



ATAL INNOVATION MISSION



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World's Largest Grassroots Innovation Mission

National Innovation Competency Framework

Building the human capability behind the Indian innovation ecosystem

Version 1

Atal Innovation Mission, NITI Aayog
Government of India

About this document

This document sets out the first draft of the National Innovation Competency Framework (NICF). The NICF describes the human capabilities that build, sustain, and scale innovation in the Indian ecosystem, and is intended to guide the design of training, assessment, and partnership efforts under the AIM Human Capital Development Programme.

The framework has six competencies and thirty sub-competencies. For each sub-competency, four observable behavioural indicators (one hundred and twenty in total) describe what good practice looks like, and four depth levels (L1 to L4) describe how deeply that practice should be developed. The depth expected at each level varies across the six categories of professionals who together operate the Indian innovation ecosystem.

This is a working draft, circulated to invite expert critique before we move to broader consultation and pilot design. Questions on which we particularly want input are listed at the end of the document.

How this document is organised

- **Part I — Why a competency framework.** The problem the framework is meant to address, the AIM 2.0 mandate that gives it scope, and a brief note on the bodies of work that inform it. The evidence base itself is set out in a separate appendix.
- **Part II — The competency framework.** The six competencies, the thirty sub-competencies, and their classification as Behavioural or Functional.
- **Part III — The stakeholder model.** The six categories of professionals the framework is built for, with their purpose, functions, outputs, and interfaces.
- **Part IV — How the framework operates.** The L1–L4 depth scale, the behavioural indicators, and the matrix that sets a target depth for each sub-competency and stakeholder.

Part I — Why a competency framework

1.1 The problem

Over the past decade, India has built considerable institutional infrastructure for innovation. The Atal Innovation Mission alone runs more than ten thousand Atal Tinkering Labs across seven hundred and twenty-two districts, reaching over one crore school students, and supports sixty-nine Atal Incubation Centres that have backed over three thousand five hundred startups. The Department of Biotechnology, the Department of Science and Technology, the Ministry of Electronics and Information Technology, DPIIT, and state innovation cells have each built incubators, accelerators, mentor cadres, and policy instruments at scale. The National Education Policy 2020 has embedded innovation, inquiry, and design thinking in school and higher education curricula.

Infrastructure does not by itself produce capability. Most of the people who actually run innovation work across these institutions — teachers, master trainers, institutional heads, programme operators, mentors, and ecosystem enablers — have learned the work on the job. There is no shared understanding of what good innovation work looks like, no systematic way to develop the relevant competencies, and no common basis on which to judge whether someone has them. Performance varies widely as a result. Some Atal Tinkering Labs flourish while others stall. Some incubators produce ventures that scale; others run cohorts that disappear. Some mentors transform founders' decisions; others give generic advice. The variance is rarely explained by the quality of the underlying idea or the resourcing of the programme. Mostly, it reflects the capability of the people running the work.

1.2 The AIM 2.0 mandate

AIM 2.0 is designed to strengthen India's innovation and entrepreneurship ecosystem in three ways: by increasing input (through programmes such as the Language Inclusive Programme of Innovation and the Frontier Programme), by improving throughput (through the Human Capital Development Programme, the Deeptech Reactor, the State Innovation Mission, and the International Innovation Collaborations Programme), and by improving the quality of output (through the Industrial Accelerator and Atal Sectoral Innovation Launchpads programmes).

The Human Capital Development Programme is one of the four throughput programmes. It commits AIM to training professionals across the Indian Innovation Ecosystem. The professionals trained under this programme are expected to build and sustain the rest of the ecosystem. They will run the Atal Tinkering Labs, lead the Atal Incubation Centres, deliver Master Trainer programmes, manage cohorts, mentor founders, and shape the policy and capital flows that surround innovation work in India. Training hundreds of professionals is the smaller part of the task. Training them to a shared standard, and building a profession that holds together across regions and institutions, is the harder part. Without a shared definition of competence, training becomes a series of disconnected events, certification loses meaning, and career pathways cannot be built. With it, curricula, assessments, hiring benchmarks, and career progressions can all derive from a single source.

Part II — The competency framework

2.1 Overview

The National Innovation Competency Framework has **six competencies** and **thirty sub-competencies**. Each sub-competency is classified as Behavioural (B), Functional (F), or Hybrid (B+F); the classification reflects the kind of capability involved and the pedagogy most suited to building it. Each sub-competency is described by four **observable behavioural indicators**, giving one hundred and twenty indicators in total. Each can be developed at any of **four depth levels, L1 to L4**. The target depth varies by stakeholder role.

