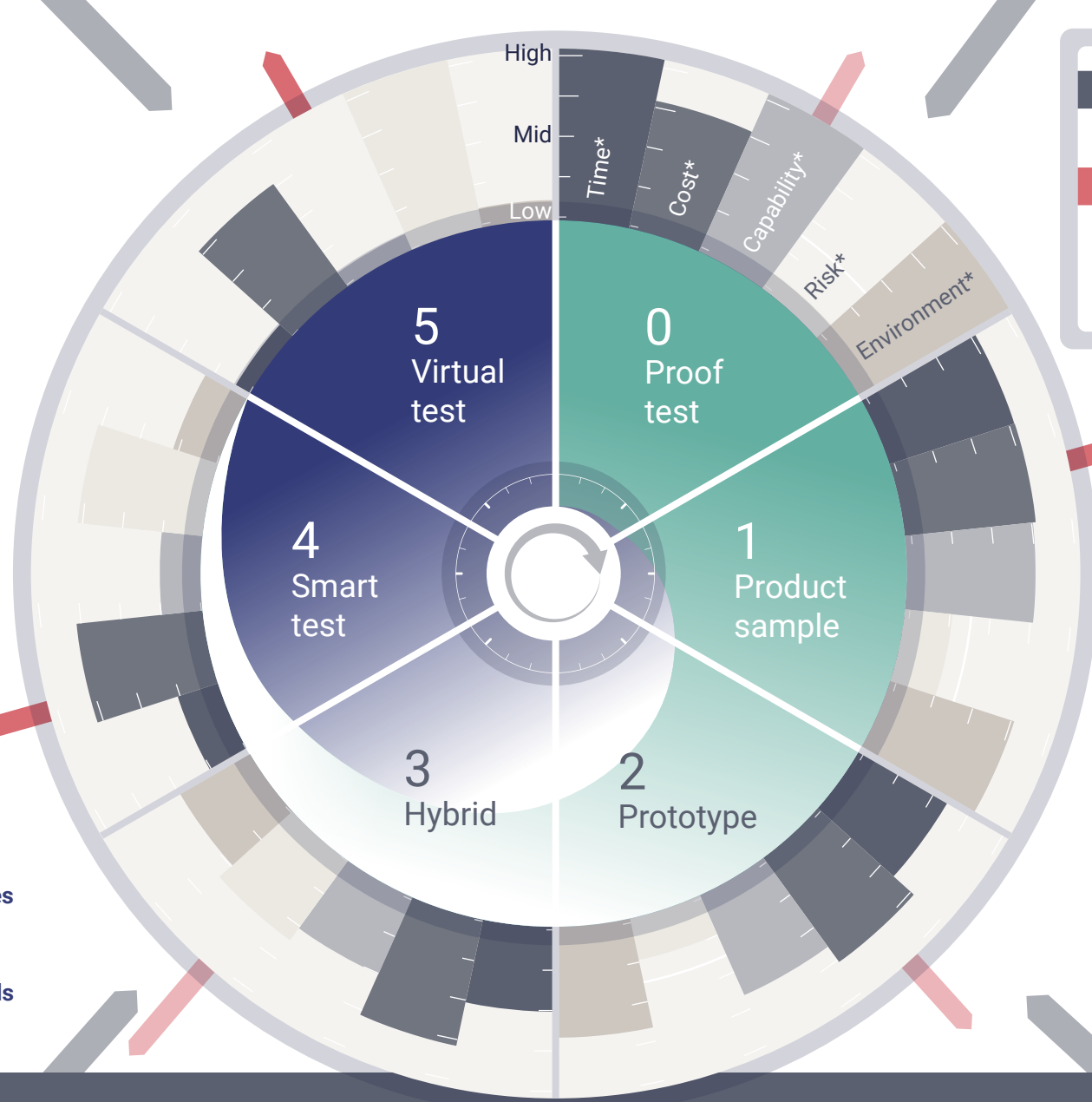


# Certification by Analysis Assessment Framework



**Inputs**  
Regulations, standards, codes

**Outputs**  
Agreed certification plan  
Accelerated certified product

\* Values indicative



## Increase virtual tests by:

- Digital technologies and processes
- Simulation trust
- Uncertainty management
- Information and process standards
- Smart testing techniques



## Reduce physical tests by:

- Data analytics
- Statistical analysis
- Smart testing techniques

Key	Level 0 - Proof testing	Level 1 - Product sampling	Level 2 - Prototype-based certification	Level 3 - Hybrid certification	Level 4 - Smart testing virtual certification	Level 5 - Virtual certification
	All production items are physically tested against defined operational criteria	A statistically relevant sample of production items are physically tested against defined operational criteria	Compliance demonstrated based on physical testing of prototypes or a non-production item	Compliance demonstrated via combination of numerical simulation and physical testing of sub-scale models, components, sub-assemblies or complete product	Compliance demonstrated via numerical analysis with simulation methods validated via smart (physical) testing	No physical testing within the design compliance process. Compliance demonstrated via numerical analysis against defined regulatory criteria