

Incubation Management to Transform Research & Innovation in Academia

In our journey to becoming 'Atmanirbhar Bharat', it is critical that we transform the young innovators and researchers into the next generation of technology entrepreneurs of the country.

And where better to implement this than the premier institutes with young ambitious talent of outstanding calibre?



23RD
JULY 2020
4 PM - 5 PM

Vish Sahasranamam, Co-founder & CEO, Forge to deliver a talk on 'Incubation Management to Transform Research & Innovation in Academia' to the faculty of Atal Bihari Vajpayee School of Management and Entrepreneurship, **Jawaharlal Nehru University** as part of the two-week FDP on COVID-19 New Age Teaching Pedagogy.

WEBINAR

Think & Act Like Entrepreneurs

Inspiration & Purpose
Principles & Process

Academia - Faculties & Students

Vish Sahasranamam
Cofounder & CEO



Accelerating **Technologies & Ventures**, powered by **Government & Industry** sponsored Open Innovation.

100+
Startups Incubated

200+
Product Innovations

₹10Cr+
Investments Won



50k+ sq.ft
Innovations
& Ventures Hub

Coimbatore
Chennai
Hosur

Learn more at
forgeforward.in

Great

Entrepreneurs

Great

Entrepreneurs

New **PRODUCT**
Categories

Creating huge
MARKETS!

Entrepreneurial **INNOVATION**

Translating
Innovative Ideas
Technology
into Ventures

Venture =

A high-growth Company

High-Growth Company

↑ Revenue @ nX

↑ Cost @ X



Startup?

Startup =

A new company **with** the
potential for high-growth!

Venture

twin engines of this rocket...

Innovation

Growth

Venture

twin engines of this rocket...

Innovation

(Technology)

Growth

(Venture Capital)

Startup =

A new company with the
potential for high-growth!

Startup =

A new company **proving** the **potential** for high-growth!

Startup

Need

Market Size (TAM)

Idea

Vision

Technology

Innovation

Product

Business Model

Team



Potential

Startup

Assumptions



Potential

Startup

Assumptions



Opportunity



Potential

Risks



RISKS

CUSTOMER

- + Motivation
- + Acceptance
- + Commitment

MARKET

- + Entry
- + Size
- + Competition

PRODUCT

- + Feasibility
- + Production
- + Viability

GROWTH

- + Rate (Sales)
- + Execution
- + Team
- + Network

Startup =

A new company **proving** the **potential** for high-growth!



Problem Statement

There is currently no means to remotely monitor high-risk/vulnerable persons, medical practitioners & patients, especially when there is a huge demand-supply gap in the capacity for delivering healthcare services.

***Wearable** device that collects data about the patient's **body temperature, heart & lungs** paired with a companion mobile application enabling **remote monitoring & diagnostics** of COVID-19*

Value Proposition

- Seamless tracking of a large number of individual persons/patients
- Demographic analysis of disease progression
- Data driven decisions for planning Surge Capacity
- 15-20% Quicker diagnostics
- Reduction in the total number of tests conducted



Smart glass using **Mixed Reality & AI-enabled facial recognition** that instantly measure **temperature, mask status** and detect **violations** of social distancing

Problem

In the post-lockdown era, Malls, Airports, Railway & Bus stations carrying out manual screening to isolate people with symptoms is going to become a huge operational burden.

Value Proposition

- Large Scale rapid thermal scanning (100/minute)
- 1-3 meters scan distance at an accuracy of 0.5C
- Identify people without masks
- Custom analytics & alerts



A **portable assistive breathing device** that automates in pumping air/oxygen into a patient's lungs ensuring **effortless respiration**, thus averting terminal illness.

Problem

Breathing assistance at initial stages of COVID-19 diagnosis leads to lesser number of escalations to terminal illness in patients.

1 out of every 6 positive cases become terminally ill and require ventilator support.

Value Proposition

- Non-invasive & light-weight breathing aid
- Requires minimum expertise
- Provides adjustable pressure & breathing levels



An ultra lower power **mesh communication** system using a combination of hardware and software modules creates a **local positioning system** capable of tracing, tracking and monitoring movements of individuals.

Problem

Tracking movement of individuals within a restricted space, especially in hotspots with higher risk of community transmission, is a major challenge to effectively contain spread of infections.