2.2 The six competencies

The six competencies are ordered to reflect the way innovation work typically unfolds: from the intellectual and human foundations, through building and implementation, to the leadership and direction-setting capabilities needed to run the system as a whole.

#	Competency	Sub-competencies
1	Imagination & Inquiry <i>Builds the intellectual foundation for innovation.</i>	Curiosity • Creative Thinking • Critical Thinking • Learning Agility • Opportunity Recognition
2	Human-Centred Problem Solving <i>Ensures innovation begins with people and context.</i>	Empathy • Problem Framing • Design Thinking • Decision Making • Contextual Intelligence
3	Experimentation & Creation <i>Converts ideas into evidence and action.</i>	Prototyping & Piloting • Experimentation • Knowledge Translation • Digital & Data Fluency • Technical Making / Solution Development
4	Entrepreneurial Action & Value Creation <i>Moves innovation from concept to implementation.</i>	Initiative / Ownership • Resource Mobilisation • Business & Financial Thinking • Impact & Value Creation
5	Collaboration & Ecosystem Mobilisation <i>Recognises that innovation is rarely individual.</i>	Communication • Collaboration • Stakeholder Engagement • Partnership Building
6	Responsible Systems Leadership <i>Gives the framework its future-facing and India-relevant character.</i>	Systems Thinking • Ethical Judgment • Sustainability Orientation • Execution and Operational Discipline • Adaptive Leadership • Strategic Foresight • Inclusive Innovation

2.3 The Behavioural / Functional / Hybrid typology

Each sub-competency carries a second classification that cuts across the six competencies. It is either primarily Behavioural, primarily Functional, or both. The distinction matters for pedagogy. Behavioural sub-competencies are dispositions and habits of mind, built mainly through reflection, mentorship, and immersion. Functional sub-competencies are skills, built mainly through project-based learning and supervised practice. Hybrid sub-competencies require both kinds of learning.

B	Behavioural — a disposition or habit of mind, built through reflection, mentorship, and immersion.
F	Functional — a skill or capability, built through project-based learning and supervised practice.
B+F	Hybrid — operates as both disposition and skill; requires both kinds of learning.

The distribution across the framework is reasonably intuitive. Competency 3 (Experimentation & Creation) is entirely Functional, because it is about doing. Competencies 1 (Imagination & Inquiry) and 6 (Responsible Systems Leadership) are mostly Behavioural, because they are about thinking and orienting. The remaining three competencies are mixed: ideation, problem solving, and collaboration each call on habits of mind and concrete skills together. The classification for each sub-competency is shown in the consolidated reference table in Section 2.5.

2.4 The six competencies in detail

Competency 1: Imagination & Inquiry

Imagination & Inquiry builds the intellectual foundation for innovation. It has five sub-competencies: Curiosity, Creative Thinking, Critical Thinking, and Learning Agility (all Behavioural), and Opportunity Recognition (Hybrid). Together they describe the habits of mind that make someone an innovator before they have done any innovating: asking questions, generating options, weighing evidence, learning from experience, and noticing where opportunity lies.

Competency 2: Human-Centred Problem Solving

Human-Centred Problem Solving keeps innovation work tied to people and context. It has five sub-competencies: Empathy (Behavioural), Problem Framing (Hybrid), Design Thinking (Functional), Decision Making (Hybrid), and Contextual Intelligence (Behavioural). Together they describe the capabilities that move innovation from an idea someone has to a problem worth solving for a real user in a real setting.

Competency 3: Experimentation & Creation

Experimentation & Creation turns ideas into evidence and action. It has five sub-competencies, all Functional: Prototyping & Piloting, Experimentation, Knowledge Translation, Digital & Data Fluency, and Technical Making / Solution Development. Together they cover the building and testing capabilities that separate people who can innovate from people who only talk about innovation. Knowledge Translation is included as a distinct sub-competency because of the well-documented gap

between research output and innovation deployment in India. Digital and Data Fluency appears as a first-order competency because every stage of the innovation life cycle now runs through digital tools and data.

Competency 4: Entrepreneurial Action & Value Creation

Entrepreneurial Action & Value Creation moves innovation from concept into implementation. It has four sub-competencies: Initiative / Ownership (Behavioural), Resource Mobilisation (Functional), Business & Financial Thinking (Functional), and Impact & Value Creation (Hybrid). The cluster addresses the implementation side of innovation: getting things done, finding the people and resources to do them, and showing value to those who fund and sustain the work. It maps onto the into-action and resources areas of EntreComp.

