



## SURVIAC Success Story

### A Knowledge Based Technical Approach to Capability Development

<http://iac.dtic.mil/surviac/>

<b>Customer:</b>	Headquarters Marine Corps, Combat Development and Integration (HQMC, CD&I), Fires and Maneuver Integration Division (FMID).
<b>Challenge:</b>	In today's unconventional wars, there are no front lines and the theater landscape ranges from narrow Iraqi streets to mountainous Afghan terrain. Although the venerable High Mobility Multi-Purpose Wheeled Vehicle (HMMWV) offers the warfighter versatility, it was designed decades ago and provides little protection against improvised explosive devices (IEDs) that have claimed the lives of thousands of soldiers and Marines. The Joint Light Tactical Vehicle (JLTV) is the Joint Service's solution for closing this gap – by restoring the mobility, payload-carrying capacity, and transportability of a light tactical vehicle – while saving troops' lives in a protective vehicle package. However, in an attempt to avoid cost and schedule overruns, DoD sent JLTV into a competitive prototyping technology development (TD) phase to confirm requirements, technology and cost feasibility. A new combat development approach was required in the TD phase to learn from industry's ability to design such a vehicle while ensuring firm requirements, mature technology, and affordability were acceptable.

<p><b>Approach:</b></p>	<p>SURVIAC developed a new combat development approach based on the structured use of knowledge points and early use of systems engineering fundamentals during combat development and requirements generation activities. Managing weight-related trade-space between IED protection and whole system performance, as well as total system cost, was the greatest concern. SURVIAC's approach included emphasis on how these knowledge points drive the injection of key information into the capability development process. Its approach was based on prototype performance during design and testing, trade-off studies, cost analyses and other non-program related analyses. This approach addressed how to increase collaboration between capability developers, material developers, test/evaluation authorities, research organizations and cost analysis organizations.</p>
<p><b>Value:</b></p>	<p>Using the SURVIAC combat development approach, the JLTV requirements were approved by the Joint Requirements Oversight Committee in January 2012. Due to its successful implementation on JLTV (and at the direction of senior Army and Marine Corps leadership), this approach is now being replicated on multiple large-scale ground vehicle programs, such as the Amphibious Combat Vehicle and Ground Combat Vehicle in both the Marine Corps and Army.</p>

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