

# Talk On

## Advancing your technology with **BIRAC's Innovation Funding Program**

**(Understand more about SBIRI, BIPP, PACE... & others funding opportunities @ BIRAC)**

**Talk will be followed by one-on-one mentoring sessions  
(By Smita Kale, PhD) for selective participants wanting to apply for  
BIRAC's funding programs**

**One-on-one mentoring time slot: 1.30 pm-4.30 pm**



**Premnath Venugopalan, PhD**  
**Director, Venture Center**



**05-01-2024**  
**11:00 am - 12:30 pm**



**Hybrid (In-person at Venture  
Center & online over Zoom)**



**Scan to register**



Premnath Venugopalan, PhD  
Director, Venture Center



Smita Kale, PhD  
Advisor - Bioincubation,  
Venture Center



# Advancing your technology with BIRAC's innovation funding programs

**Premnath V, PhD**

*Head, NCL Innovations | Founder Director, Venture Center*

5 Dec 2024

**Why this session today?  
Current and upcoming calls**



**बाइरैक**  
बिआरएक  
birac  
Ignite Innovate Incubate

**BIOTECHNOLOGY INDUSTRY  
RESEARCH ASSISTANCE COUNCIL**  
(A Government of India Enterprise)

**INVITES PROPOSALS**  
for

**DEVELOPMENT, VALIDATION &  
PRE-COMMERCIALIZATION  
OF PRODUCTS/TECHNOLOGIES**

**in the areas of**  
**Healthcare; Energy and Environment;  
Agriculture and Secondary Agriculture;  
Veterinary Sciences and Aquaculture**

**under**

**i4 (Intensifying the Impact of Industrial Innovation)**  
Supports industry through

- SBIRI (Small Business Innovation Research Initiative)
- BIPP (Biotechnology Industry Partnership Programme)

**PACE (Promoting Academic Research Conversion to Enterprise)**  
Supports academia through

- AIR (Academic Innovation Research)
- CRS (Contract Research Scheme)

**बाइरैक**  
बिआरएक  
birac  
Ignite Innovate Incubate

**Biotechnology Industry  
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**INVITES PROPOSALS**  
for

**Development, validation &  
pre-commercialization of  
products/technologies  
in the areas of**

**Healthcare**  
**Veterinary Sciences &  
Aquaculture**

**Energy and  
Environment**  
**Agriculture and  
Secondary Agriculture**

**Under Challenge Call\***

<b>i4 (Intensifying the Impact of Industrial Innovation)</b>	<b>PACE (Promoting Academic Research Conversion to Enterprise)</b>
<b>Supports industry through:</b>	<b>Supports academia through:</b>
<ul style="list-style-type: none"> <li>▶ SBIRI (Small Business Innovation Research Initiative)</li> <li>▶ BIPP (Biotechnology Industry Partnership Programme)</li> </ul>	<ul style="list-style-type: none"> <li>▶ AIR (Academic Innovation Research)</li> <li>▶ CRS (Contract Research Scheme)</li> </ul>

*\*Refer to RFP for more information*

**Deadline: 20 Jan 2024**  
**<https://birac.nic.in/cfp.php>**



**Get started on your BIG journey with us!**

Work on your BIG idea with India's No.1 Bioincubator \*  
Choose Venture Center as your BIG partner!

UP TO **50** LAKHS

Call open: 1 July - 16 Aug 2023

Venture Center was ranked No. 1 in the Bioincubator Survey 2021, by Biospectrum India.

**VENTURE CENTER** **BIG** **birac**

Kick Starting Entrepreneurship Ignite Innovate Incubate

**BIG Call 23: Call Open**

**Biotechnology Ignition Grant**

*Choose Venture Center as your BIG Partner*

**Who can apply?**  
Individual/ Startup/ Faculty

**Focus Areas**

- Bioinformatics, IoT, BIG Data, ML
- Devices & Diagnostics
- Drugs
- Industrial Biotechnology
- Agriculture
- Biosimilars & Stem Cells
- Vaccines & Drugs

**Mentored 500+ ideas**

**Grant-in-Aid up to ₹ 50 Lakhs for 18 months**

**Deadline 16th August 5:30 pm**

**Free Mentoring every Monday**

**CONTACT US FOR MENTORING**

Email - [big@venturecenter.co.in](mailto:big@venturecenter.co.in)  
Visit: [big.venturecenter.co.in](http://big.venturecenter.co.in)

**Likely to open soon in Jan 2024**  
**<http://www.big.venturecenter.co.in>**  
**<https://birac.nic.in/big.php>**



► LIVE WEBINAR



# i4 and PACE

## Demystifying the Funding Modalities

8<sup>th</sup> JANUARY, 2024 | 3.00 PM Onwards



**Dr. Sonali Tandon**  
CHIEF MANAGER-INVESTMENT

SPEAKERS



**Dr. Prachi Kaushik**  
SENIOR MANAGER-INVESTMENT

Registration link: <https://attendee.gotowebinar.com/register/762363315913415513>

<https://birac.nic.in>

# **What is innovation funding?**

# Technology De-risking vs. Exploratory Research

## Technology de-risking projects

### *Starting point:*

- Idea of a solution for a problem

### *Purpose:*

- Evidence that solution works
- De-risking/ validation

## Exploratory research projects

### *Starting point:*

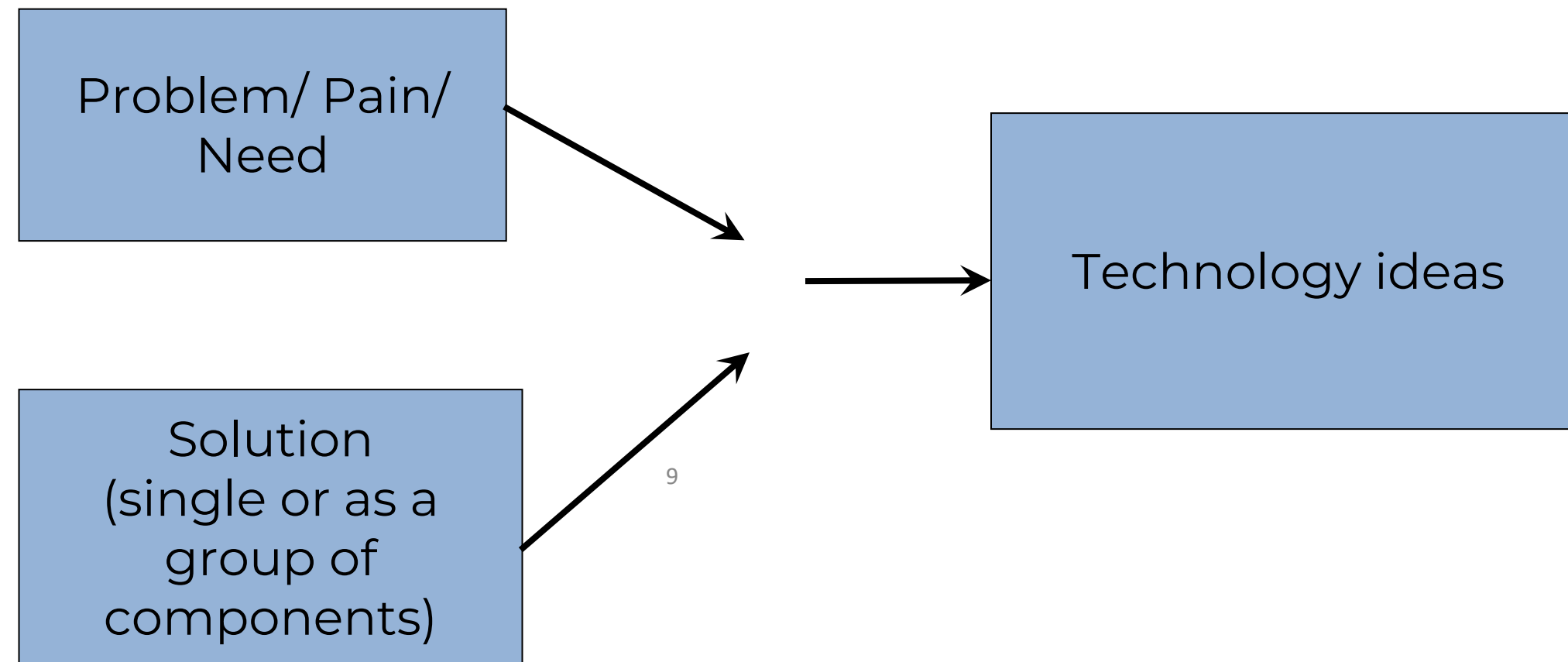
- Curiosity

### *Purpose:*

- Discovering new knowledge
- Develop new tools, methods of study

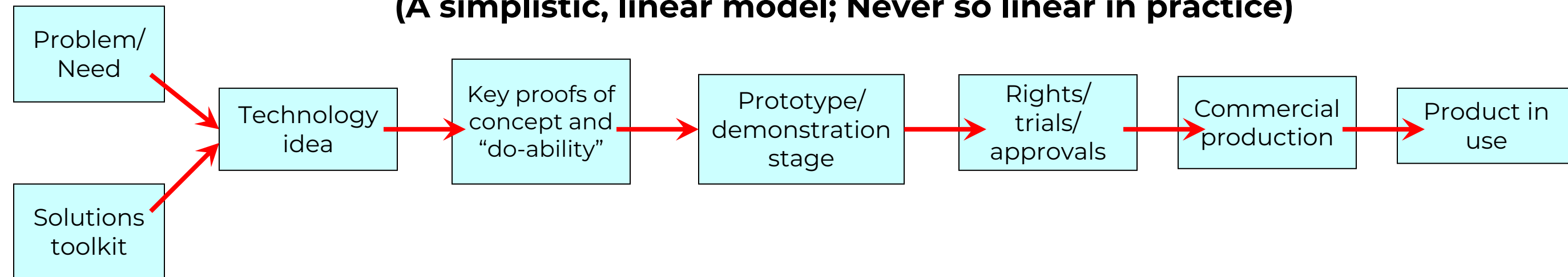


# Technology ideas



# Innovation: Taking to the market

(A simplistic, linear model; Never so linear in practice)



**Invention**

~ 80% of work, time, investment

**Entrepreneurship – The vehicle for delivering innovations in a sustainable and scalable manner!**

Note: All the inventions that are remembered have successfully navigated this process!