Value Proposition

- Reduced manpower for surveillance of movement
- Quick historic contact tracing with least amount of time and human intervention
- Monitoring of all individuals in a large population

Which **INNOVATION**

will you invest **Rs.50L?**

WHY?



Innovation

Assumptions

VALIDATION

Risk Factors

CUSTOMER

PRODUCT

Evidence

Biggest Risk in Innovation?

Building a Product your target customer doesn't want,
finds it not valuable and so is not willing to buy!!!

Innovator

I Build...
What I WANT TO!
What I CAN!



Customer

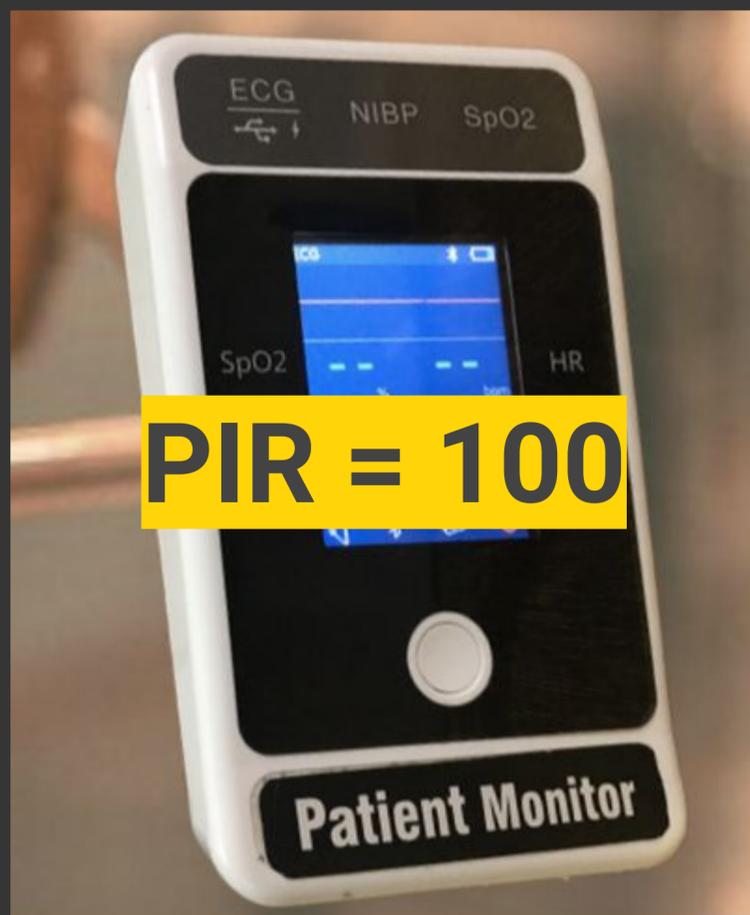
YOU Build...
What I NEED!
What I CAN USE!
What I WILL PAY FOR!