Competency 5: Collaboration & Ecosystem Mobilisation

Collaboration & Ecosystem Mobilisation reflects the fact that innovation is rarely an individual achievement. It has four sub-competencies: Communication (Behavioural), Collaboration (Behavioural), Stakeholder Engagement (Hybrid), and Partnership Building (Hybrid).

Competency 6: Responsible Systems Leadership

Responsible Systems Leadership gives the framework its future-facing and India-relevant character. It is the largest cluster, with seven sub-competencies: Systems Thinking, Ethical Judgment, Sustainability Orientation, and Adaptive Leadership (all Behavioural); Execution and Operational Discipline (Functional); and Strategic Foresight and Inclusive Innovation (both Hybrid).

2.5 The consolidated reference table

The full framework, with all thirty sub-competencies, their B/F/B+F classification, definitions, and the four behavioural indicators that describe each, is set out in the table that follows.

Section 2.5 — The consolidated reference table

Six competencies, thirty sub-competencies, one hundred and twenty behavioural indicators.

Competency	Sub-Competency	Type	Definition	Behavioural Indicators
1. Imagination & Inquiry <i>Builds the intellectual foundation for innovation.</i>	Curiosity	B	The ability to ask questions, explore the unfamiliar, and seek deeper understanding rather than accepting things as given.	1. Asks open-ended questions to understand how things work, why they are the way they are, and what could be different. 2. Seeks out unfamiliar disciplines, sources, and perspectives beyond their immediate area of expertise. 3. Notices anomalies, surprises, and contradictions in everyday situations, and follows up on them rather than letting them pass. 4. Maintains a habit of recording observations, questions, and unfinished ideas for later exploration.
	Creative Thinking	B	The ability to generate original, diverse, and useful ideas, including by combining ideas across domains.	1. Generates a wide range of ideas in response to a problem, deliberately producing options that go beyond the obvious or the expected. 2. Combines ideas, concepts, or methods from unrelated domains to produce novel approaches. 3. Holds multiple, competing ideas in tension without forcing premature resolution. 4. Builds on and extends others' ideas constructively, rather than dismissing or simply replacing them.
	Critical Thinking	B	The ability to analyse information, question assumptions, weigh evidence, and make evidence-informed judgments.	1. Identifies the assumptions, evidence, and reasoning behind a proposal, including their own, and tests these against alternative explanations. 2. Distinguishes between strong and weak evidence, recognising sample size, source reliability, and potential bias. 3. Weighs trade-offs, costs, risks, and second-order consequences before committing to a course of action. 4. Changes their position when new evidence warrants, and explains the basis for the change.

Competency	Sub-Competency	Type	Definition	Behavioural Indicators
	Learning Agility	B	The ability to learn continuously, adapt quickly, and apply new knowledge effectively in changing contexts.	1. Seeks out new experiences, roles, and challenges deliberately, even when comfortable in the current one, in order to develop unfamiliar capabilities. 2. Updates working assumptions, methods, and mental models when evidence or context changes, rather than defending positions formed under earlier conditions. 3. Extracts lessons from each experience — successful and unsuccessful — and applies them visibly to subsequent work. 4. Performs effectively in unfamiliar settings, including those with new domains, stakeholders, or rules, by adapting approach rather than transplanting prior solutions.
	Opportunity Recognition	B+F	The ability to identify unmet needs, gaps, trends, and possibilities that can be turned into innovation.	1. Identifies unmet needs, latent demand, and underserved groups by observing users, markets, and contexts directly. 2. Spots gaps, friction points, and inefficiencies in existing products, services, processes, or systems. 3. Recognises emerging trends, shifts, and signals — technological, demographic, regulatory, or social — and considers their implications. 4. Frames opportunities in ways that connect a clear need to a feasible direction for action.
2. Human-Centred Problem Solving <i>Ensures innovation begins with people and context.</i>	Empathy	B	The ability to understand users' needs, lived realities, emotions, and constraints from their own perspective.	1. Engages directly with users in their own environments to understand their lived realities, including the constraints and emotions that shape their behaviour. 2. Listens actively, asking follow-up questions to understand motivations rather than to confirm assumptions. 3. Distinguishes what users say from what users do, and accounts for both in design choices. 4. Represents user perspectives faithfully when speaking to teams, decision-makers, or partners who have not engaged with users directly.