Market Risk

Product Risk

Technology Risk



POP → POC → POV → **Product Market Fit** → **Business Model Fit** → **Revenue & Growth**

Technology  
Market  
Process  
Product  
Operations



Chasm I

Chasm II

Chasm III

Commercialisation  
Strategy

Business Model

Other Internal Vectors

Market Space

Proposition Framing

Customer Definition

Distribution  
Marketing & Sales

Technology  
Deployment

Product and Service  
Synthesis

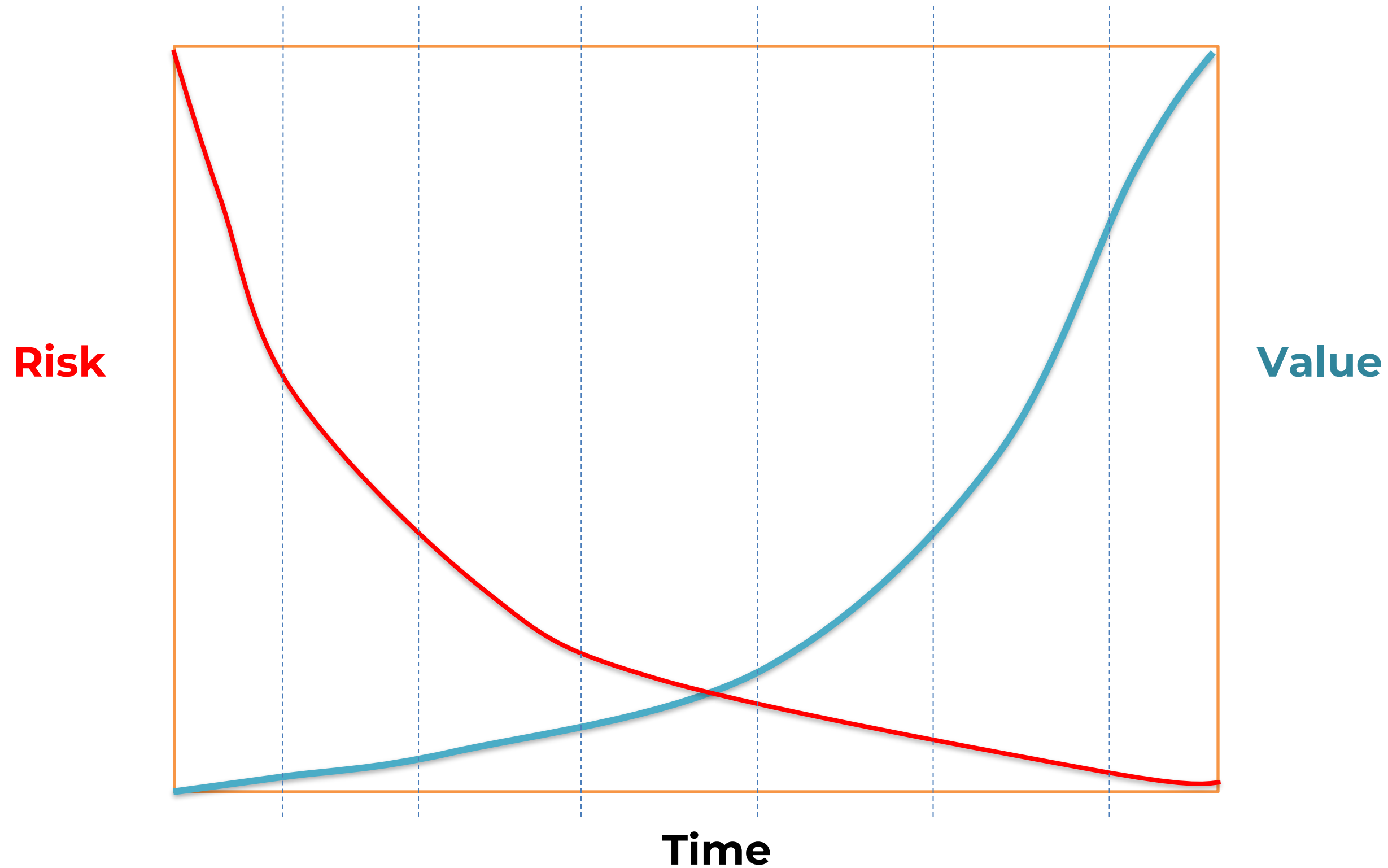
Manufacturing  
& Deployment

IP Management, Talent Leadership and Culture, Funding

Made available under CC BY-NC-SA 4.0 license. Please attribute AIM PRIME, <https://primeprogram.in>

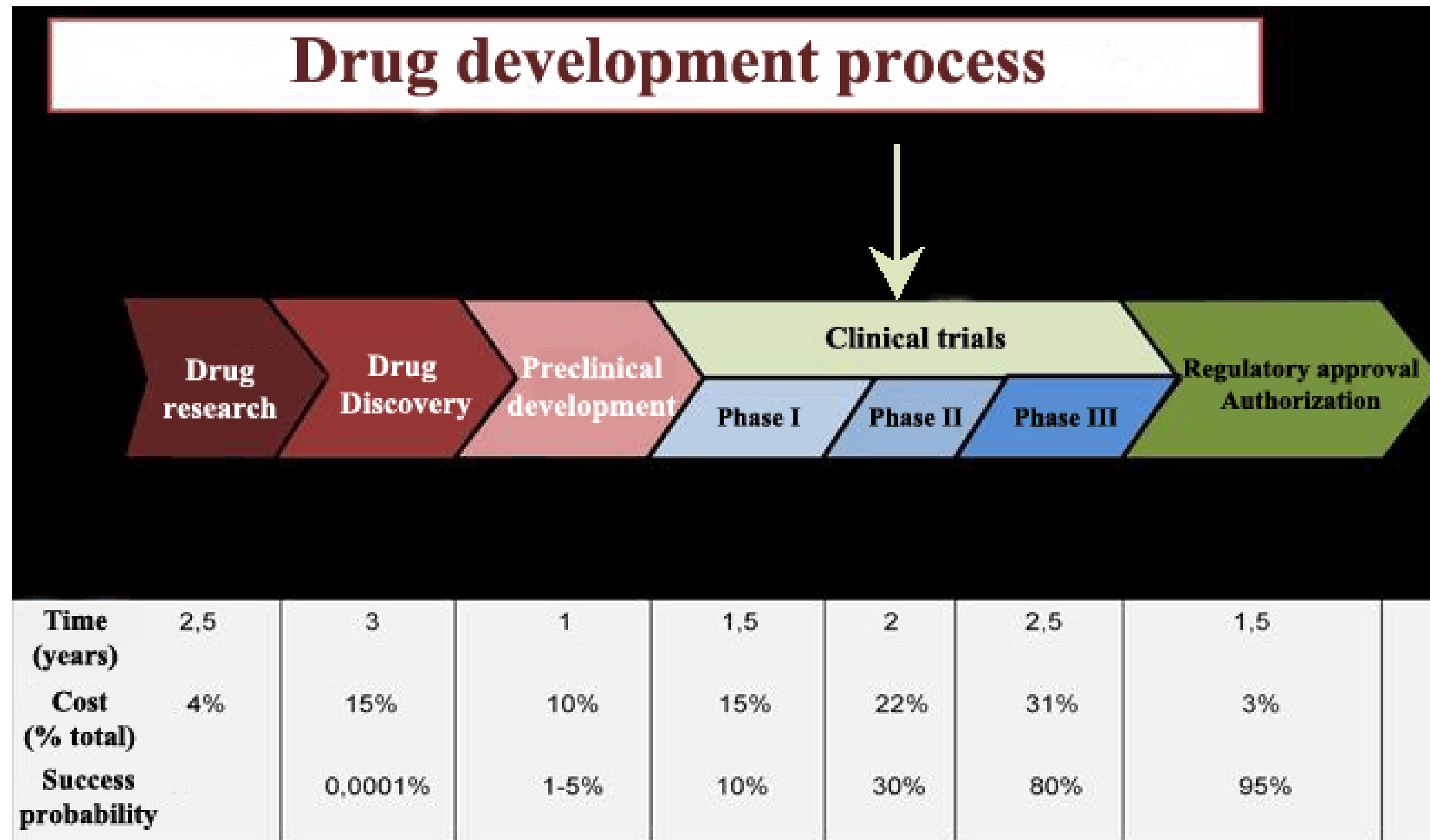
Courtesy: Dr Hiran Vedam  
Courtesy: AIM PRIME Program

# How technology is de-risked and value is increased?





# De-risking in drug development




**Source:** <http://www.davidfunesbiomed.eu/2016/03/141-clinical-research-overview.html>

<b>1</b>	Basic principle observed
<b>2</b>	Technology concept formulated
<b>3</b>	Proof of concept established
<b>4</b>	Small-scale prototype in the lab
<b>5</b>	Large-scale prototype in the intended environment
<b>6</b>	Prototype system verified at near-intended performance
<b>7</b>	Pilot demonstration at precommercial scale
<b>8</b>	Technical and manufacturing processes in place
<b>9</b>	Product commercially available


**FIGURE 4. AN INNOVATION'S MATURITY** can be characterized by its technology readiness level (TRL). Research at low TRLs (1–3) is typically performed at universities and funded by grants from foundations and the federal government. Work on technologies at high TRLs (7–9) is often funded by corporations. Startups can help bridge the gap between those development levels.

**Careers**  
 issue

Christine Middleton is an associate editor at PHYSICS TODAY.



