EWI SMM Observations

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We Manufacture Innovation

"We Manufacture Innovation"

…but what does this mean for SMMs?

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EWI and SMMs: Program Learnings

- Built a Community: Shift
  - Engaged with 251 SMMs, 103 Business Assessments, 27 Innovation Audits
  - Walked over 100 SMM facilities
  - Hosted 4 roundtables to discuss SMM needs and issues in regards to technology

- Prepared Community:
  - Change Management, Strategic Planning, Technology Awareness Training, Recommended Improvements
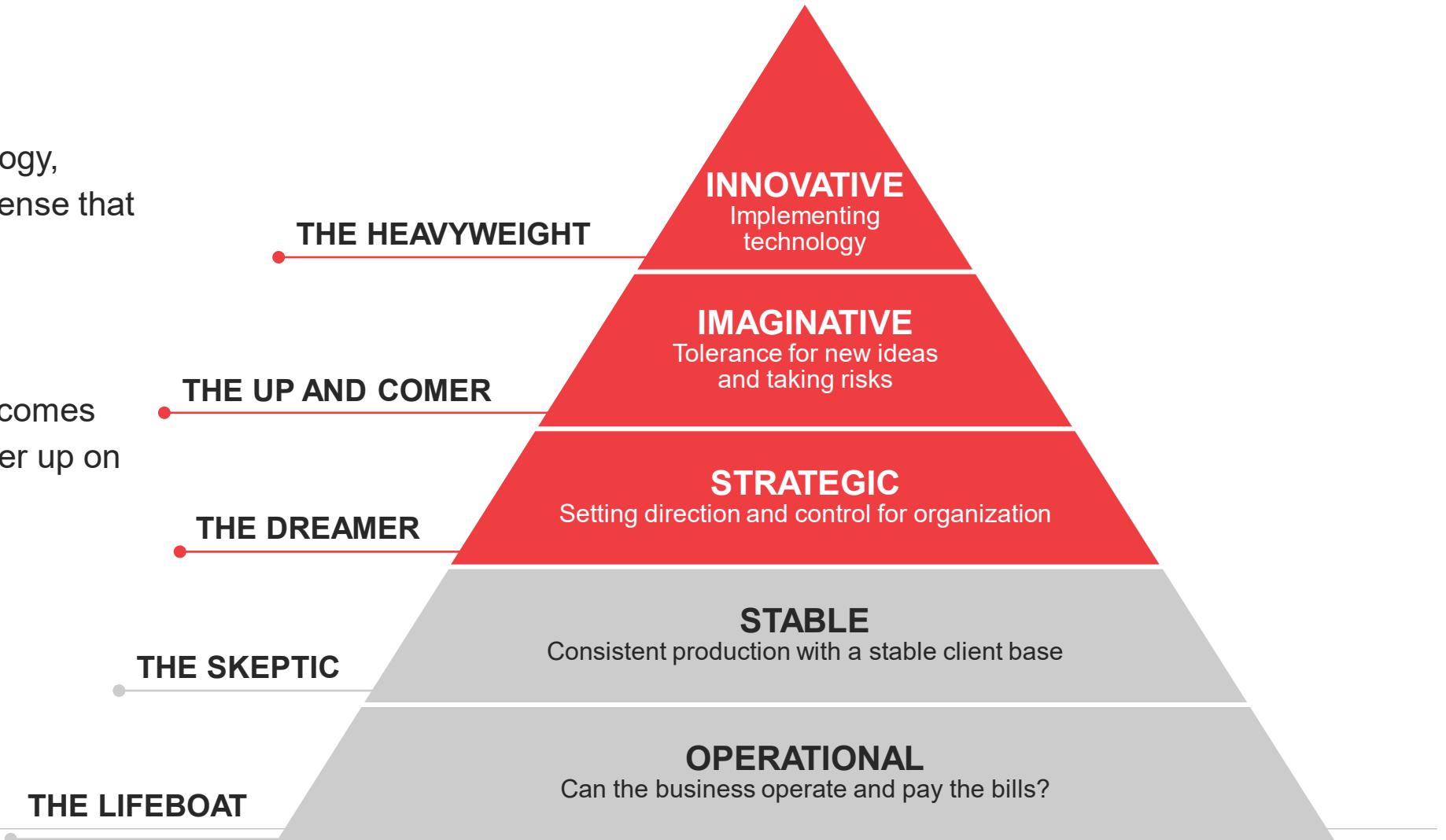
Community

Advanced Manufacturing Technology Awareness

Business Assessment — Insights

Knowledge

Workshops — Recommendations

Innovation Audit

? — Implementation

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Hierarchy of Needs for Manufacturing Innovation

In order to implement technology, manufacturers must have a sense that their business can meet their immediate needs.

