

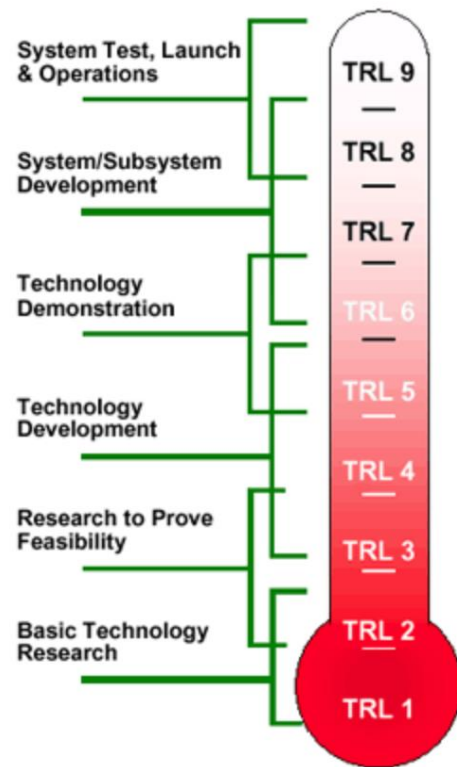
Analysing the Technology Readiness Level of WeLASER

Problem statement

In 2010, the EC adopted the Technology Readiness Assessment for estimating the maturity of the technologies developed in EU-funded research and innovation projects. This assessment is based on the identification of the technology status with a scale of nine Technology Readiness Levels (TRL) being TRL9 the most mature technology.

The TRLs were developed at NASA in the 1970s and defined as (ISO 16290:2013):

- TRL1-Basic principles observed
- TRL2-Technology concept formulated
- TRL3-Experimental proof of concept
- TRL4-Technology validated in lab
- TRL5-Technology validated in relevant environment
- TRL6-Technology demonstrated in relevant environment
- TRL7-System prototype demonstration in operational environment
- TRL8-System complete and qualified
- TRL9-Actual system proven in operational



Measuring the TRL

The definition of the TRLs features: (a) the TRL assignment is self-declared, (b) the definitions of the different stages are quite general and (c) the transitions between stages are abstract, which makes extremely complex the process of assigning a TRL to a given technology.

Fortunately, some institutions have elaborated calculators based on questionnaires to ease the procedure of identifying the TRL of a specific technology.

Practical conclusions

WELASER will use the TRL calculator defined by the US Air Force Research Lab (Based on MS Excel) to assess the TRL of the different subsystems, that are expected to achieve TRL6/7, and the whole weeding system, which is expected to achieve TRL7.

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