# The road from **academia** to **entrepreneurship**

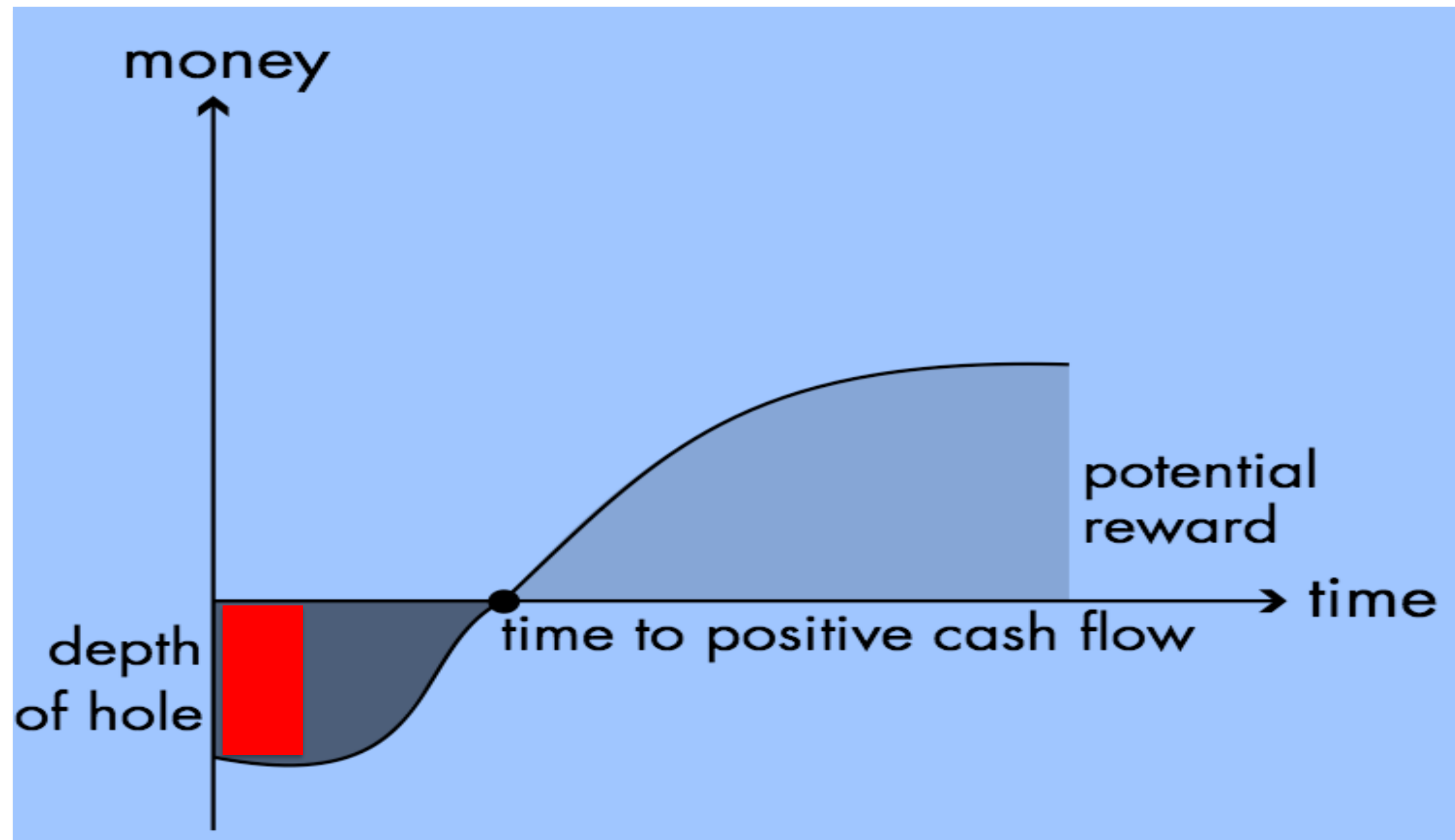

**Christine Middleton**



## BIRAC TRL Scale

- ◆ Website: [https://www.birac.nic.in/desc\\_new.php?id=443](https://www.birac.nic.in/desc_new.php?id=443)
- ◆ Scales:
  - Drugs (including Drug Delivery)
  - Vaccines
  - Biosimilars
  - Regenerative Medicine
  - Medical Devices and Diagnosis
  - Artificial Intelligence, Big Data Analysis, IoT's, Software Development & Bioinformatics
  - Industrial Biotechnology (including secondary agriculture)
  - Agriculture
  - Aqua Culture and Fisheries
  - Veterinary

# The Role of Grants

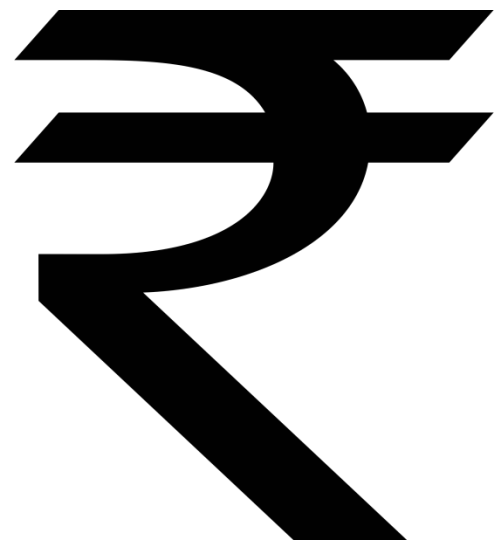


- ◆ Reduce risks and uncertainties
- ◆ Improve Internal Rate of Returns for investors via grant funding (red)
- ◆ Create a funding/investment continuum

Graph: William H. Sahlman, "How to write a great business plan" HBR Jul-Aug 1997



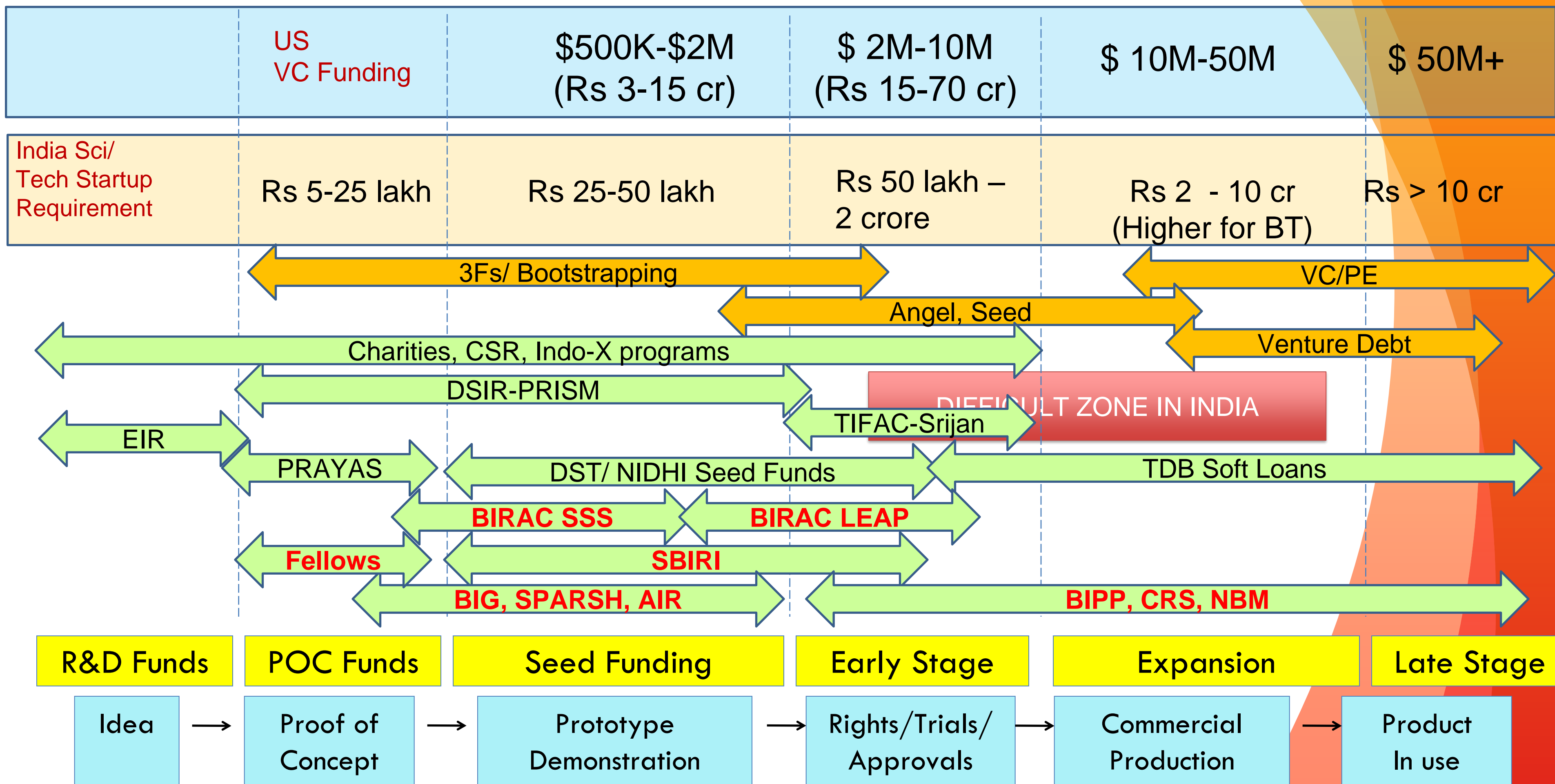
# Innovation funding options



## Aside: Sources of funds

- ◆ Funding agencies – Govt, multi-lateral agencies, charities, incubators etc
  - ◆ Grants, soft loans
- ◆ 3Fs – Friends, Family, Fools
- ◆ Crowd funding sites
- ◆ “Customer money”; Revenue from sales
- ◆ *Individuals; “Angel” investors*
- ◆ *Seed funds (esp with incubators)*
- ◆ *Venture funds*
- ◆ *Impact investors*
- ◆ *Corporate/strategic investors*
- ◆ Venture Debt
- ◆ Banks
- ◆ Private equity funds
- ◆ Others