Competency	Sub-Competency	Type	Definition	Behavioural Indicators
	Problem Framing	B+F	The ability to define the right problem clearly before designing a solution.	1. Reframes a presented problem to surface the underlying need before designing a solution. 2. Defines the problem in terms of the user and context, rather than in terms of the desired product or technology. 3. Tests problem statements with users and stakeholders, and revises them based on feedback. 4. Recognises when scope is too broad or too narrow, and adjusts the framing accordingly.
	Design Thinking	F	The ability to use iterative, human-centred methods for ideation, prototyping, and solution development.	1. Applies iterative human-centred design methods — empathise, define, ideate, prototype, test — to move from problem to solution. 2. Co-designs with users rather than designing for them, involving them in generating and selecting options. 3. Treats early failure as information, and uses it to revise the design rather than abandon the project. 4. Documents design decisions, including the reasoning and the alternatives considered, so that others can learn from and build on the work.
	Decision Making	B+F	The ability to make informed and responsible decisions despite ambiguity, incomplete information, and evolving conditions.	1. Distinguishes decisions that need to be made now from those that can wait, and avoids both premature commitment and unnecessary delay. 2. Makes decisions with the information available, naming the assumptions and uncertainties explicitly rather than hiding them. 3. Weighs the cost of acting against the cost of further information-gathering, and resists the temptation to defer through endless analysis. 4. Revisits decisions when material new evidence emerges, and changes course openly, distinguishing this from indecision.
	Contextual Intelligence	B	The ability to read local realities of culture, affordability, access, language, and institutional conditions, and to adapt accordingly.	1. Investigates local realities of culture, language, affordability, infrastructure, and institutional conditions before adapting or designing a solution.

Competency	Sub-Competency	Type	Definition	Behavioural Indicators
				- Identifies and articulates the specific contextual factors — such as informal-economy practices, regional regulation, or community norms — that will determine whether a solution works on the ground. - Recognises when an idea or model imported from another setting requires significant rework rather than minor adaptation, and explains why. - Engages with users and stakeholders in their own language and on their own terms, including through intermediaries where direct engagement is not feasible.
3. Experimentation & Creation <i>Converts ideas into evidence and action.</i>	Prototyping & Piloting	F	The ability to build low-cost, testable versions of ideas in order to learn and improve.	- Builds low-cost, low-fidelity versions of an idea early, before committing to a final design. - Chooses the level of fidelity appropriate to the question being tested — a sketch, a mock-up, a working model, or a pilot. - Iterates rapidly on prototypes based on user feedback and observed performance, rather than perfecting them in isolation. - Uses prototypes to communicate ideas concretely to users, team members, and decision-makers.
	Experimentation	F	The ability to test assumptions, gather feedback, learn from failure, and improve solutions through structured trials.	- Formulates testable assumptions before acting, and identifies the riskiest assumption to test first. - Designs cheap, fast experiments — surveys, pilots, A/B tests, field trials — that produce evidence in proportion to cost. - Interprets experimental results honestly, including disconfirming evidence, and updates plans accordingly. - Documents what was learned, including from failed experiments, so that the knowledge is available to others.
	Knowledge Translation	F	The ability to convert research, technical knowledge, and insights into practical applications, products, policies, or public value.	- Identifies which parts of a body of research, technical work, or data are relevant to a specific applied problem, and which are not. - Translates technical or research findings into language, formats, and recommendations that practitioners, policy makers, or users can act on.

Competency	Sub-Competency	Type	Definition	Behavioural Indicators
				3. Builds the bridges — partnerships, pilots, packaging, communication — that move ideas from research settings into operational use. 4. Tests and refines translated knowledge in real-world conditions, and feeds learning back to the originators so the underlying research improves.
	Digital & Data Fluency	F	The ability to use digital tools, data, and AI responsibly to support each stage of the innovation life cycle.	1. Selects and uses appropriate digital tools, datasets, and AI applications to support each stage of the innovation life cycle, from sensing to scaling. 2. Reads, interprets, and questions data — including its provenance, limits, biases, and what it does not show — before drawing conclusions or making decisions. 3. Designs and runs simple digital experiments (such as a working prototype, a data dashboard, or an AI-assisted analysis) to test assumptions cheaply. 4. Applies basic principles of data privacy, security, and responsible AI use — including consent, transparency about automated decision-making, and awareness of algorithmic bias.
	Technical Making / Solution Development	F	The ability to build, model, simulate, fabricate, or operationalise solutions using appropriate tools.	1. Selects and uses appropriate tools — physical, digital, or hybrid — to build, model, simulate, or fabricate a working version of a solution. 2. Reads and follows technical documentation, and can produce documentation that others can use. 3. Combines existing components, libraries, materials, and methods rather than building from scratch when adequate options exist. 4. Knows the limits of their own technical skill, and engages collaborators or learns new methods when the work demands it.
4. Entrepreneurial Action & Value Creation <i>Moves innovation from concept to implementation.</i>	Initiative / Ownership	B	The ability to take ownership, act without waiting for perfect conditions, and move ideas forward.	1. Acts on opportunities and ideas without waiting for perfect conditions, permission, or full information. 2. Takes ownership of outcomes, including the consequences of their own decisions and mistakes. 3. Persists through setbacks, ambiguity, and slow progress, adjusting tactics while keeping the objective in view.