Innovation can exist in any organization, but true impact comes when manufacturers are higher up on the pyramid.

THE HEAVYWEIGHT

INNOVATIVE
Implementing technology

THE UP AND COMER

IMAGINATIVE
Tolerance for new ideas and taking risks

THE DREAMER

STRATEGIC
Setting direction and control for organization

THE SKEPTIC

STABLE
Consistent production with a stable client base

THE LIFEBOAT

OPERATIONAL
Can the business operate and pay the bills?

4

Barriers to Technology Adoptions for Small to Medium Manufacturers

Strategic Planning
- Prioritizing creating a plan for innovation
- Tracking progress against a strategic plan
- Planning for the unknown
- Strategic decision paralysis
- Understanding available resources

Workforce
- Succession planning
- Attracting new talent
- Retaining entry-level and emerging talent
- Upskilling current talent
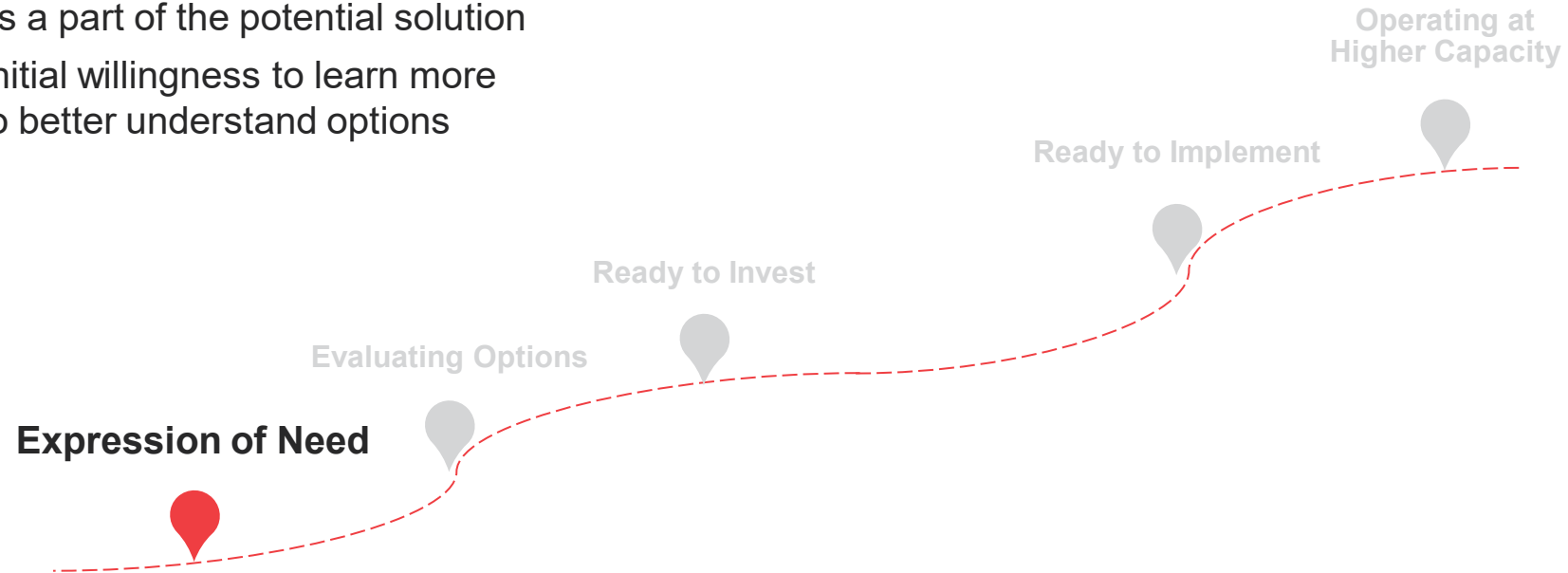- Closing the skills gap
- Dynamic skill needs

Capital
- Capital planning
- Access to flexible capital
- Understanding technology ROI