Typical early stage investment options available to deep tech startups



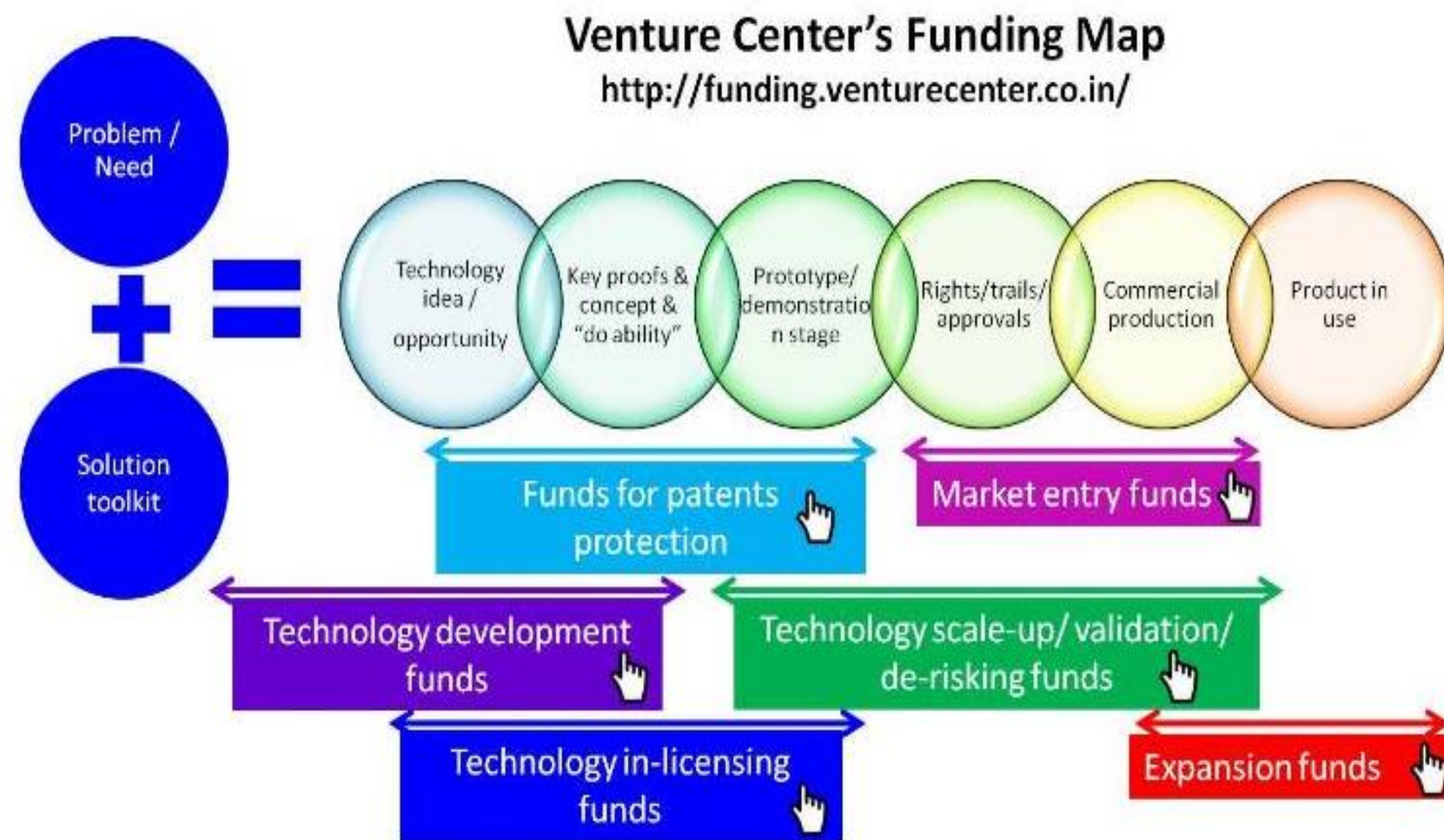
Source: [funding.venturecenter.co.in](http://funding.venturecenter.co.in)



# Venture Center's Funding Database

<http://funding.venturecenter.co.in/>

Welcome to Venture Center's guide to funding sources in India for inventors, innovators, entrepreneurs and early stage start-up! [Learn more](#)



Supported by



CSR support

**Services of Venture Center**

**List of schemes run by venture center**

1. [Biotechnology Ignition Grant \(BIG\)](#)
2. [NIDHI -PRAYAS](#)
3. [NIDHI-EIR \(Entrepreneurship- In- Residence\)](#)
4. [BIRAC SEED Fund](#)
5. [BIRAC LEAP Fund](#)

Innovators and entrepreneurs interested in applying for these funding schemes, Venture Center's advisory services, pre-incubation and

# BIRAC Grant Funding Programs

## BIRAC (“Biotech” defined widely)

<https://www.birac.nic.in/>

	Pre-incorporation	Post-incorporation	Rs
Concept → Pre-POC	<ul style="list-style-type: none"><li>• SIIP</li><li>• E-YUVA</li><li>• SITARE-GYTI</li></ul>		50K/mo 30-50K/mo + 2-5L < 15L
Concept → Pre-POC → POC → Further Validation/ Scale-up	<ul style="list-style-type: none"><li>• BIG (for individual)</li><li>• SPARSH (for NPO)</li><li>• AIR (for NPO)</li><li>• CRS (for NPO)</li><li>• ETA; ATGC (for NPO)</li></ul>	<ul style="list-style-type: none"><li>• BIG</li><li>• SPARSH</li><li>• SBIRI</li><li>• NBM</li></ul>	< 50L < 50L; Higher in Phase 2 < 50L; 50L + 50:50 No Cap
Trials, regulatory approvals		<ul style="list-style-type: none"><li>• BIPP</li><li>• NBM</li></ul>	No Cap (50:50)
Late stage commercialization and market entry		<ul style="list-style-type: none"><li>• PCP Fund</li></ul>	Approx < 700L

Fellowships → Grants → Grant with Capped Royalty → Matched Grants → Equity

# ***A few general concepts***



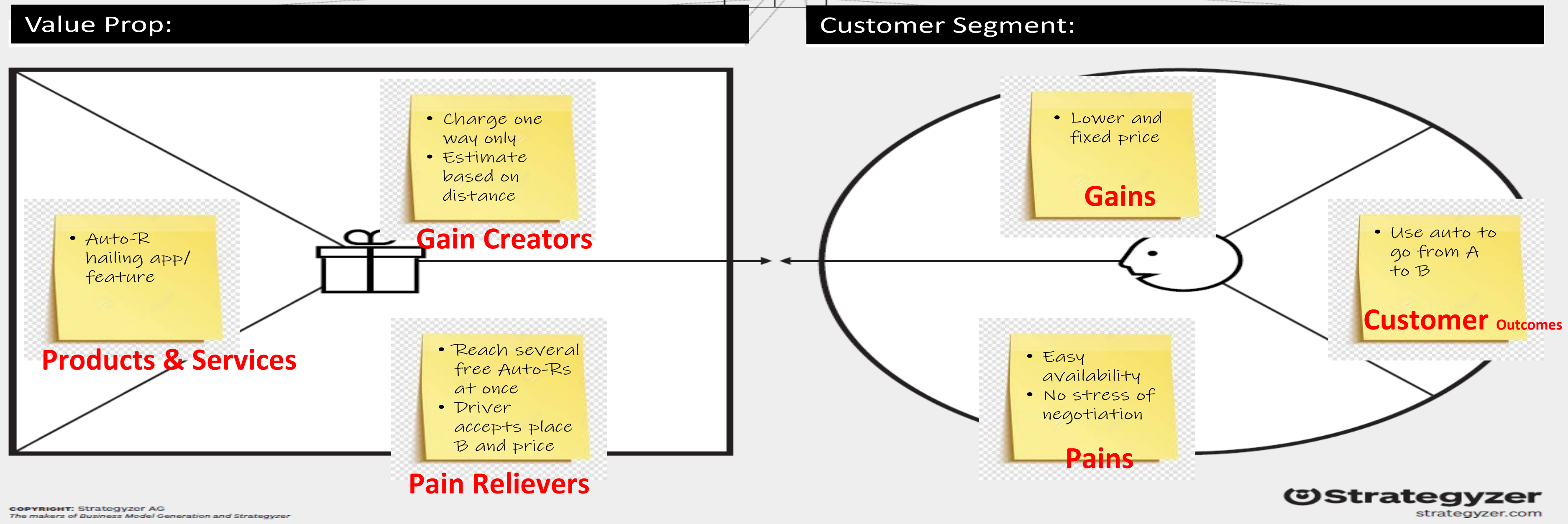
# What is a Value Proposition?



Source: Anonymous. Internet

# AN EXAMPLE OF VALUE PROPOSITION MAP: AUTO-RICKSHAW HAILING APP

## The Value Proposition Canvas



Courtesy: Sundara Nagarajan, IndusAge

## Routes to market:

- ◆ Technology transfer to an existing company
- ◆ Set up a new company: Startups and spinouts
- ◆ Others (example, in-house, partnership models etc)

# Business Sketch

## ◆ Customer offerings:

- ◆ What is the customer offering (product, service)
- ◆ Meant for whom?
- ◆ Who will pay? (Who is the customer?)

## ◆ Value proposition:

- ◆ Value for whom
- ◆ What value
- ◆ Compared to what/ Positioning

## ◆ Revenue model:

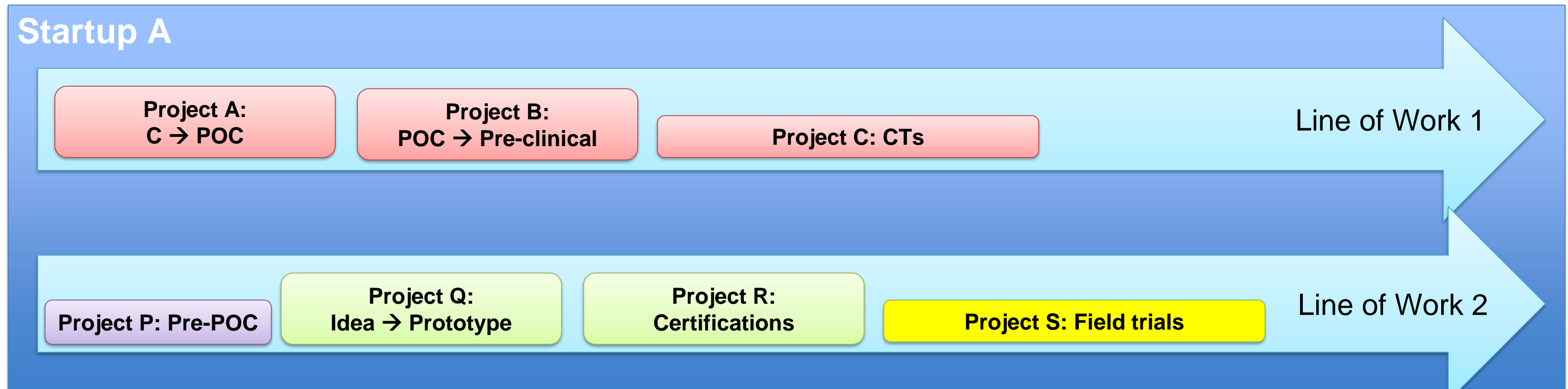
- ◆ How will it make money? Price, cost, etc
- ◆ Key risks and uncertainties



