

The ESLI Challenge: It's About the Requirements

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The U.S. joint services have long recognized the need for a simple, reliable means of determining the remaining service life of their chemical, biological, radiological, and nuclear (CBRN) mask filters. End-of-service-life indicators (ESLIs) detect the remaining gas-life capacity of the filter and alert the user when it is time to replace the filter. This, in turn, increases user safety and confidence in their mask system. Other tangible benefits include a reduction of filter change frequency and cost due to conservative (safe-sided) change-out schedules. For military applications, it is desirable that the ESLI target a substantial number of potential chemical threat agents which in practice is extremely difficult to achieve. In addition, performance specifications for military CBRN respirators are very robust since the masks are deployed under a wide range of environmental conditions. This presentation will highlight the key requirement challenges associated with developing CBRN filter ESLIs for military end users.