Competency	Sub-Competency	Type	Definition	Behavioural Indicators
				4. Moves work forward in small concrete steps rather than waiting for a comprehensive plan.
	Resource Mobilisation	F	The ability to identify and organise people, knowledge, finance, infrastructure, and institutional support.	1. Identifies what resources — people, knowledge, finance, infrastructure, institutional support — are needed at each stage, and what is missing. 2. Builds the case for support persuasively, tailoring it to the priorities of the resource holder. 3. Combines and re-purposes existing resources creatively, particularly under constraint, rather than waiting for ideal conditions. 4. Manages resources transparently, accounting for use and outcomes to those who provided them.
	Business & Financial Thinking	F	The ability to understand viability, cost, revenue, sustainability, and scale models of an innovation.	1. Estimates the costs, revenues, and key financial drivers of an innovation, and identifies the assumptions on which the estimates rest. 2. Compares alternative business or operating models, and explains the trade-offs between them in plain terms. 3. Recognises when an innovation is not financially viable as designed, and either redesigns it or stops the work. 4. Understands how the innovation will sustain itself at scale — through revenue, public funding, partnerships, or a combination — and plans accordingly.
	Impact & Value Creation	B+F	The ability to generate and demonstrate social, economic, environmental, cultural, or public value.	1. Articulates the value an innovation creates — social, economic, environmental, cultural, or public — in terms specific enough to be measured. 2. Identifies who benefits, who bears costs or risks, and how the distribution of value compares with existing alternatives. 3. Designs and tracks indicators that show whether the intended value is actually being created. 4. Adjusts the innovation when evidence shows that the value being created is smaller, narrower, or different from what was intended.

Competency	Sub-Competency	Type	Definition	Behavioural Indicators
5. Collaboration & Ecosystem Mobilisation <i>Recognises that innovation is rarely individual.</i>	Communication	B	The ability to explain ideas clearly, persuasively, and appropriately to different audiences.	1. Explains complex ideas clearly to audiences with different backgrounds, adjusting language, framing, and detail to the listener. 2. Listens carefully, checks understanding, and acknowledges other perspectives before responding. 3. Uses appropriate formats — verbal, written, visual, prototype — for the audience and purpose. 4. Communicates honestly about uncertainty, limits, and what is not yet known.
	Collaboration	B	The ability to work effectively in diverse, interdisciplinary teams.	1. Contributes to shared goals in diverse and interdisciplinary teams, including teams with members from different disciplines, cultures, or organisational levels. 2. Negotiates roles, responsibilities, and decisions explicitly rather than letting them be set by default or hierarchy. 3. Gives and receives feedback constructively, separating the work from the person. 4. Resolves disagreements through structured discussion and evidence, and recognises when to escalate or seek mediation.
	Stakeholder Engagement	B+F	The ability to engage users, communities, mentors, institutions, government, industry, and investors meaningfully.	1. Identifies the full range of stakeholders affected by or relevant to an innovation, including those who are easily overlooked. 2. Engages stakeholders early and substantively, not only when buy-in or resources are needed. 3. Manages expectations transparently, including the limits of what the innovation can deliver and by when. 4. Sustains relationships over time, beyond the duration of a single project or transaction.
	Partnership Building	B+F	The ability to build alliances that support experimentation, implementation, and scale.	1. Recognises where alliances — across institutions, sectors, or geographies — are needed to make an innovation possible or to scale it. 2. Negotiates partnership terms that align incentives, share risks fairly, and clarify each party's contribution.