# Rules & strategies for grant funding

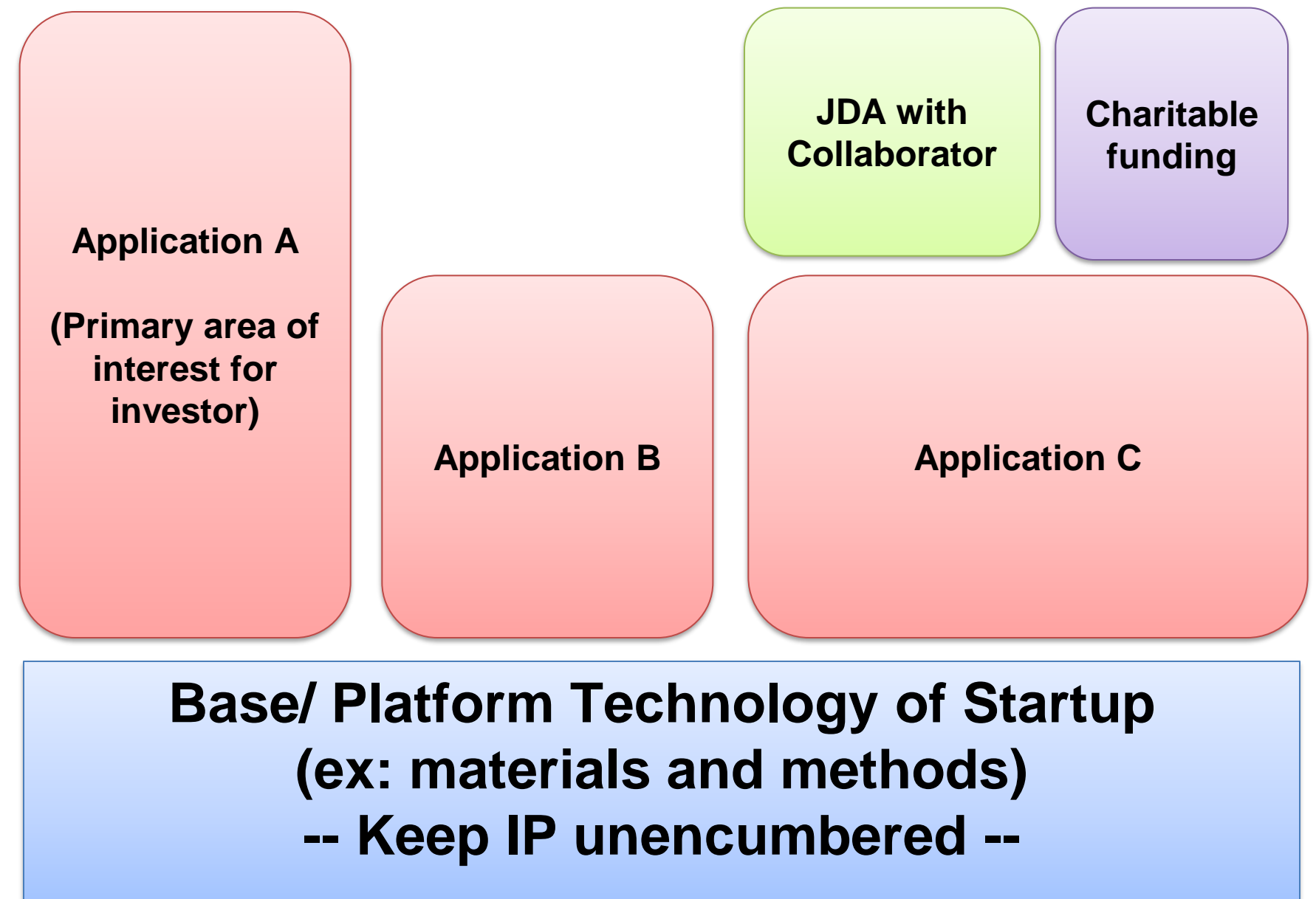
## Rules & strategies for grant funding

- ◆ Grant funding is somebody else's money that they have given you the privilege to spend on heads and purposes they approve.
- ◆ You can NOT use two sources of grant funding for the same scope of work (that means the same expenditure items). But different grants can fund different phases of the same line of work.

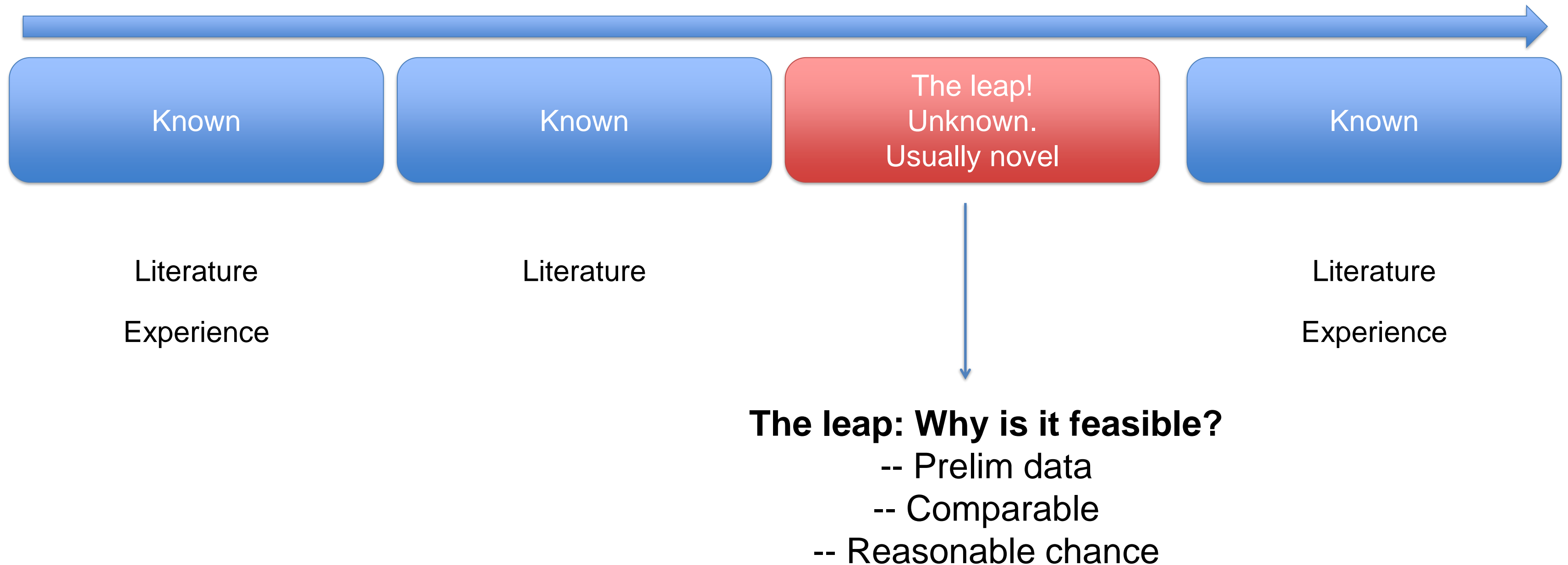


# Funding a platform technology

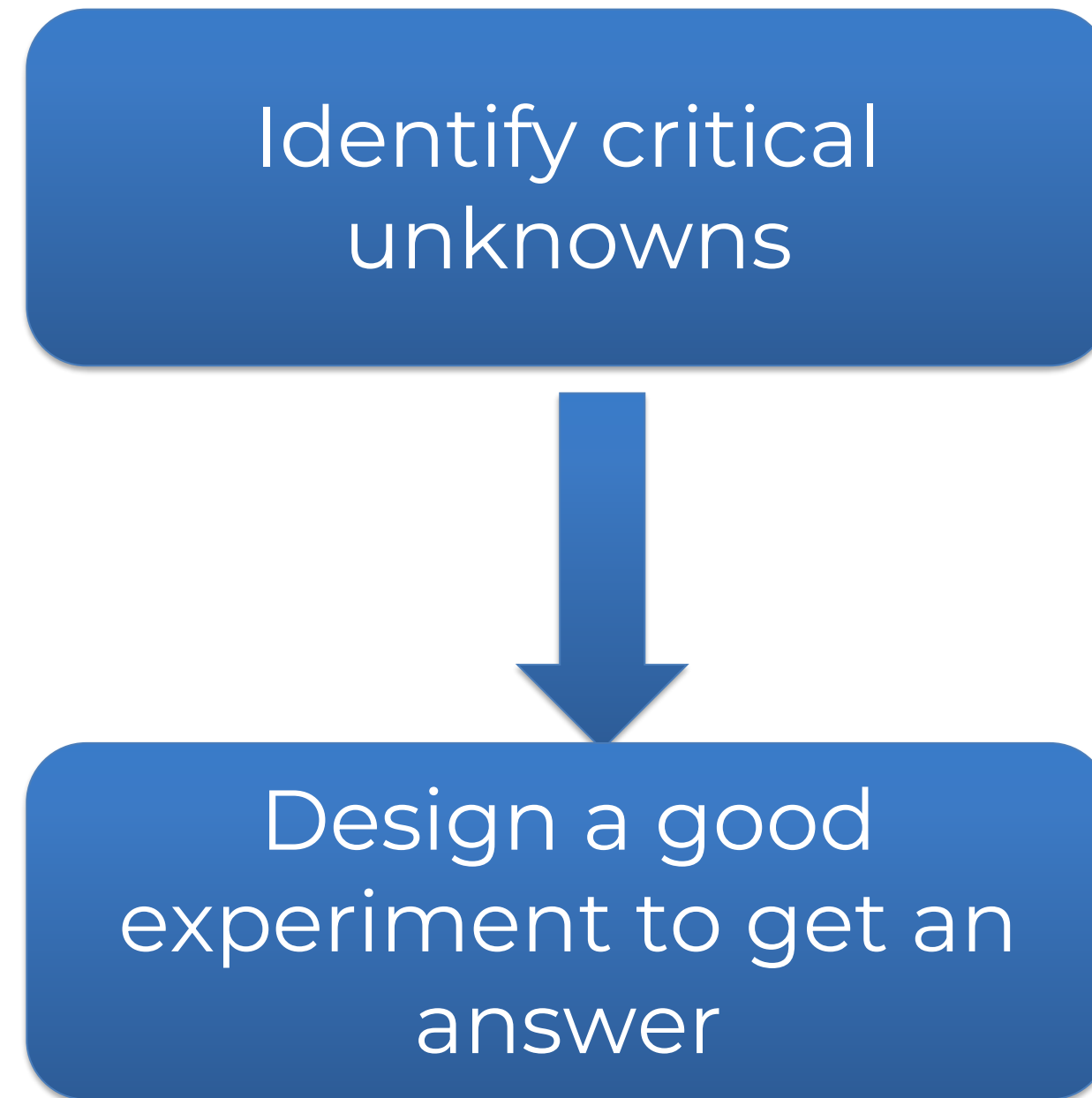
- ◆ Base/ platform technology is best developed using own funds or equity investments.
- ◆ Or by accessing/ in-licensing unencumbered technology from R&D labs/ academia (*Remember: Majority of government funding is meant for non-profit organizations.*)
- ◆ Different grants can support demonstrate applicability and POC/POV for different applications.
- ◆ Funding by collaborators/ partners is better at late stage for narrower scope.



