

**THALES**

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# Communication Enabled Networked Tactical Augmented Reality (CENTAuR)





Thales' concept for the CENTAuR system shows how the modular architecture allows the operator to customize according to mission needs.

The Communication Enabled Networked Tactical Augmented Reality (CENTAuR) system provides the operator with unsurpassed situation awareness and capabilities that, until now, have only been available to helicopter and fighter pilots.

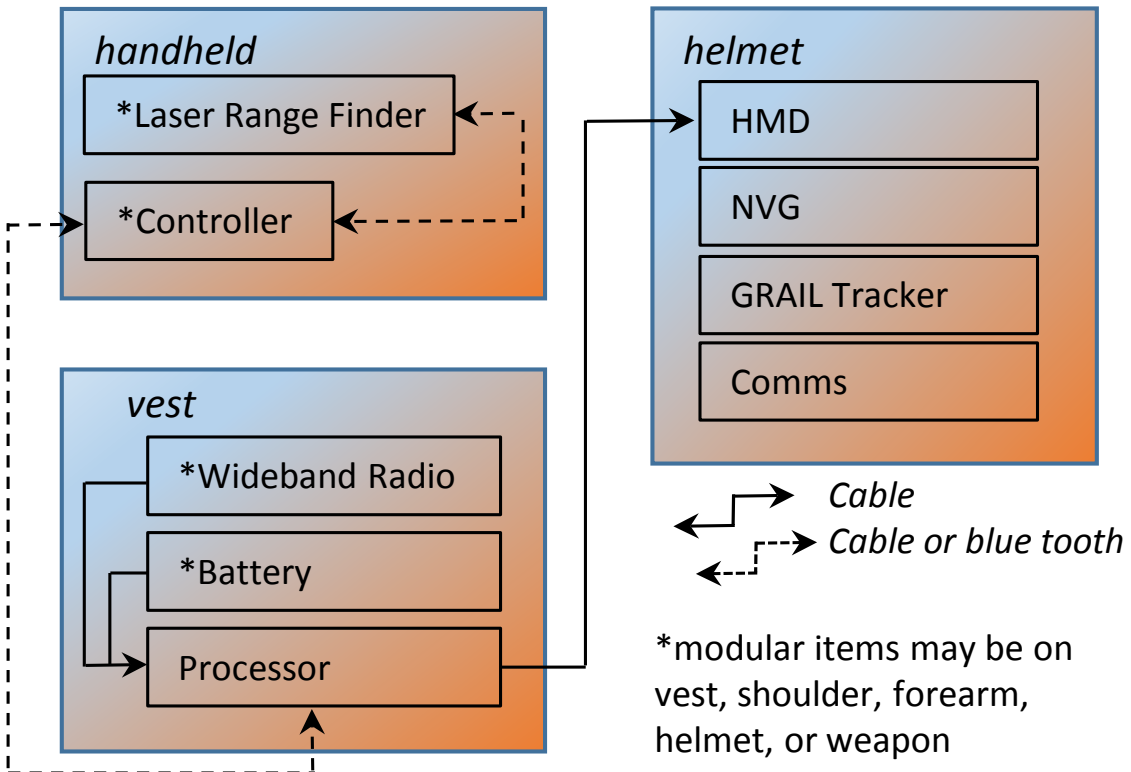
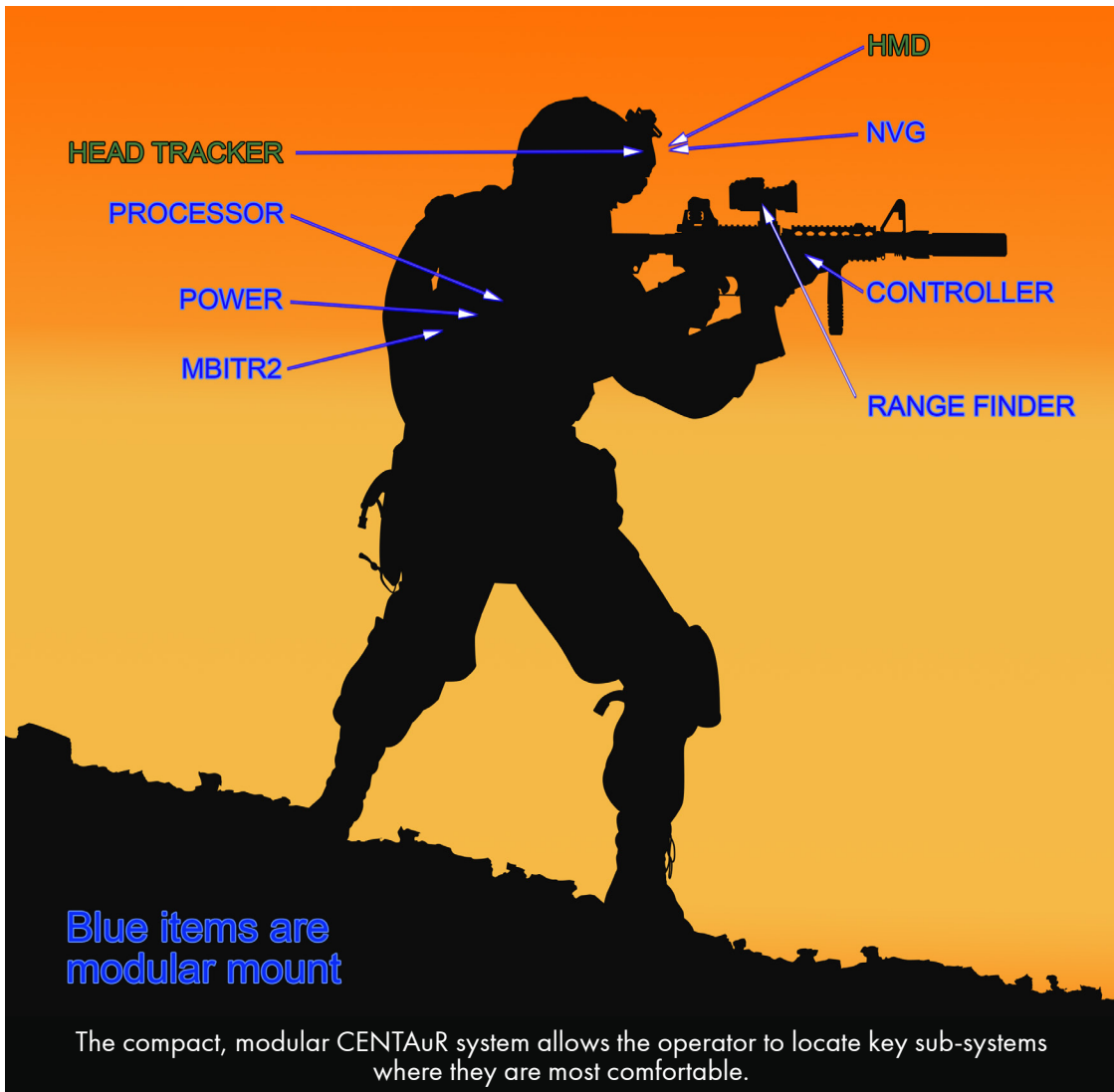
Based on decades of research and development on the world's most innovative display and helmet tracking technologies for pilots, Thales has created the CENTAuR system for ground applications. The networked hands-free, heads-up, eyes-out, augmented situation awareness and improved head position tracking technology provides operators with blue and red force tracking, target acquisition, and image transmission enabled by the Soldier Radio Waveform (SRW) or other wideband mesh network.

