

MOD TECHNOLOGY READINESS LEVELS AND THEIR DEFINITIONS
Technology readiness level

9	Actual Technology System qualified through reliability and maintainability demonstration in service	Application of the technology in its final form and under mission conditions, such as those encountered in operational test and evaluation and reliability trials. Examples include using the system under operational mission conditions.
8	Actual technology system completed and qualified through test and demonstration.	Technology has been proven to work in its final form and under expected conditions. In almost all cases, this TRL represents the end of Demonstration. Examples include test and evaluation of the system in its intended weapon system to determine if it meets design specifications, including those relating to supportability.
7	Technology system prototype demonstration in an operational environment	Prototype near or at planned operational system. Represents a major step up from TRL 6, requiring the demonstration of an actual system prototype in an operational environment, such as in an aircraft or vehicle. Information to allow supportability assessments is obtained. Examples include testing the prototype in a test bed aircraft.
6	Technology system/subsystem model or prototype demonstration in a relevant environment.	Representative model or prototype system, which is well beyond the representation tested for TRL 5, is tested in a relevant environment. Represents a major step up in a technology's demonstrated readiness. Examples include testing a prototype in a high fidelity laboratory environment or in simulated operational environment.
5	Technology component and/or basic sub-system validation in relevant environment.	Fidelity of sub-system representation increases significantly. The basic technological components are integrated with realistic supporting elements so that the technology can be tested in a simulated environment. Examples include "high fidelity" laboratory integration of components.
4	Technology component and/or basic technology sub-system validation in laboratory environment.	Basic technology components are integrated. This is relatively "low fidelity" compared to the eventual system. Examples include integration of "ad hoc" hardware in a laboratory.
3	Analytical and experimental critical function and/or characteristic proof-of-concept.	Analytical studies and laboratory studies to physically validate analytical predictions of separate elements of the technology are undertaken. Examples include components that are not yet integrated or representative.
2	Technology concept and/or application formulated.	Invention begins. Once basic principles are observed, practical applications can be postulated. The application is speculative and there is no proof or detailed analysis to support the assumptions. Examples are still limited to paper studies
1	Basic principles observed and reported.	Lowest level of technology readiness. Scientific research begins to be evaluated for military applications. Examples might include paper studies of a technology's basic properties.