# The balance between novelty and knowns



# Technology de-risking through experimentation





# Purposes of experiments

- ❖ Proof that the proposed solution works
- ❖ Standardizing SOPs and de-risking
- ❖ Proof that the solution delivers value being claimed
- ❖ Data that funders/ investors want to see to convince themselves
  - Technical feasibility
  - Commercial viability
  - Proof of Value, Quality, Superiority
- ❖ Data that customers want to see
- ❖ Data that KOLs want to see (can include publications, white papers)
- ❖ Data that regulators or certifying bodies want to see
  - Safety
  - Efficacy
  - Evidence supporting regulated claims
- ❖ Data for strengthening your patents/ IP position

# **Example: Rapid diagnostics**

# Knowns

- ❖ Need in undisputed and known

  - There is a need for a 30 min rapid RTPCR for airports to rule out C19 carriers with 100% accuracy.

- ❖ Problem is well understood

  - Air travelers are carriers. Air travel is higher risk. Current tests take too long or false negatives are high.

- ❖ Underlying science has been established

  - C19 virus signature known. RT-PCR method known and established.

# Unknowns

- ❖ POC: Can the RT-PCR be done in 30 min?
- ❖ De-risking: R&R, S&S ?
- ❖ Certification: Do you have third party test data? Ex IEC.
- ❖ ***POV: Does it give quicker AND low false negatives compared to rapid antigen and conventional RT-PCR?***
- ❖ FTO: Does SOP/ method/ tools not infringe another patent? If it does, what is a work around?
- ❖ Own patent: Does data illustrate novelty and non-obviousness?
- ❖ IP coverage: Does it block competitors? Is there data for adequate variations?
- ❖ For KOLs: Is the data suitable and high quality for a peer reviewed publication?
- ❖ For clinical PI: Is the data convincing and credible? Was it done with credible methods and partners?
- ❖ For CDSCO submission: Is it safe? Does it do what it claims (efficacy)? Is data generated after test license? Is data from approved/ NABL labs? Is clinical study design approved? Is the population chosen well? Is the statistics okay?



# Example POV study

Question: Was the detection accurate accurately? How reliable is “rule out”?

Raw data

Sample code	Gold standard	Bench mark/ comparator	New method
	Conventional RT-PCR	Rapid antigen	30 min Rapid RT-PCR
1	Positive	Positive	Positive
2	Positive	Negative	Positive
3	Negative	Negative	Negative
199	Positive	Positive	Positive
200	Negative	Negative	Negative

sensitivity, recall, hit rate, or true positive rate (TPR)

$$TPR = \frac{TP}{P} = \frac{TP}{TP + FN} = 1 - FNR$$

specificity, selectivity or true negative rate (TNR)

$$TNR = \frac{TN}{N} = \frac{TN}{TN + FP} = 1 - FPR$$

precision or positive predictive value (PPV)

$$PPV = \frac{TP}{TP + FP} = 1 - FDR$$

negative predictive value (NPV)

$$NPV = \frac{TN}{TN + FN} = 1 - FOR$$

		Predicted condition		Sources: [23][24][25][26][27][28][29][30] <a href="#">view</a> · <a href="#">talk</a> · <a href="#">edit</a>		
		Total population = P + N	Positive (PP)	Negative (PN)	Informedness, bookmaker informedness (BM) = TPR + TNR − 1	Prevalence threshold (PT) $= \frac{\sqrt{\text{TPR} \times \text{FPR}} - \text{FPR}}{\text{TPR} - \text{FPR}}$
Actual condition	Positive (P)	True positive (TP), hit	False negative (FN), type II error, miss, underestimation	True positive rate (TPR), recall, sensitivity (SEN), probability of detection, hit rate, power $= \frac{\text{TP}}{\text{P}} = 1 - \text{FNR}$	False negative rate (FNR), miss rate $= \frac{\text{FN}}{\text{P}} = 1 - \text{TPR}$	
	Negative (N)	False positive (FP), type I error, false alarm, overestimation	True negative (TN), correct rejection	False positive rate (FPR), probability of false alarm, fall-out $= \frac{\text{FP}}{\text{N}} = 1 - \text{TNR}$	True negative rate (TNR), specificity (SPC), selectivity $= \frac{\text{TN}}{\text{N}} = 1 - \text{FPR}$	
		Prevalence $= \frac{\text{P}}{\text{P} + \text{N}}$	Positive predictive value (PPV), precision $= \frac{\text{TP}}{\text{PP}} = 1 - \text{FDR}$	False omission rate (FOR) $= \frac{\text{FN}}{\text{PN}} = 1 - \text{NPV}$	Positive likelihood ratio (LR+) $= \frac{\text{TPR}}{\text{FPR}}$	Negative likelihood ratio (LR−) $= \frac{\text{FNR}}{\text{TNR}}$
		Accuracy (ACC) $= \frac{\text{TP} + \text{TN}}{\text{P} + \text{N}}$	False discovery rate (FDR) $= \frac{\text{FP}}{\text{PP}} = 1 - \text{PPV}$	Negative predictive value (NPV) = $\frac{\text{TN}}{\text{PN}}$ = 1 − FOR	Markedness (MK), deltaP (Δp) = PPV + NPV − 1	Diagnostic odds ratio (DOR) $= \frac{\text{LR}+}{\text{LR}-}$
		Balanced accuracy (BA) $= \frac{\text{TPR} + \text{TNR}}{2}$	F <sub>1</sub> score $= \frac{2\text{PPV} \times \text{TPR}}{\text{PPV} + \text{TPR}} = \frac{2\text{TP}}{2\text{TP} + \text{FP} + \text{FN}}$	Fowlkes–Mallows index (FM) $= \sqrt{\text{PPV} \times \text{TPR}}$	Matthews correlation coefficient (MCC) $= \frac{\sqrt{\text{TPR} \times \text{TNR} \times \text{PPV} \times \text{NPV}}}{-\sqrt{\text{FNR} \times \text{FPR} \times \text{FOR} \times \text{FDR}}}$	Threat score (TS), critical success index (CSI), Jaccard index $= \frac{\text{TP}}{\text{TP} + \text{FN} + \text{FP}}$

# Project management

- ❖ Project scope:
  - Work component 1 (Objective 1)
  - Work component 2 (Objective 2)
    - Activity/ task
    - Indicator that task is over/ metric
- ❖ Milestone chart
  - Milestone number (say, M3)
  - Timeline to reach milestone (say, 9 months)
  - Milestone targets/ deliverables
  - Funds to be consumed by then
  - Release of funds to be triggered on reaching milestone
- ❖ Head-wise budget
- ❖ Schedule of release of funds



# Intellectual property

- ❖ Strategy to stay clear of others IP; Freedom to operate/ practice
- ❖ Strategy to protect your own IP; create a competitive advantage



## Regulatory pathway

- ❖ Is it regulated?
- ❖ If yes, what is the pathway? Expected data/ info to be submitted, timelines, costs.

## **BIRAC Funding Programs: PACE (AIR, CRS)**

**PACE is BIRAC's innovation funding program aimed at academics / R&D organizations meant for advancing a technology in the Technology Readiness Level scale.**



# PACE-AIR

From POP/ TRL2+ onwards

- ◆ Technology development
  - Problem-Solution Approach
  - Advance from POP/TRL2+ onwards
  
- ◆ Desired end-point:
  - Demonstration of key results (for go-no go decisions)
  - Intellectual property
  - Documented interest from a potential licensee
  
- ◆ Commercialization potential
  - Indication of demand
  - Potential licensee
  - Clarity of problem, solution, value proposition, positioning etc
  - Intention and track record
  
- ◆ Prior work/experience:
  - Proof-of-principle (POP) established (adequate detailing done and clarity that idea has good chance of working! Prelim data available)
  - Experience running government grant projects; Experience of R&D in same field
  - Clear ownership of background knowhow/IP

# Applicant

## Primary Applicant

*(Mandatory)*

- Academic institute, University
  - R&D organization
- NGO/ Research Foundation

## Joint Applicant 1

*(Optional; **Encouraged**)*

- Industry
- Startup (> 5 years)

## Joint Applicant 2

*(Optional)*

- Academic institute, University
  - R&D organization
- NGO/ Research Foundation

## MoU

- Scope
- Roles and responsibilities
- Cost and reward sharing
- IP

## Duration and budget

- ◆ Duration: Up to 24 months
- ◆ Budget: Up to Rs 50 lakhs
- ◆ Support:
  - 100% of project cost; Grant-in-aid to academia/R&D orgs/NGOs
  - None for industry/ startup partner except in outsourcing budget
- ◆ Funding terms:
  - Non-recurring/ equipment < 10% of total budget
  - No provision for overheads
- ◆ Installments:
  - For projects longer than 18 months -- (30%:20%:20%:20%:10%)
  - For projects shorter than 18 months -- (30%:30%:30%:10%)

