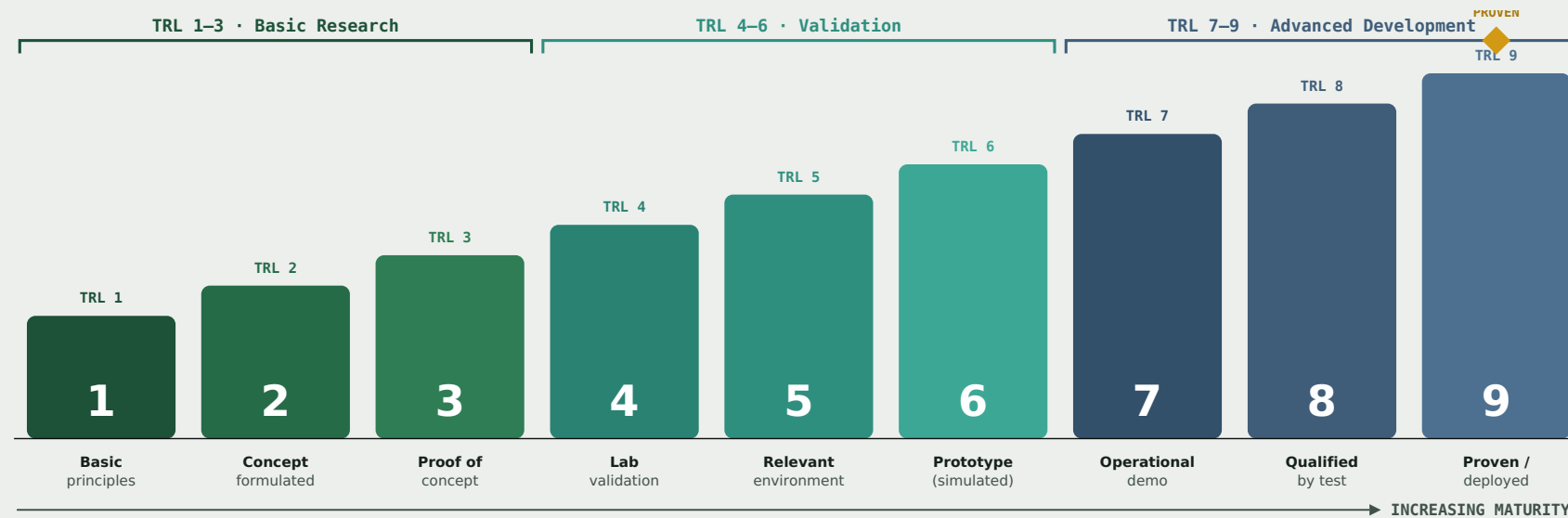


Technology Readiness Level

TRL 1 - 9

Readiness is measured on a **1-to-9 scale** to assess the maturity of a technology before it is integrated into a system or operational environment.

01 The 1-to-9 readiness scale



02 What each band proves

TRL 1 - 3 Basic Research

- 1 Basic principles observed.
- 2 Technology concept formulated.
- 3 Analytical proof of concept demonstrated.

TRL 4 - 6 Validation

- 4 Components validated in a laboratory environment.
- 5 System / subsystem validated in a relevant environment.
- 6 Models / prototypes demonstrated in a simulated setting.

TRL 7 - 9 Advanced Development

- 7 Prototype ready for demonstration in an operational environment.
- 8 Actual technology completed and qualified through test and demonstration.
- 9 Actual technology proven through successful deployment in an operational setting.



Why the ladder matters

The TRL scale exists to retire technical risk before a technology is committed to a system or operational environment. Each rung converts uncertainty into evidence — from a principle on paper at TRL 1 to hardware proven in the field at TRL 9, the point at which the technology is ready for deployment.