

Technology and Solution Readiness Level (TSRL)

- **TSRL 1-3: Research and solution validation:** Research is primarily done in the lab and ranges from fundamental research to proof of concept in a lab setting. Theory and scientific principles are focused on knowledge and application to define the concept. Analytical tools are developed. A potential business model is outlined, with problem and solution validation required. A market and competitive analysis is performed to align the proposed solution with the market need.
- **TSRL 4-6: Development:** The basic technological components are integrated for testing in a simulated environment and include alpha testing of prototypes. Knowledge and operational practices (e.g., best management practices) are tested at small scales in the field. A roadmap for the solution's technical requirements is developed to complete a demonstration of design prototypes in specific applications.
- **TSRL 7: Field Pilot:** The prototype is tested in the field in an operational environment and is well integrated with other systems. The proposed solution package is tested by end-users to validate performance and integration.
- **TSRL 8-9: Demonstration:** The technology is scaled up and tested in its final form and under expected conditions. Activities include the development of handbooks, documentation and maintenance. The solution has been developed to the stage of a minimum viable product, validating the proposed business model and confirming market applicability.
- **TSRL 10: Commercial:** The first commercial application of the technology; the technology is ready for licensing and widespread adoption by others.