Competency	Sub-Competency	Type	Definition	Behavioural Indicators
				3. Maintains partnerships through honest communication, reliable delivery, and willingness to renegotiate as conditions change. 4. Ends or restructures partnerships that are no longer working, openly and without damage to the relationship where possible.
6. Responsible Systems Leadership <i>Gives the framework its future-facing and India-relevant character.</i>	Systems Thinking	B	The ability to understand interconnections, feedback loops, root causes, trade-offs, and unintended consequences.	1. Maps the relationships, feedback loops, and dependencies that surround an innovation, beyond the immediate problem or user. 2. Identifies potential unintended consequences — including second-order effects on other users, stakeholders, communities, or natural systems — and accounts for them in design choices. 3. Distinguishes between symptoms and root causes, and resists solutions that address the former without examining the latter. 4. Recognises leverage points where small interventions can produce disproportionate change, and explains the reasoning.
	Ethical Judgment	B	The ability to consider fairness, privacy, equity, safety, inclusion, and responsible use of technology throughout the innovation process.	1. Anticipates the potential harms, exclusions, and risks of an innovation alongside its intended benefits, before committing significant resources. 2. Reflects openly on their own assumptions, blind spots, and motivations, and revises positions when evidence or stakeholder input warrants. 3. Includes affected users, communities, and underrepresented voices in design and decision-making, particularly where the innovation will affect vulnerable groups. 4. Acts on ethical concerns by adjusting, pausing, or stopping work when fairness, privacy, equity, safety, or inclusion are at stake, even when commercial or institutional pressures push otherwise.
	Sustainability Orientation	B	The ability to align innovation with environmental responsibility and long-term social value.	1. Identifies and quantifies the environmental footprint of an innovation — including materials, energy, water, waste, and emissions — across its life cycle. 2. Designs for durability, repairability, reuse, and circularity where feasible, rather than for short-term commercial cycles.

Competency	Sub-Competency	Type	Definition	Behavioural Indicators
				3. Aligns innovation goals with relevant sustainability frameworks (such as the UN Sustainable Development Goals) and explains the connection in their own work. 4. Surfaces and addresses trade-offs between short-term performance and long-term social or environmental value, including by adjusting the design or business model where needed.
	Execution and Operational Discipline	F	The ability to translate plans into coordinated action through disciplined personal execution, prioritisation, and follow-through.	1. Sets clear priorities and protects time and attention for the work that matters most, rather than responding to whatever is most immediate. 2. Carries commitments through to completion, closing the loop on tasks and decisions rather than leaving them hanging across multiple meetings or cycles. 3. Maintains personal cadence and rigour — agendas honoured, deadlines met, notes kept, follow-ups tracked — that allows others to plan and act around them reliably. 4. Holds themselves accountable for execution outcomes, not only for intentions or plans, and visibly takes responsibility when execution falls short.
	Adaptive Leadership	B	The ability to lead through uncertainty, mobilise others, learn continuously, and build innovation culture.	1. Distinguishes adaptive challenges from technical problems, and applies the appropriate approach to each rather than defaulting to ready-made solutions. 2. Mobilises others through periods of uncertainty by maintaining clarity of purpose while remaining genuinely open about means and methods. 3. Creates conditions for productive disagreement and constructive conflict, and uses these conditions to surface better solutions rather than to suppress dissent. 4. Treats failure, ambiguity, and changing conditions as inputs to learning rather than as setbacks, and updates strategy openly when evidence shifts.

Competency	Sub-Competency	Type	Definition	Behavioural Indicators
	Strategic Foresight	B+F	The ability to anticipate emerging trends, signals, risks, and future scenarios, and use them to guide innovation and decision-making.	1. Scans systematically for emerging signals — technological, demographic, regulatory, environmental, geopolitical — that could materially change the conditions under which innovations operate. 2. Constructs multiple plausible scenarios of how the future could unfold, and tests current plans against each rather than assuming a single trajectory. 3. Distinguishes durable trends from passing noise, and explains the reasoning for the distinction in their own work. 4. Acts on foresight by adjusting strategy, building optionality, or making investments today that position the organisation or programme for plausible futures, not only for the present.
	Inclusive Innovation	B+F	The ability to design, champion, and evaluate innovation initiatives that purposefully serve and empower rural, marginalised, and underserved communities.	1. Directs innovation effort toward problems that matter most to rural, marginalised, and underserved communities, rather than defaulting to the problems of better-served users who happen to be more visible or articulate. 2. Designs explicitly for affordability, accessibility, and reach — including for users with limited literacy, intermittent connectivity, low purchasing power, or restricted mobility — and rejects solutions that work only for users who already have advantages. 3. Involves rural, marginalised, and underserved community members as co-creators and decision-makers in the innovation process, not only as beneficiaries, end-users, or research subjects. 4. Measures whether innovations actually reach and benefit underserved communities — through evidence on adoption, distribution of benefits, and unintended exclusion — and adjusts course when the evidence shows the innovation is concentrating benefits among the already-advantaged.

Part III — The stakeholder model

3.1 Who the framework is for

The framework is built for the six categories of professionals who together build, operate, and shape the Indian innovation ecosystem. They are not the innovators themselves; they are the people whose everyday work either enables innovation to flourish or holds it back. Focusing capability building on these six categories takes advantage of the leverage already built into the ecosystem: a trained Master Trainer reaches dozens of Teachers, a trained Teacher reaches thousands of students, and a well-led incubator carries dozens of startups through the early years.