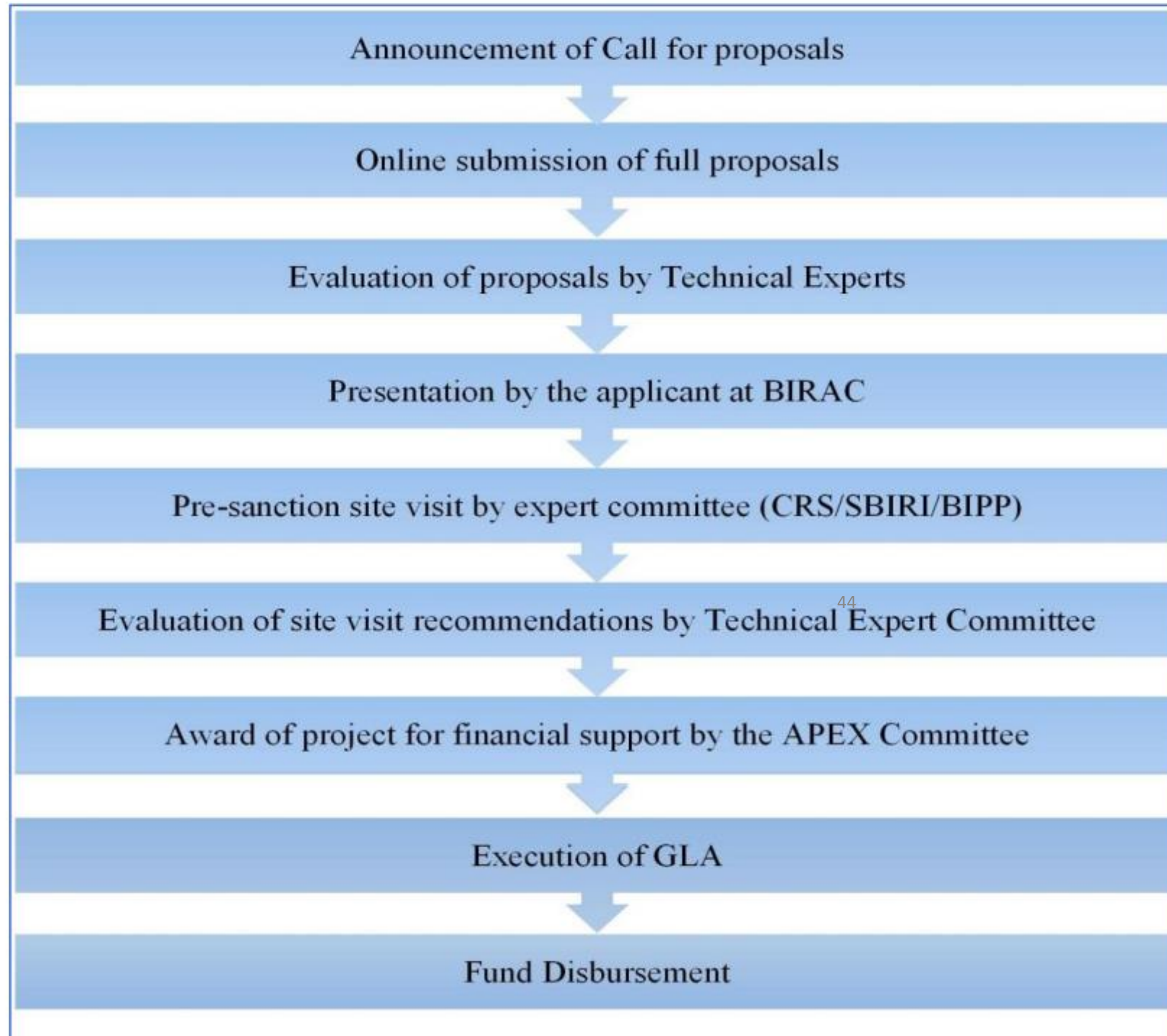
## Strengthening your proposal

### ◆ Typical criteria:

- Clarity and soundness of problem, solution, value proposition
- Commercial potential or national/social relevance
- Technical soundness and strength; Novelty; Prelim data
- Potential and likelihood of commercialization
- Team credibility and completeness
- Clarity of message and purpose from PL
- Clarity of study plan, milestones, detailing, doability



# Application Process



There are **three** call for proposals in a year

- 15th February – 31st March**
- 15th June – 31st July**
- 15th October – 30th November**

# PACE-CRS

From POC/ TRL3+ onwards

# Nature of the project

- ◆ Technology development
  - Problem-Solution Approach
  - ***Take it ahead beyond POC/TRL3+***
- ◆ Desired end-point:
  - Demonstration of key results (for go-no go decisions)
  - Intellectual property
  - ***Tech transfer or spinout creation***
- ◆ Commercialization potential
  - Documented interest by a potential licensee
  - ***Clarity in next steps/ data needs/ scale up needs before tech transfer***
- ◆ Prior work/experience:
  - ***Proof-of-concept (POP) established***
  - Experience running government grant projects
  - Experience of R&D in same field; R&D track record
  - Clear ownership of background knowhow/IP

## The study

- ◆ Next level of prototype and testing/ validation
  - Alpha → Beta → Gamma
- ◆ Next level of scale-up or refinement/ optimization
  - Lab → Batch → Pilot → Demonstration plant
- ◆ Demonstration/ trials on field/ real-life equipment/site
- ◆ Advancing for clinical safety and efficacy
  - In vitro testing → testing as per standards → pre-clinical
- ◆ Testing for larger/ diverse sample size; Test for R&R, robustness
- ◆ Demonstrate superiority to alternatives

# Applicant

## Primary Applicant (Mandatory)

- Academic institute, University
  - R&D organization
- NGO/ Research Foundation

## Joint Applicant 1 (Mandatory)

- Industry
- Startup (> 5 years)

Industry partner could be:

- Potential licensee
- Contract research partner

## MoU between partner

- Scope
- Roles and responsibilities
- Cost and reward sharing
- IP
- **ROFR**
- **Undertaking/ commitment of alignment with business strategy**



## Duration and budget

- ◆ Duration: No time limit
- ◆ Budget: No ceiling
- ◆ Support:
  - 100% of project cost
  - Grant-in-aid to both academia/R&D orgs/NGOs and industry/startup
- ◆ Funding terms:
  - Non-recurring/ equipment < 10% of total budget
  - No non-recurring for industry/startup
  - No provision for overheads
- ◆ Installments:
  - For projects longer than 18 months -- (30%:20%:20%:20%:10%)
  - For projects shorter than 18 months -- (30%:30%:30%:10%)

## Strengthening your proposal

### ◆ Typical criteria:

- Clarity and soundness of problem, solution, value proposition
- Commercial potential or national/social relevance
- Technical soundness and strength; Novelty; Prelim data
- Potential and likelihood of commercialization
- Team credibility and completeness
- Clarity of message and purpose from PL
- Clarity of study plan, milestones, detailing, doability
- ***Credibility and capability of CRO/ Industry partner***

# Evaluation Criteria

- Technical strength of PoC
- Clarity of Lead Present
- Potential of creating a technology or producer
- National / Social Relevance
- Commercial potential or translational capacity
- Investigators Credentials and collaborative teams' complementarity
- Integrated expertise
- Adequacy of CRO infrastructure

## **BIRAC Funding Programs: i4 (SBIRI, BIPP)**

# i4 (SBIRI and BIPP)

**More details:** <https://www.birac.nic.in/>

	SBIRI	BIPP
Who is eligible?	<ul style="list-style-type: none"><li>Companies</li></ul>	<ul style="list-style-type: none"><li>Companies</li></ul>
Type tech	<ul style="list-style-type: none"><li>Innovative</li></ul>	<ul style="list-style-type: none"><li>Path breaking; transformational; IP generation</li><li>Social impt; high risk tech leadership; Validation (CTs, Field trails); major facilities.</li><li>Multiple Categories specified</li></ul>
Start TRL	<ul style="list-style-type: none"><li>Early stage/POP/Pre-POC or higher</li></ul>	<ul style="list-style-type: none"><li>Depends on Category</li></ul>
End TRL	<ul style="list-style-type: none"><li>Up to TRL 6</li></ul>	<ul style="list-style-type: none"><li>Should end at TRL 7 and above</li></ul>
Funding	<ul style="list-style-type: none"><li>Up to Rs 50L: 100% grant</li><li>Above Rs 50L: Matched funding (50:50)</li><li>No cap</li></ul>	<ul style="list-style-type: none"><li>Matched funding (50:50)</li><li>No cap</li><li>For details, see website</li></ul>
Royalty obligations	<ul style="list-style-type: none"><li>5% of net sales capped at grant amount utilized</li></ul>	<ul style="list-style-type: none"><li>5% of net sales capped at grant amount utilized</li><li>For details, see website</li></ul>
IP	<ul style="list-style-type: none"><li>Owned by company</li><li>March-in rights only for “Nationally Important Project”</li><li>Global access obligations for project IP</li></ul>	<ul style="list-style-type: none"><li>Owned by company</li><li>March-in rights only for “Nationally Important Project”</li><li>Global access obligations for project IP</li><li>For details, see website</li></ul>



# **BIRAC Funding Programs: BIG**

# **What do BIG Grantees look like?**



# Actorius Innovations and Research Pvt Ltd

*"Fighting cancer – one cell at a time."*

The company has developed a proprietary Circulating Tumor Cell (CTC) test that has major clinical significance in monitoring disease progression and early detection of cancer relapse.



- 1<sup>st</sup> indigenous medical device to get **DCG(I) approval**.
- **2,000+** clinical tests; **20,000+** CTCs detected.
- **"Innovator of the Year – 2019 (Healthcare)"** at Global Bio India - 2019.

- Clinical study done on 500+ patients of Head and Neck Cancer at Tata Memorial Hospital, Mumbai.

- European Patent granted, US patent awaited.

- Clinical data published in prestigious international forums like **AACR, ASCO** and **ESMO**.

- **ISO 13485:2016** manufacturing facility certified by the British Standards Institute (BSI).