INNOVATION RISK FACTORS							
	IS THE PROBLEM STATEMENT DEFINED CLEARLY?	» Vague definition of the problem but unable to understand a real-world use-case/scenario and end-users that face the problem; 2	» Only a generalized problem statement is indicated but without any indication of real-world use-case/scenario and end-users; 4	» A novel idea but purely technical in nature without a strong case for it being applied in a real-world problem/use-case scenario; 6	» Clearly defined problem statement as it is experienced by the beneficiary (beneficiaries) in the real-world but without a description or indication of significance/ magnitude; 10	» Clearly defined and validated problem statement with description of the significance and magnitude of the problem along with profile of different types of beneficiaries impacted by the problem; 20	
	IS THIS PROBLEM WORTH SOLVING?	» Idea is about offering a very conventional product done several times before; 2	» A technical challenge in the form of a gap in existing systems/ solutions/processes is described but without any specific description of a real-world use-case/scenario and end-users that face the problem; 4	» Conventionally solved problem but idea is about solving some minor gaps in the existing solutions; 8	» Unsolved problem but with limited problem significance/magnitude; 12	» Higher degree of problem significance/magnitude but relates to gaps/issues in the existing solutions in the market today; 14	» Unsolved problem with very high degree of significance/magnitude impacting multiple beneficiaries; 20
	IS THE CHOSEN TARGET CUSTOMER (TYPE/PROFILE) STRONGLY MOTIVATED TO SOLVE THE PROBLEM?	» A generalised description of the beneficiary without any indication of a specific target-customer; 4	» A weak profile of the target customer (end-user) chosen is indicated along with a generalized description of use -case (problem scenario); 6	» The target customer (profile) selected for validation is not aware or convinced that the problem is critical to solve; 8	» The selected target customer has tried solving the problem and is actively looking for more effective/ complete solutions; 14	» The selected target customer has expressed interest to actively co-create an innovative solution; 20	
	IS THE CORE VALUE PROPOSITION DEFINED, QUANTIFIED AND VALIDATED?	» Vague description of the target customer (end-user) but unable to understand how solving this problem offers any benefits; 2	» A generalised description of the beneficiary without indication of specific target customer but the benefits offered are too minimal or insignificant; 6	» A generalised description of the beneficiary without indication of specific target customer with reasonable benefits offered but not quantified; 10	» A compelling value proposition targeting a specific target customer but acks any validation in the form of user/customer feedback; 12	» A strong value proposition with quantified gains backed by strong validation from a reasonable number of target users/customers; 20	
	IS THE MUP CONCEPT EFFECTIVE IN TESTING THE TARGET VALUE PROPOSITION?	» Vague definition of the solution without a specific set of outcomes that prove that the problem has been solved; 2	» Solution is presented purely from a technical point of view and will work in the lab but looks impractical for end-user adoption; 6	» Solution defined fits the tag of MUP in terms of offering only the core feature/functionality to test/ prove the value proposition, but has not been designed to overcome adoption barriers; 12	» A very cost effective MUP that can be prototyped rapidly to test the value proposition and shall overcome the adoption barriers; 20		

Score/100

INNOVATION RISK FACTORS	
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Score:100/100