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Journey to Becoming a More Innovative Manufacturer
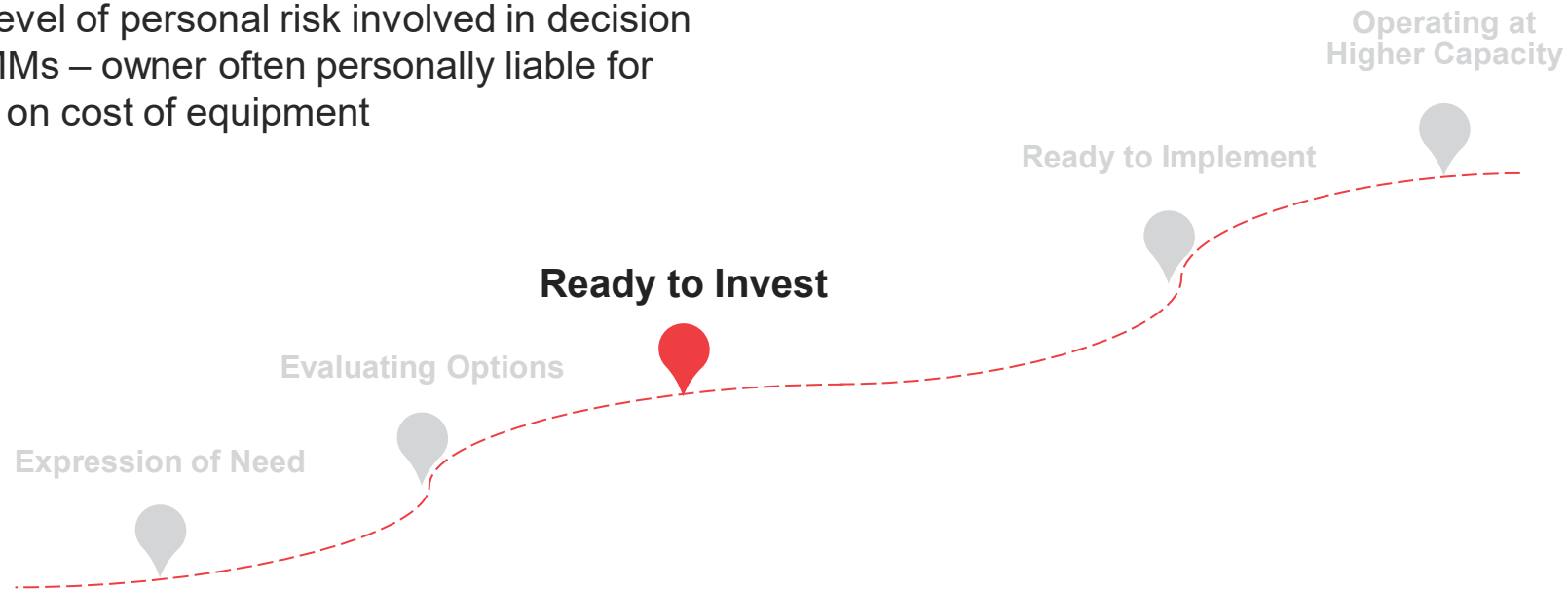
Key Barriers At This Stage

○ Recognizes a problem needs to be solved

○ Awareness of manufacturing technology as a part of the potential solution

○ Initial willingness to learn more to better understand options

Operating at
Higher Capacity

Ready to Implement

Ready to Invest

Evaluating Options

Expression of Need

Journey to Becoming a More Innovative Manufacturer

Key Barriers At This Stage

○ "Crossing the chasm" – confidence that this will work outweighs balance sheet risk/opportunity cost

○ High level of personal risk involved in decision for SMMs – owner often personally liable for taking on cost of equipment

Operating at Higher Capacity

Ready to Implement

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Evaluating Options

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What Technologies Are SMMs Looking to Implement?

Technology	%
Automation Solutions	46%
Automation	
Robotics	
Inspection system	
Testing	
Automated data	
Automated welding	
Cobot	
Automating material processing	
Control systems	
Part handling	
Additive Manufacturing	13%
Metal additive	
Software / IT	10%
ERP	
Systems	
CRM	
Digital work instructions	
Augmented reality	
IT	
AI learning	

Technology	%
Lasers	6%
Fiber laser	
Laser cutting	
Misc.	
Testing	5%
IIOT	3%
Basic technology	3%
5-axis	2%
Injection molding	2%
Mills	2%
Plasma and water jet	1%
Finishing equipment	1%
Paint	1%
Advanced materials	1%
Hard turning	1%
CNC	1%
Profile Extrusion	1%
RFID	1%

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Thank you for your time.

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