wing configuration is also available. Without

needing a replacement of the pilot or crew equipment for CBRN protection, this system provides protection and comfort at minimum investment, operation and training costs.

CBNW: Can you explain what training you offer to customers?

LO: Our professional training programmes are dedicated to public and private entities: specialized civil and military operators exposed to CBRN threats, technical staff involved in logistics, maintenance and support operations, and trainers who provide theoretical and practical CBRN-related modules to a specific audience.

We offer tailor-made beginner/intermediate/advanced level programmes through the use of training equipment and toxic, liquid or gas simulants. Our teaching methods are based on case scenarios, the sharing of good practice, and operational feedbacks. Ouvry has gathered a pool of experts and trainers who can provide equipment, legal support and broad knowledge regarding CBRN risks. All our training includes evaluation and refresher courses.

We first propose an 'audit' to assess CBRN needs and provide dedicated recommendations in terms of response capability. We then propose a general training on CBRN risks. The main objective for the customer is to understand CBRN and toxic industrial

chemicals risks and challenges.

Finally, we offer operational training focused on practice, with operating procedures, regulation, and response protocol through the use of equipment and didactical tools such as simulants. We also offer maintenance training for masks, including NTI1 and NTI2 training, BACANOP control tests training, and non-conformity analysis. Lastly, we offer training in quality control and support of CBRN textiles to understand standards and technical specifications and use test equipment and protocols.

CBNW: Where do you see the greatest potential growth sector for your products and services?

CBRN military specialists – such as fighter pilots and EOD teams – with our OPPS, and SIM-KIT; we also anticipate a strong potential for first responders – fire-fighters, ministries of health, public health, and law enforcement looking for air-permeable PPE adapted to their tasks, CBRN masks, and didactical tools for their training.

Finally, Ouvry has begun to enter the market of industrial activities as their requirements are quite close to those of first responders. We apply our know-how to industry operators involved every day in chemically hostile environments and who need comfort and increased protection. ■■

RAPTOR 2: Emergency CBRN Protection Solution



A low burden, lightweight CBRN protective system. A high comfort and high protection two-piece CBRN oversuit system protects against chemical and biological agents offering functionality for the military and the civil services across the globe.

The Raptor 2 has been developed as a vapour barrier system that provides protection to NATO Standards.

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For more information visit our website or call us for an informed discussion on how CQC can solve your CBRN PPE issues.

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First responders wearing Polycombi PPE take part in a CBRN exercise in Nimes.