

MITIGATION - SCIENCE AND TECHNOLOGY ADVANCES FOR CHEMICAL AND BIOLOGICAL HAZARD MITIGATION

Advanced Concepts In Automated Systems For Chemical Weapons Disposal In Remote Environments

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Efficiently managing the destruction of quantities of chemical weapons (CW) that exceed a few munitions yet fall short of justifying a full-scale destruction plant poses a significant challenge. This challenge is further compounded when considering scenarios where the munitions are situated in remote environments, potentially lacking sufficient qualified Explosive Ordnance Disposal (EOD) personnel. Can new technologies be harnessed to address this issue and enable non-EOD personnel to undertake CW disposal tasks?

Drawing upon nearly 25 years of collaboration with the warfighter, Valent has been at the forefront of providing systems capable of handling small munition quantities on-site. Historically, these field-deployable systems have required manual placement by operators directly onto the target. However, Valent has embarked on a journey to explore advanced technologies that could manage larger quantities of munitions and would be operable by personnel with basic system training. This presentation explains Valent's thoughts on integrating automation and robotics into expeditionary systems designed for deployment in remote and challenging terrains.

Though still in the conceptual phase, these developments hold immense promise for addressing CW disposal challenges. By introducing automation combined with basic robotic systems, not only could throughput be significantly enhanced, but organisations could leverage the use of non-technical personnel for most tasks. This could significantly impact training burdens and allow a greater degree of flexibility on deployed operations. Valent invites input from the Chemical Weapons Disposal (CWD) community, acknowledging the invaluable role of collaboration in advancing solutions for managing CW across diverse operational contexts.

This presentation serves as a platform for Valent to share its innovative ideas and solicit feedback from experts in the field. By fostering collaboration and embracing technological advancements, Valent believes in using technology to optimise CW disposal practices, ideally enhancing operational efficiency and safety, particularly in scenarios that already present significant challenges.