

System Readiness Level	Technology Readiness Level	Manufacturing Readiness Level	Integration Readiness Level	Business Readiness Level	Driver	Explanation & Insights
0-Idea	1-Basic principles observed and reported				TRL	Start with a good idea
Valley of Death #1 - Can you get funding and a team for a new idea?						
1-System concept	2-Technology concept and/or application formulated	1-Basic Manufacturing Implications Identified	1-Identification	1-Formation	BRL	Need funding to form a team and get a real concept
2-System technologies			2-Characterization	2-Product Concept	BRL	Need funding to form a team and get a real concept
3-System proof of concept	3-Analytical and experimental critical function and/or characteristic proof of concept	2-Manufacturing Concepts Identified	3-Compatibility	3-Value Concept	MRL	Working through your ability to actually build your concept - suppliers, specifications, materials limitations.
4-System component verification	4-Component and/or breadboard validation in a laboratory environment	3-Manufacturing Proof of Concept Developed	4-Quality and Assurance		TRL	Technical issues dominate as you compare the TRL 1 idea with the actual, as built TRL 4 demonstrator.
Valley of Death #2 - Can you work out the integration issues and get the technology out of the lab? At this point, integration issues that have been ignored will come crashing down all at once. If the development						
5-System validation	5-Component and/or breadboard validation in a relevant environment	4-Capability to produce the technology in a laboratory environment		4-Market Validation	IRL	Interfaces and environment dominate in taking a proof of concept to a real operational prototype
6-System prototype demonstration	6-System/subsystem model or prototype demonstration in a relevant environment		5-Interface Control Established	5-Business Model	IRL	Interfaces and environment dominate in taking a proof of concept to a real operational prototype
Valley of Death #3 - Can you get a customer base really interested enough to refine your prototype into a real product? Note that at SRL=6, you only have a prototype that makes sense to what the developer thinks is a						
7-System operational demonstration	7-System prototype demonstration in an operational environment	5-Capability to produce prototype components in a production relevant environment	6-Interface communication/translation normalized	6-Customer Development	BRL	Customer development through Test, Evaluation, Demonstration and early adopters drives next
8-Actual system demonstration	8-Actual system completed and qualified through test and demonstration		7-Verification & Validation	7-Product refinement	BRL	Early adopter feedback leading to product refinement is the driving activity leading to a mature product
9-Operational system	9-Actual system proven through successful mission operations	6-Capability to produce a prototype system or subsystem in a production relevant environment	8-Mission Qualified		IRL	Mission testing is the dominant activity that verifies the system works well in its intended environment and that a mature product is ready for full production.
10-Produicable, Maintainable and Sustainable System		7-Capability to produce systems, subsystems, or components in a production representative environment	9-Mission Proven		MRL	Manufacturing drives the next stage to show that the product can be produced
Valley of Death #4 - Can you simultaneously market and produce enough of your product to compete and grab enough market sharemarket share to sustain yourself through to full rate production? Note that at						
11-Marketable System		8-Pilot line capability demonstrated; Ready to begin Low Rate Initial Production		8-Market share	BRL	Investment required to build up the manufacturing capability, Market surveys and customer interaction give investors confidence that the product will sell once manufacturing capability is established
12-Production Ready System		9-Low rate production demonstrated; Capability in place to begin Full Rate Production			MRL	Manufacturing is the dominant activity
Valley of Death #5 - Can you successfully compete and cooperate in the marketplace?						
13-Financially sustainable, commoditized or publically tradable system		10-Full Rate Production demonstrated and lean production practices in place		9-Sustainability	MRL	Manufacturing maturity drives the final stage in reaching the end state of an IPO, a sustaining addition to a corporate portfolio or an emerging market dominant company