The six categories were identified by working through the institutional architecture of the Indian innovation ecosystem and checking the result against the role descriptions of personnel across AIM, DST-NSTEDB, BIRAC, DPIIT, NASSCOM, and the state innovation cells. The taxonomy is functional rather than institutional. Each category covers a kind of role, not the institution that happens to employ the person.

3.2 The six stakeholder categories

- **Teachers** work directly with students and learners to build foundational innovation capability. Examples include Atal Tinkering Lab In-Charges, school innovation coordinators, STEM and innovation curriculum designers, and Tinkerpreneur programme coordinators.
- **Master Trainers** train other teachers and trainers, and build the training system itself. Examples include AIM Master Trainers, curriculum designers, and heads of training institutions.
- **Institutional Leaders** run the organisations that house innovation work: incubators, accelerators, missions, university research parks, sector accelerators. Examples include AIC Chief Executives, ACIC Leads, university-based TBI CEOs, BIRAC Bioincubator CEOs, Research Park Directors, Chief Innovation Officers in state government, and senior State Startup Cell Officers.
- **Programme Operators** deliver the day-to-day work inside those institutions. Examples include AIC Program Managers, incubator programme officers and cohort managers, grants and schemes specialists, data and M&E officers, district innovation officers, and DPIIT Startup India programme officers.
- **Mentors and Advisors** give time and expertise to founders and innovators without being employed by a programme. Examples include Mentor India cadre members, independent startup mentors, corporate mentors on loan, executive coaches for founders, domain-expert advisors, founder-turned-advisors, and Entrepreneurs-in-Residence under NIDHI-EIR and similar schemes.

- **Ecosystem Enablers** provide the structural conditions for innovation to emerge and scale. Examples include angel investors and angel network coordinators, venture capital associates, family office leads, CSR innovation leads, Technology Transfer Office heads, iDEX programme officers, BIRAC programme managers, NITI Aayog Policy Fellows, IP and patent agents, and rural enterprise facilitators.

3.3 Purpose, functions, outputs, and interfaces

Each of the six categories has its own core purpose, set of primary functions, characteristic outputs, and pattern of interfaces with the other stakeholders. The table on the following page sets these out in full. The framework's depth-level expectations for each stakeholder (set out in Section 4.4) follow from this functional picture.

Stakeholder purpose, functions, outputs, and interfaces

Stakeholder	Core purpose	Primary functions	Outputs	Key interfaces
1. Teachers	To build foundational innovation capability and mindset among learners by translating innovation concepts into engaging, hands-on learning experiences.	• Deliver experiential, inquiry-based learning • Facilitate curiosity, creativity, and confidence in learners • Contextualise innovation to local and community problems • Identify and nurture early-stage ideas and talent • Create safe environments for experimentation and failure	• Student projects, prototypes, ideas • Increased learner engagement • Early innovation exposure and mindset shift	• Learners (primary) • Master Trainers (capacity building) • Programme Operators (ATL alignment)
2. Master Trainers	To build, standardise, and scale the quality of innovation education and training systems.	• Design and deliver Training-of-Trainers programmes • Build teacher capacity across regions and institutions • Develop curriculum frameworks and training modules • Ensure quality and consistency in pedagogy • Provide coaching, feedback, and continuous professional development	• Trained teachers and trainers at scale • Standardised yet adaptable learning modules • Improved quality of classroom and programme delivery	• Teachers (primary) • Institutional Leaders (scale strategy) • Programme Operators (implementation)
3. Institutional Leaders	To build, sustain, and scale innovation institutions that drive entrepreneurship, research, and ecosystem development.	• Set vision, strategy, and positioning of the institution • Build and manage teams and organisational culture • Mobilise financial and non-financial resources • Establish partnerships across industry, government, academia • Design innovation pipelines (incubation, acceleration, challenges) • Ensure institutional sustainability and impact	• High-performing incubators, accelerators, centres • Strong startup pipelines and ecosystem linkages • Sustainable institutional models	• Programme Operators (execution) • Ecosystem Enablers (funding, policy) • Mentors and Advisors (value addition)
4. Programme Operators	To translate institutional strategy into effective, on-ground programme execution.	• Design and manage cohorts, programmes, and events • Coordinate stakeholders — startups, mentors, partners • Manage operations, logistics, and compliance • Track performance through M&E systems • Drive community engagement and outreach • Handle communications and reporting	• Successfully executed programmes and cohorts • Operational efficiency and compliance • Data-driven reporting and insights	• Institutional Leaders (direction) • Mentors (programme delivery) • Startups and participants • Ecosystem Enablers (schemes, reporting)
5. Mentors and Advisors	To enhance the quality of innovation and entrepreneurship outcomes through experience, expertise, and networks.	• Guide founders on strategy, product, and growth • Provide domain-specific insights and industry perspective • Challenge assumptions and improve decision-making • Support problem-solving during critical stages • Open access to networks, markets, and resources	• Improved startup quality and decision-making • Faster learning cycles for innovators • Access to opportunities and capital	• Startups and founders (primary) • Programme Operators (coordination) • Institutional Leaders (alignment)

