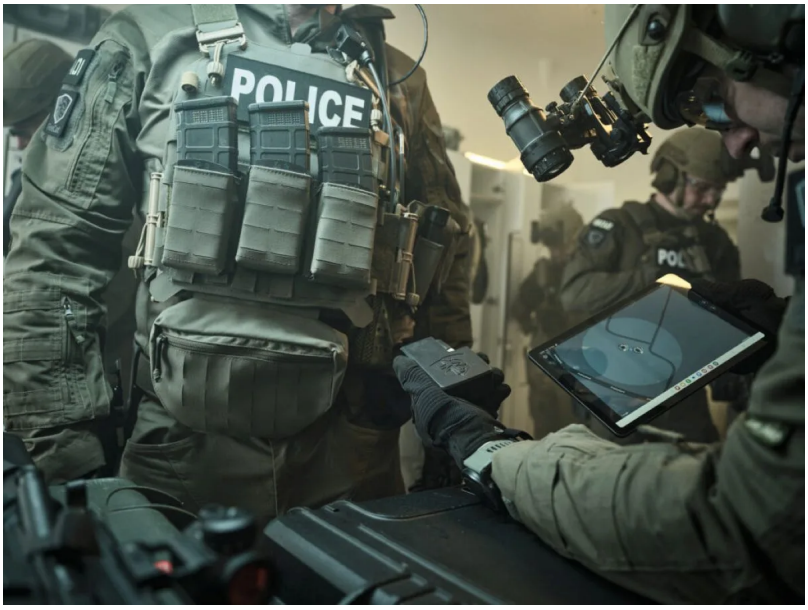

Wearable Technology and Italian Special Forces

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Imagine an operation by the **9th Paratroopers Assault Regiment "Col Moschin"** in a hostile urban area, or the **Operational Raiders Group of the Navy (GOI)** engaged in a clandestine action in the Mediterranean. In scenarios where every second is crucial, the ability to **know in real-time the physical conditions of each operator** could save lives and determine the outcome of a mission.

From an idea born for sports, this capability is now made possible by **6th SENSE**, a system of sensors integrated into uniforms developed by the Swedish startup **WRLDS Technologies** together with the Slovenian **FireCat**. A technology that promises to transform the uniform into an active monitoring tool, combining health, safety, and operational performance.

From fitness to high-intensity combat

WRLDS was founded in 2018 with the goal of measuring the precision of athletes' movements. A niche sector, but with a level of accuracy that attracted the attention of the military world. In 2023, the meeting with FireCat – a leading company in textile supplies for police, firefighters, and armed forces – marked the turning point.

The Italian Special Forces are among the units that could most benefit from this convergence between sports tech and defense. Units like the **GIS of the Carabinieri** or the **17th Raiders Wing of the Air Force** face missions where physical endurance, stress management, and individual survival are decisive.

The **6th SENSE** system meets this need, offering continuous and discreet monitoring, capable of providing command with an immediate picture of the team's conditions in the field.

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The platform consists of two elements:

- **sensors integrated into the fabric of the uniforms**, which detect vital parameters such as heart rate and oxygenation;
- **compact external unit** (belt or pocket-sized), which processes data through on-device artificial intelligence algorithms.

This approach minimizes information transmission, ensuring:

- **greater cybersecurity**, because data is not sent externally;
- **immediate reactivity**, even in environments with poor connectivity;

- **energy efficiency**, crucial for long-duration operations.

For the Special Forces, which often operate in environments characterized by electronic warfare or communication disruptions, this architecture represents a **significant tactical advantage**.

Customization for special missions

A distinctive feature of 6th SENSE is its **modularity**.

- For Col Moschin, engaged in complex urban environments, sensors can be calibrated to detect impacts from explosions or ballistic hits.
- For the GOI, in maritime contexts, the priority might be monitoring hypothermia and fatigue from diving.
- For the GIS, in counter-terrorism operations on national territory, the platform would allow constant monitoring of operators' status during assaults and raids.

The technology thus allows adaptation to different operational needs, from countering international terrorism to NATO missions abroad.

Endurance tests have demonstrated the system's robustness: the sensors have passed tests at **800 degrees with a flamethrower**, maintaining functionality. An essential feature for CBRN (chemical, biological, radiological, and nuclear) contexts or fires.

Simplicity is another priority: the operator only needs to **turn on the device**. No interface, no display: those on the ground must focus on the mission, not on managing a gadget.

Opportunities for Italy and NATO prospects

The adoption of systems like 6th SENSE fits into the broader strategy of modernizing the Italian Armed Forces, particularly in the **Digital Soldier Transformation**, which aims to integrate soldiers, sensors, and command systems into a single operational network.

For Italy, the use of this technology could translate into:

- **greater operator survival** in high-risk missions;
- **reduced rescue times** in case of serious injuries;
- **better coordination between the command chain and the team in the field**;

- **integration with NATO C4ISR systems**, strengthening interoperability in multinational theaters.

WRLDS and FireCat are already evaluating access to NATO technology acceleration programs, which could favor a future **shared adoption among allies**.

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