PIR = 100



PIR = 94



PIR = 70



PIR = 94

Venture

Assumptions

VALIDATION

Risk Factors

CUSTOMER

PRODUCT

MARKET

GROWTH

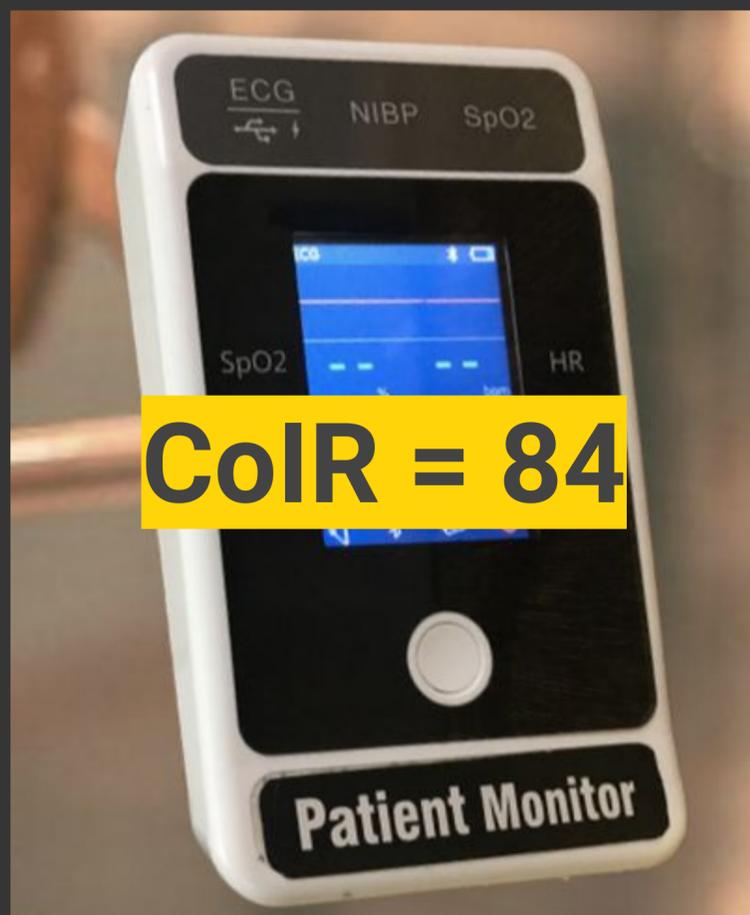
Evidence

COVID-19 INNOVATION RUBRIC

CONTINUOUS SCORING	1	<p>» Problem Significance [20] + Severity (Necessity) + Frequency (Ind. Beneficiary Level) + Incidence (Agg. Market Level) + Validation</p>	<p>» Vague definition of the problem and unable to understand the real-world use-case/scenario and the severity of problem faced by end-users due to COVID-19</p> <p>[Level: 5/20]</p>	<p>» Only a generalised problem statement with use-case relating to COVID-19 Pandemic scenario without any analysis of the beneficiaries impacted by the problem.</p> <p>[Level: 10/20]</p>	<p>» Clearly defined problem statement as experienced by the beneficiaries affected by the COVID-19 Pandemic, claimed to be of high significance/magnitude but lacking sufficient expert-backed validation</p> <p>[Level: 15/20]</p>	<p>» Clearly defined problem statement as experienced by the beneficiaries affected by the COVID-19 Pandemic, with sufficient expert-backed validation of the significance in terms of necessity, severity & incidence</p> <p>[Level: 20/20]</p>
CONTINUOUS SCORING	2	<p>» Technology Advantages [15] + Breakthrough Tech + Core-Product (Multiple Applications) + IP Potential</p>	<p>» A generic solution that lacks the innovation of a breakthrough tech and unlikely to develop any IP.</p> <p>[Level: 4/15]</p>	<p>» An innovative (original) solution with a differentiated application of existing technology but not unique enough to generate substantial IP advantages.</p> <p>[Level: 7/15]</p>	<p>» Novel technology with a considerable advantage over existing solutions, and unique enough to generate substantial IP advantages.</p> <p>[Level: 10/15]</p>	<p>» Futuristic technology with validated IP potential that is likely to emerge as a core product for several applications beyond COVID-19</p> <p>[Level: 15/15]</p>
CONTINUOUS SCORING	3	<p>» Team & Capabilities [15] + Tech Expertise + Domain Expertise + Capabilities (Production/Commercial) + Supply Chain - Partners/Resources</p>	<p>» Founders are involved full-time, along with core technical team</p> <p>[Level: 3/15]</p>	<p>» Visionary entrepreneur, core technical and operations team capable of commercialising the innovation, guided by eminent advisors</p> <p>[Level: 7/15]</p>	<p>» Established partners to offer resources and capabilities for production, commercial launch and distribution.</p> <p>[Level: 11/15]</p>	<p>» Strong evidence of founders and team capable of building and scaling a high-growth technology company</p> <p>[Level: 15/15]</p>
DISCRETE SCORING	4	<p>» Product Readiness [20] + Time-to-Pilot [7] + Pilots/User-trials - Certification/Regulation [5] + Features/Functionality/Usability (Problem-Solution Fit) [4] + Manufacturability [4]</p>	<p>» Time-to-Pilot Highly likely to complete prototype of target MVP ready for rigorous end-user trials within 3 months.</p> <p>[Score:+7]</p>	<p>» Pilots/User-trials - Certification/Regulation Completed a sufficient number of end-user trials, validated for regulatory compliance and certification standards.</p> <p>[Score +5]</p>	<p>» Features/Functionality/Usability (Problem-Solution Fit) The Product solves the problem most effectively and has been tested for usability, integration/ deployment constraints and requirements.</p> <p>[Score: +4]</p>	<p>» Manufacturability Production-Ready Design suitable for mass manufacturing prepared to negotiate contracts with supply-chain and factory partners for market launch within 3-6 months.</p> <p>[Score: +4]</p>
DISCRETE SCORING	5	<p>» Product Advantages [15] + Scaling up Accessibility (Adoption/Usage)[5] + Category creation[4] + Category Leadership[3] + Original/Indigenous Solution[3]</p>	<p>» Scaling up Accessibility The solution is designed for easily scaling up its accessibility to the largest customer base, apart from having potential for being adopted by more number of users in considerably less time.</p> <p>[Score +5]</p>	<p>» Category creation Potential to emerge as a new product category with a significantly large market opportunity.</p> <p>[Score: +4]</p>	<p>» Category Leadership Product concept/design with significant differentiation in terms of tangible gains and measurable benefits, most likely to emerge as category leader.</p> <p>[Score: +3]</p>	<p>» Original/Indigenous Solution Higher extent of locally sourced technology, design, know-how and production resources with lower dependency on imports, foreign partners & collaborators.</p> <p>[Score: +3]</p>
DISCRETE SCORING	6	<p>» Commercial Advantages [15] + Potential in adjacent markets[5] + Potential for licensing[4] + Ease of Distribution[3] + Unit Economics[3]</p>	<p>» Potential in adjacent markets Technology or product has the potential to be commercialized in adjacent markets beyond COVID-19, validated by domain experts.</p> <p>[Score: +5]</p>	<p>» Potential for licensing Product Design is suitable for Technology Licensing/Transfer for scaling up manufacturing and expanding commercial footprint.</p> <p>[Score +4]</p>	<p>» Ease of Distribution Existing channels can be utilised for distribution, sales, user activation, customer acquisition, & lifecycle support, at relatively lower costs compared to existing solutions.</p> <p>[Score: +3]</p>	<p>» Unit Economics Proposed Price of MVP - including a reasonable margin over Direct Costs, is backed by substantial evidence of willingness-to-pay and a competitive value-price fit.</p> <p>[Score: +3]</p>