In addition to displaying maps and other fixed data, CENTAuR's sensors track body and helmet movements and orientation. This stabilizes target, mission, and navigation symbols so they remain earth-referenced as helmet orientation and position change. Even in GPS-denied environments, operators have hands-free, heads-up, and eyes-out access to key information, significantly reducing workload, enhancing situation awareness, and improving safety for operators and their mission.

#### **CENTAuR consists of four sub-systems:**

- **See-through, full-color Helmet Mounted Display (HMD).** The HMD design is based on Thales' fielded Scorpion® system, which is fully compatible with Night Vision Goggles.
- **Geo-referenced 6-degree of freedom (position and orientation) tracker.** Based on Thales' fielded Hybrid Optical-based Inertial Tracker (HObIT), the Geo-Referenced Adaptive Inertial Localization (GRAIL) Natural Feature Tracking (NFT) system provides precise location and orientation, even in GPS-denied environments.
- **Data-Enabled Tactical Communications.** Thales' AN/PRC-148B MBITR2® and Improved-MBITR (IMBITR) are currently the only simultaneous 2-channel handheld radios on the market. Both provide all the existing functionality of the widely fielded AN/PRC-148 JEM radio, plus wideband networking for higher data throughput and video. Using the MBITR2, the Rifleman Radio, or the IMBITR, operators benefit from the encrypted networked transmission of battlespace information, such as Position Location Information (PLI), maps, and video using SRW or Tactical Scalable MANET Enhanced (TSM-E).
- **User-Configurable Symbolology Processing.** Co-locates the incoming location of PLI/Link 16/BFT/COT data and processes it for presentation on the HMD.

Thales' CENTAuR end-to-end solution includes the HMD, the tracker, and networked data transfer via the wideband MANET-enabled radio. CENTAuR improves situation awareness and reduces overall risk by empowering operators with the ability to seamlessly track and evaluate blue and red forces, user health and weapon status, and other potentially life-saving factors in the battlespace.





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