

# Investment Readiness Level (IRL)

## Idea-to-Start-up-to-VC

- **IRL 9:** Full Commercial Development – A full time process engineering staff continuously verifies that operations are meeting cost, yield and productivity targets.
- **IRL 8:** Pre-Commercial Demonstration – Operating Conditions and quality stabilized
- **IRL 7:** Prototype High Fidelity MVP: Integrated Pilot Continuous Operation
- **IRL 6:** Validate Business/Revenue Model: Integrated Pilot Development– understanding operational nuances
- **IRL 5:** Validate Product-Market Fit (Integrated Validation of the Minimum Viable Process and Process Engineering). “High-fidelity” - A high-fidelity laboratory environment would involve testing with equipment that can simulate and validate all system specifications within a laboratory setting.
- **IRL 4:** Prototype Low-Fidelity Minimum Viable Product (MVP): “Low-fidelity” - A representative of the component or system that has limited ability to provide anything but initial information about the end product.
- **IRL 3:** Validate Problem - Solution Fit (Confirmed Value Proposition & Techno-Economic Analysis) & Minimum Product Cost (Maturity of Core Technology)
- **IRL 2:** Applied Research (Market Size and Competitive Analysis) & Business Plan – Value Proposition & IP Identification
- **IRL 1:** Basic Research (Need Identification & Peer Review Publications) & Completed First-Pass Business Model Canvas (BMC)

IRL 1 Complete First-Pass BMC	IRL 2 Market Size/ Competitive Analysis	IRL 3 Problem/ Solution Validation	IRL 4 Prototype Low- Fidelity MVP	IRL 5 Validate Product/Market Fit	IRL 6 Validate Revenue Model	IRL 7 Prototype High- Fidelity MVP	IRL 8 Validate Value Delivery	IRL 9 Identify and Validate Metrics that Matter
BMC filled in	Detailed map of total addressable market	At least one potential market segment invalidated	Market hypotheses and tests developed to guide learning from MVP	Map of customer ecosystem and flow	Map money flow	Market hypotheses and tests developed to guide learning from MVP	Partnership ecosystem mapped	Key growth metrics identified
Describe assumptions that must be true for each entry into the BMC	Sub-sections of the market	First target segment identified (60-100 interviews)	MVP is built (sample data, financial model etc)	Get-Keep-Grow loop outlined	Revenue model validated ( <b>20+ interviews</b> )	Actual market-based prototype is built	Funding and growth model built	Measurement system in place
Outline how each assumption will be tested & measured, and how success will be identified (Test Card)	First niche we will address (in terms of \$ we can earn, not total value of each segment)	Customer problem validated (60-100 interviews)	Prototype solution validated ( <b>20+ interviews</b> )	Market channels and customer relationships validated ( <b>20+ interviews</b> )		Prototype solution validated ( <b>20+ interviews</b> )	IP requirements identified and secured	Some customer acquired (may happen in IRL 6)
	Competitor map (Petal Diagram)	Solution validated ( <b>60-100 interviews to do this</b> )					Assumptions in the left four blocks are tested/validated ( <b>30+ interviews</b> )	Idea ready for launch/sale/license etc