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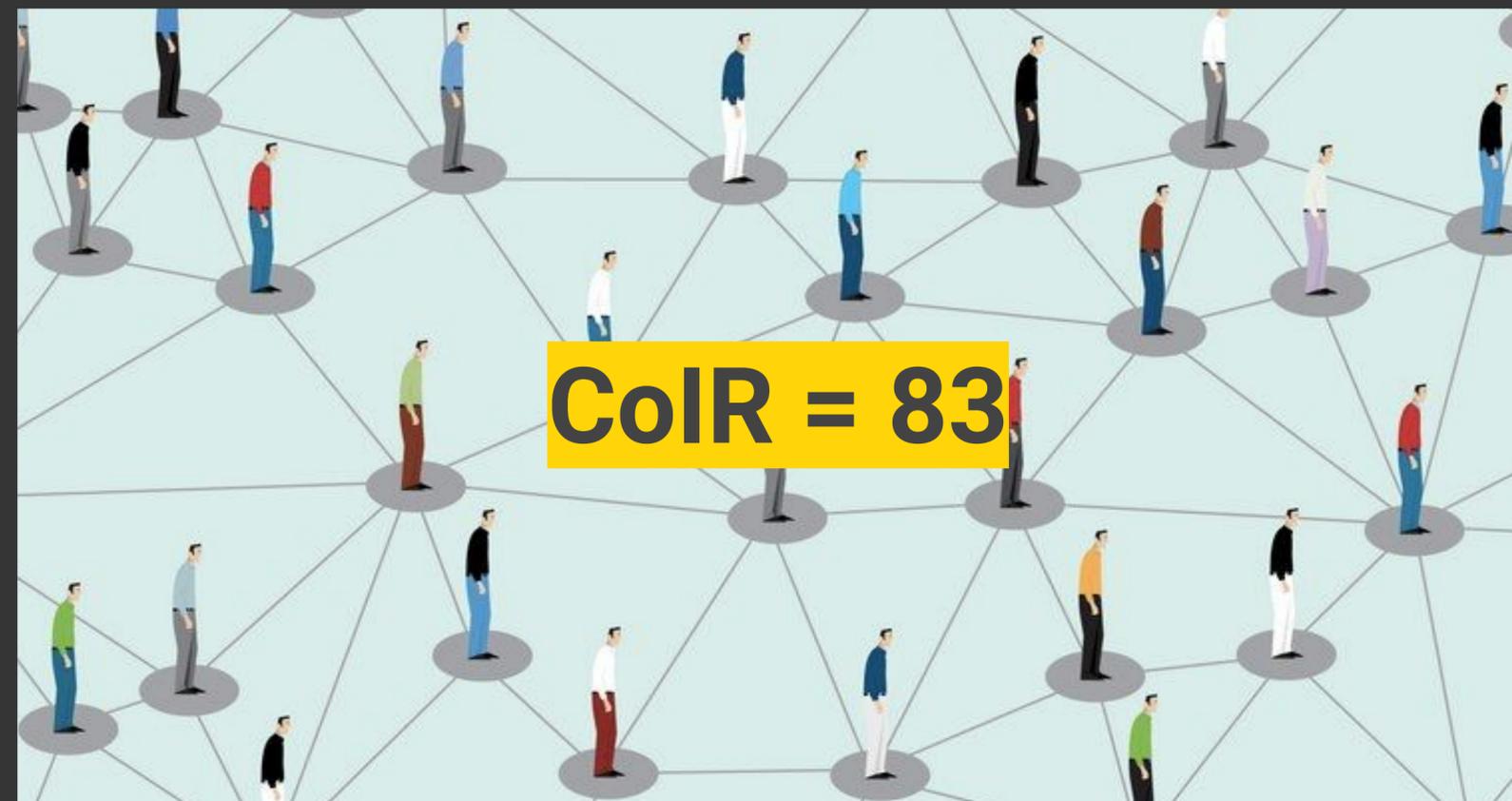
CoIR = 84



