

Technology Readiness Level (TRL) Table

Stages of Product Development	Technology Readiness Level	Characteristics
Pre-Commercialization/Product Development	TRL 9	<ul style="list-style-type: none"> • Technology ready for full scale commercial deployment
Late Stage Technology Development	TRL 8	<ul style="list-style-type: none"> • Technology incorporated in commercial design • Tech proven to work in final form in expected conditions
Validation/Early Stage Technology Development	TRL 7	<ul style="list-style-type: none"> • Prototype ready. Integrated Pilot System demonstrated
	TRL 6	<ul style="list-style-type: none"> • Prototype system verified by testing in the actual operational environment
Prototype Development	TRL 5	<ul style="list-style-type: none"> • Lab testing of integrated system with support elements in a simulated environment • High Fidelity Prototype
	TRL 4	<ul style="list-style-type: none"> • Design, development & lab testing of tech components – integrated, to establish that they will work together • Low Fidelity Prototype
Proof of Concept	TRL 3	<ul style="list-style-type: none"> • Critical function, proof of concept (PoC) established • Laboratory studies aim to validate analytical predictions of separate components of the technology
Ideation	TRL 2	<ul style="list-style-type: none"> • Applied Research: technology concept and/or application formulated • Analytical Studies/Experimentation/Feasibility Assessment
	TRL 1	<ul style="list-style-type: none"> • Basic Research: basic principles are observed and reported • Fundamental investigations and Paper Studies