

AGIS Highlights Smartwatch Integration as Next Evolution in Military Situational Awareness

Touch and Voice-Activated Data Entry and Automated Early Warning In A Wearable Device, for every soldier as a sensor

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Reflecting on the words "Every Soldier is a Sensor" as he emphasized this mindset in basic training, Lt. Gen. Thomas Metz, deputy commanding general and chief of staff of the Army

Training and Doctrine Command, sensed that Individual Soldiers would play a more and more important role in the complex wireless electromagnetic environment of modern warfare.



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Voice-enabled smartwatches ..., are positioned to revolutionize battlefield situational awareness, enhancing command decision-making and soldier safety in combat environments.”

Cap Beyer, Vietnam War veteran

Recent empirical data from Ukrainian battlefields indicate that [approximately 70% of casualties are attributed to aerial drone strikes](#), underscoring the escalating lethality of drone warfare in modern conflicts. This alarming statistic highlights the urgent need for advanced, automated warning systems capable of delivering timely alerts about life-threatening threats to soldiers on the front lines. This concept emphasizes having real-time situational awareness, the rapid sharing of critical data, with streamlined communication across units, to improve operational responsiveness and significantly reduce casualties. The integration of automated warning technologies into soldier systems is essential to meet

challenges and to safeguard human life more effectively.

In this concept of operations, every soldier acts as a reconnaissance sensor, and also, they become a node across the situational awareness network—an operational paradigm known as "Every Soldier as a Sensor". For this network, the Government-issued equipment would need to

adapt to mini size, low power demand hardware, and intelligent signal processing technology. In this way, the system can improve the overall situation awareness and the soldier's combat ability in the electronic information battlefield.

Current Challenges with Smartphones in Tactical Operations

Though smartphones have been integrated into military applications, they present significant drawbacks, chiefly in their high cost and operational limitations. Smartphones used for platforms such as the Android Team Awareness Kit (ATAK) incur substantial expense, posing budget challenges for widespread deployment across the DoD services. Additionally, their reliance on touch screen data entry is a hindrance in tense and high-pressure battlefield scenarios where a soldier's rapid and accurate input may become compromised by the need for their manual dexterity and visual attention on a smartphone screen.

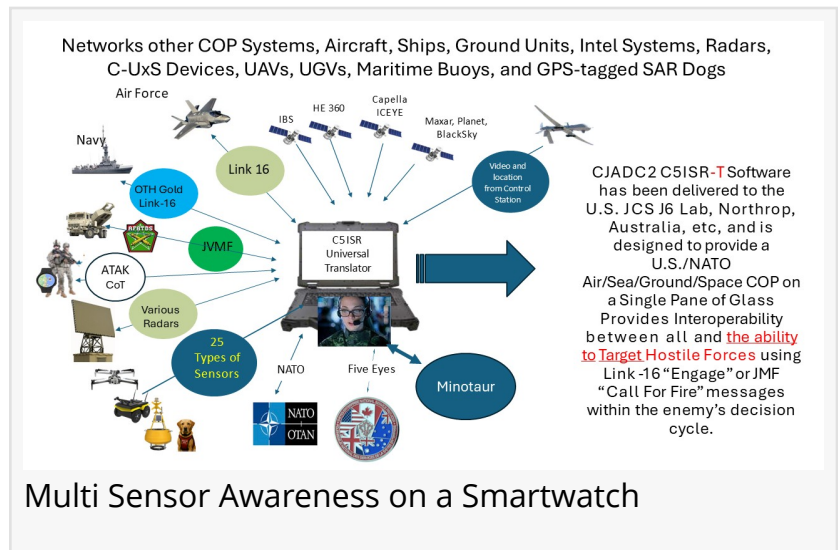
Wearable Smartwatches: A Lightweight and Efficient Alternative

In contrast to smartphones, wearable smartwatches offer a considerable advantage in weight and usability. User data and studies will show that smartwatches impose a lighter burden on soldiers compared to carrying smartphones, improving comfort and mobility during operations. The upper arm and wrist are preferred locations for wearing these devices due to their comfort, ease of visibility, and confidence to remain securely in place during rigorous activity.

A major limitation of current smartphone usage is the requirement for [manual data entry that slows command and control processes](#). Wearable smartwatches equipped with voice recognition technology eliminate this obstacle, enabling soldiers to enter MIL-STD-2525 symbols and markers—including those for drones—rapidly via voice commands. This hands-free interaction dramatically accelerates the flow of tactical information and reduces the cognitive load on soldiers. Moreover, smartwatches can receive and display photos of current incidents or persons of interest, providing vital visual intelligence directly on the soldier's wrist, facilitating timely decision-making. And they can make encrypted voice calls.

Limitations of Current Systems in Detecting and Reporting

Current smartphone-based C2 platforms face challenges in rapidly, accurately, and automatically detecting and sharing the locations of nearby hostile and friendly units, which can delay critical tactical responses. Moreover, current technologies lack the ability to automatically alert relevant



personnel when a soldier is wounded, leading to potential delays in critical medical evacuation, support, and search and rescue operations.

Smartwatch Technology as a Solution

Integrating voice recognition and command functionalities within smartwatches addresses these critical gaps. Soldiers can swiftly input relevant tactical symbols vocally, while automated alerts can be triggered by physiological sensors embedded in the wearable devices to inform command immediately upon detection of injury or condition. This fusion of wearable health monitoring and voice-activated communication establishes each soldier as an effective sensor node, while monitoring his health status and ability to continue to operate effectively.

The mindset of "Every Soldier as a Sensor" underscores the shift towards empowering individual soldiers with advanced, wearable technologies that overcome the financial, ergonomic, and operational shortcomings of smartphones. Voice-enabled smartwatches, with their lightweight design and robust communication capabilities, are positioned to [revolutionize battlefield situational awareness](#), enhancing command decision-making and soldier safety in combat environments. Embracing this technology not only fulfills operational needs but also ensures that soldiers remain connected, informed, and protected at all times. AGIS is the leader in this revolutionary use of Smartwatches for military operations. For more information, visit www.agisinc.com.

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