CoIR = 83



CoIR = 61



CoIR = 83

STARTUP

The **PROCESS** from IDEA to VENTURE!

Evidence based Entrepreneurship

IDEA



PROTOTYPE



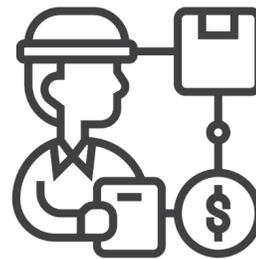
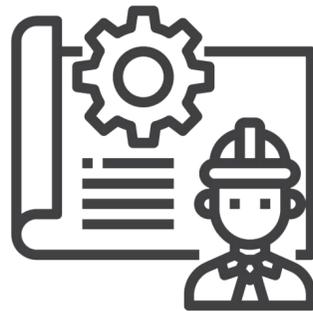
PRODUCT



BUSINESS



VENTURE



Value-Price Fit

Product-Factory Fit

Product-Market Fit

Investment-Growth Fit

STARTUP

The **PROCESS** from IDEA to VENTURE!

MANAGED INCUBATION

IDEA



PROTOTYPE



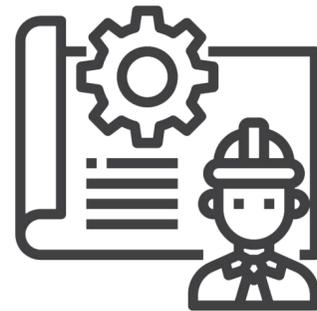
PRODUCT



BUSINESS



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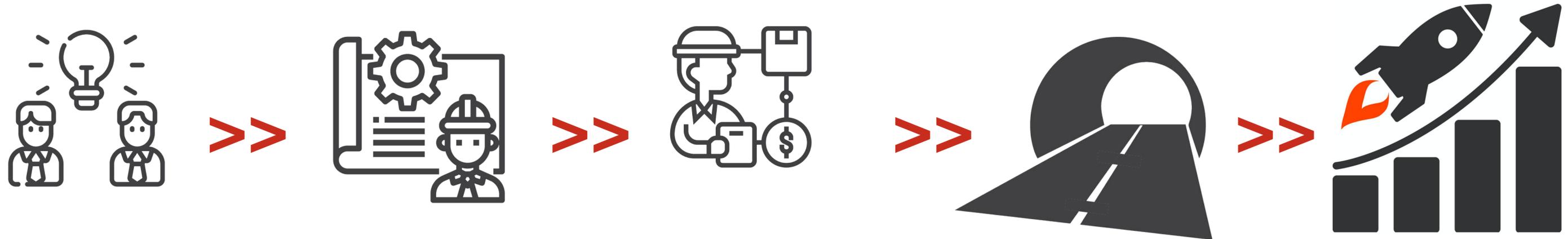
Value-Price Fit

Product-Factory Fit

Product-Market Fit

Investment-Growth Fit

MANAGED INCUBATION



5Ms

- + MEANS
- + METHOD
- + MENTORING
- + MARKET
- + MONEY



Think & Act

Like

Innovators
Entrepreneurs
Investors



Innovation Practicum

Talent | Technology | Tools

Entrepreneurship Practicum

Mindset | Methods | Models

Venture Practicum

Product | Market | Growth



 **8** Pre incubation [Startup Sem] •

 **7** Corporate/Startup Internship •

 **6** Innovation Fellowship Protosem Digital, AIoT, Robotics •

 **5** Innovation Fellowship Protosem Digital, AIoT, Robotics •

 **4** Ideation Sprints II Year - IV Semester ••

 **3** Design Sprints II Year - III Semester ••

 **2** Innovation Sprints I Year - II Semester ••

 **1** Engineering Sprints I Year - I Semester ••

- Digital Only
- Digital First Physically Augmented

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