Supported By







**Models displaying fashion collection at Lakme Fashion Week 2022. The collection is produced from the non-GMO, sustainable, natural bio-pigments developed by KBCols.**



# Bioprime Agrisolutions Pvt Ltd.

Focus Area- Agriculture Biotechnology



## Solution

Next Gen Biologicals based on biomolecules to modulate plant physiological responses

## USPs

- Climate resilience
- Crop agnostic
- as is where is basis adoption
- Residue free & Certified organic

As climate change reduces the efficiency of plant process, existing solutions like fertilizers, hormones, enzymes are not sufficient. Therefore we developed an approach of eliciting process using molecules that will help plants overcome climate impact and give farmers assured yields



**About us:** Bioprime was founded by three researchers who have over 15 years of experience in plant physiology, biotechnology and plant microbe interaction

**Product price range**  
Rs 400- Rs 1000 per acre

- **Customers: ~25000**
- **Revenue – 3.5 Cr**
- **Funds raised from Omnivore, Inflexor**

**Video Link:** <https://www.youtube.com/watch?v=YS888icTn1M>



# AHAMMUNE BIOSCIENCES

Targeting Skin Immune System



## Clinical Stage Company Developing Small Molecule Therapeutics for Skin Disorders

Vitiligo treatment is an unmet need!



### Ahammune: Solving the vitiligo puzzle

- Ahammune has developed a new, targeted treatment for vitiligo to remove the fear and stigma associated with this debilitating disorder
- Ahammune's small molecule has **first-in class** mechanism of action
- Addressable vitiligo market of over USD 3.5 Bn

Phase 1 trials successfully completed for our new drug candidate as a topical therapy.

# The BIG Proposal Storyline

# BIG: Tips and Pointers



## BIG STORYLINE?



HELP!



- ..... is an unmet need which if solved will have enormous impact
- The solution lies in .....
- People have tried ..... but the following shortcomings exist .....
- We propose to do this ..... which will be different from what was done in the past ..... and if successful, solve this problem.
- This is the methodology we plan to follow .....
- We have reasons to believe that we can be successful .....
- We are uniquely positioned to attempt this solution.....
- We have background, experience, credibility, track record etc behind us .....
- Here is our execution plan with milestones and timelines
- Here are the resources we will need
- Here is how we plan to source the resources
- Here is what we need from you

# First/ Early slide

- ◆ “Clear statement of the study” told early helps keeps the skeptics continue hearing and looking forward to details.
- ◆ To demonstrate POC for a SOLUTION for a PROBLEM via this NOVEL approach and thereby delivering IMPORTANT RESULT.
  - ◆ Problem and importance
  - ◆ Solution
  - ◆ Novelty

# BIG: Tips and Pointers



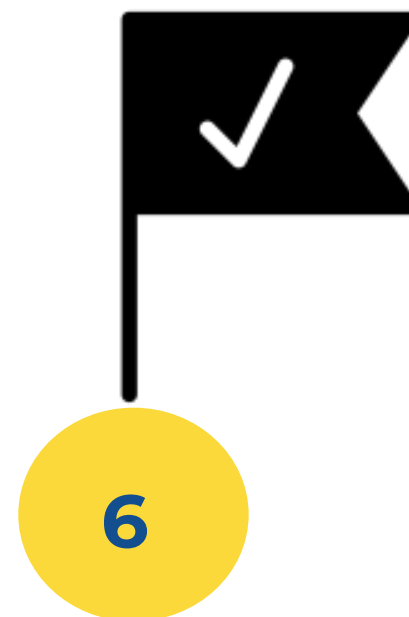
## MILESTONE CHECK

Target date (at end of -- months)	Milestone targets	Funds requested (Rs lakhs)
0	Signing of agreement	Max 30%
6	Completion of 1st Milestone (M1)	30%
12	Completion of 2nd Milestone (M2)	30%
18	Completion of project and submission of final report (M3)	5-10%

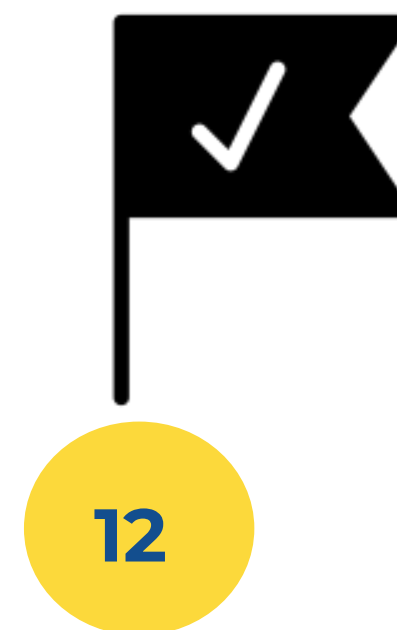
Please mention what will define as “completion of each milestone” for you



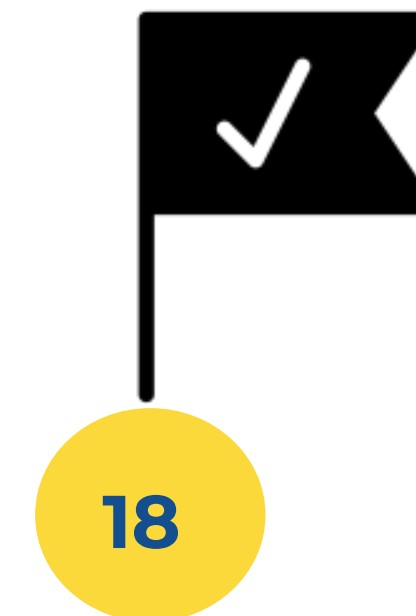
Agreement  
Signing



6



12



18



# BIG: Budget breakup

Heads	Amount (Rs in Lakh)	Basis
Equipment	≤ 15 Lakhs	Max 30%
Consumables	Flexible	Flexible
Man power	≤ 15 Lakhs (PM salary <50K)	Max 30%
Incubation / rentals services	Flexible	Flexible
Travel	≤ 1.5 Lakh	~ 1.5 Lakhs
IP	≤ 1.5 Lakh	~ 1.5 Lakhs
External/ outsourced services	≤ 15 Lakhs	Max 30%
Contingency	≤ 2.5 Lakh	~ 5%

- CapEx not exceeding 30% of the requested funds.
- Scientific advisors/ mentors cannot get paid from BIG project.

# BIG: Evaluation Parameters

Criteria	Illustrative weightage (%)
Technical feasibility of the idea	10%
Novelty	20%
Importance and potential impact	15%
Commercialization strategy	15%
Team	20%
Barriers and strategies to address them	10%
BIG project plan	10%

Note: Scoring is not additive. If any one aspect is very poor, the proposal fails to qualify.

**Get started on your BIG journey with us!**

Work on your BIG idea with India's No.1 Bioincubator \*  
Choose Venture Center as your BIG partner!

UP TO **50** LAKHS

Call open: 1 July - 16 Aug 2023

Venture Center was ranked No. 1 in the Bioincubator Survey 2021, by Biospectrum India.

**VENTURE CENTER** **BIG** **birac**

Kick Starting Entrepreneurship Ignite Innovate Incubate

**BIG Call 23: Call Open**

**Biotechnology Ignition Grant**

*Choose Venture Center as your BIG Partner*

**Who can apply?**  
Individual/ Startup/ Faculty

**Focus Areas**

- Bioinformatics, IoT, BIG Data, ML
- Devices & Diagnostics
- Drugs
- Industrial Biotechnology
- Agriculture
- Biosimilars & Stem Cells
- Vaccines & Drugs

**Mentored 500+ ideas**

**Grant-in-Aid up to ₹ 50 Lakhs for 18 months**

**Deadline 16th August 5:30 pm**

**Free Mentoring every Monday**

**CONTACT US FOR MENTORING**

Email - [big@venturecenter.co.in](mailto:big@venturecenter.co.in)  
Visit: [big.venturecenter.co.in](http://big.venturecenter.co.in)

**Likely to open soon in Jan 2024**

**<http://www.big.venturecenter.co.in>**

**<https://birac.nic.in/big.php>**



BIG Call 23: Call Open

# Biotechnology Ignition Grant

## Top Reasons to Choose Venture Center as your BIG Partner

### 1. Recognized as the best!

Venture Center was ranked India's No 1 Bioincubator in Biospectrum Survey 2020-21, and ranked 3rd in the 2021-22 survey. Venture Center has won the National Award for TBI (2015), AABI (Asian) Incubator of the Year (2018) and National Entrepreneurship Award (2019).

### 2. Mentoring at its best!

Venture Center has a strong in-house mentoring team led by Dr Premnath Venugopalan (himself a technology developer, startup founder, and an alumnus of MIT and IIT Bombay). The team is known for its depth and thought leadership. The Venture Center also has a large network of technical, business and other specialist mentors.

### 3. Peer group!

Venture Center boasts one of the strongest networks of entrepreneurs pursuing innovation-led biotech/ biomedical ideas. Find entrepreneur mentors and role models in the Venture Center ecosystem.

### 4 Credibility and standards!

We work hard to strengthen your case for technical soundness, scientific credibility, quality of study designs and high standards of work.

BIG Call 23: Call Open

# Biotechnology Ignition Grant

### 5. Efficient and responsive!

The BIG Partner team at Venture Center is known for efficiency, thoroughness and being responsive.

### 6. Visibility!

Venture Center has an active program of showcasing its grantees and incubatee through various media channels and forums.

### 7. Funding programs!

Venture Center has a funding database accessible to all its grantees. Venture Center operates multiple fellowship, grant and seed funding programs. Venture Center works with more than 20 CSR grantors to create funding pockets for startups in its networks.

### 8. Networks!

In the last 16 years, Venture Center built extensive networks across the startup world, academia, R&D labs, industry, hospitals, NGOs, service providers etc. We may have a connect for your need definition, customer discovery and validation, testing and trials and market entry related needs.

**Email: [big@venturecenter.co.in](mailto:big@venturecenter.co.in)**

For free mentoring on your application, **please fill up the form here:** <https://tinyurl.com/BIG23-VC>

## Track record!

Most (93% ) of the individual applicants who choose Venture Center as BIG Partner founded a startup.

99% of the grantees completed their BIG project successfully.

98.5% of grantees are still active as startups

A total of 50+ Grantees have raised more than Rs 160 Cr + in follow on funding.

Out of the 66 closed projects, 75% of grantees have commercial products or services in the market.

**Likely to open soon in Jan 2024**

**<http://www.big.venturecenter.co.in>**

# Thank you.

**Contact for more details**  
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<https://www.youtube.com/watch?v=I9562hY3fGg>