Stakeholder	Core purpose	Primary functions	Outputs	Key interfaces
6. Ecosystem Enablers	To create the structural conditions required for innovation to emerge, sustain, and scale.	• Design and implement policies and regulatory frameworks • Provide capital — grants, investment, CSR funding • Build platforms, networks, and partnerships • Generate and use data, research, and intelligence • Enable access to IP, markets, and infrastructure • Drive inclusion — gender, geography, sectoral equity	• Supportive policy and regulatory environment • Access to finance and infrastructure • Strengthened ecosystem connectivity	• Institutional Leaders (implementation) • Programme Operators (execution) • Mentors and Investors • Government and global partners

Part IV — How the framework operates

4.1 Behavioural indicators

Each sub-competency is described by four observable behavioural indicators, giving one hundred and twenty in total. The indicators are written in the present tense, use active verbs, describe behaviour rather than disposition, and are phrased so that an observer can tell whether the behaviour has been demonstrated.

Indicators are pitched at a level of generality that lets the same indicator be assessed differently across depth levels and stakeholder categories. A school teacher asking open-ended questions to understand how things work and a venture-fund analyst doing the same look quite different in practice, but both are versions of the same underlying behaviour. What varies is the setting in which it is performed and the depth at which it is exercised. The depth scale handles that second dimension.

4.2 Depth levels L1–L4

Each sub-competency can be developed at any of four depth levels.

L1	Foundation — aware of the sub-competency and can apply it in structured situations with guidance.
L2	Applied — applies the sub-competency independently in routine work, and can explain the reasoning.
L3	Advanced — applies the sub-competency in novel or complex situations, and adapts methods to context.
L4	Expert — extends and improves the sub-competency, sets standards for others, resolves edge cases.

4.3 Differentiation by stakeholder

The framework itself is the same across all six stakeholder categories, with the same six competencies, thirty sub-competencies, and one hundred and twenty indicators. What varies is the depth at which each sub-competency is expected to be developed for each stakeholder. A Teacher and a Master Trainer both need Curiosity, but the Master Trainer needs it at L4 because they will be modelling it for others and teaching it. An Ecosystem Enabler and a Programme Operator both need Experimentation, but the Programme Operator needs it at L4 because they will be running experiments daily, while the Ecosystem Enabler needs it at L1 because they will be funding and assessing experiments rather than running them.

The full depth matrix, with thirty sub-competencies by six stakeholders and an L1–L4 target for each of the one hundred and eighty cells, is shown in Section 4.4. Before turning to it, a few patterns within the matrix are worth noting.

- **Master Trainers carry the most L4 cells.** Sixteen of thirty sub-competencies are set at Expert level for this category. The reasoning is that Master Trainers shape the standard of pedagogy across the system, and so need mastery of what they teach.
- **Three sub-competencies are essential across all roles.** Critical Thinking, Contextual Intelligence, and Ethical Judgment never sit at L1 for any stakeholder. Awareness alone is not enough for any role in the ecosystem; some working application is expected of everyone.
- **Inclusive Innovation sits at L3 or L4 for all six stakeholders.** This is a framework-level commitment: inclusive innovation is expected of every role in the Indian innovation ecosystem. What varies is whether each stakeholder applies it directly (L3) or shapes it for others (L4).
- **Competency 3 (Experimentation & Creation) shows the largest differences between stakeholders.** Programme Operators sit at L4 on Experimentation; Master Trainers at L4 on Knowledge Translation; Teachers and Mentors at L3 on Prototyping & Piloting; Ecosystem Enablers at L1 or L2 across most of the cluster. The gradient from doer to funder shows clearly in the matrix.

4.4 The stakeholder × sub-competency depth matrix

The matrix follows on the landscape pages below. Each cell holds a single value from L1 to L4, giving the depth at which the sub-competency should be developed for that stakeholder category. L1 (Foundation) means baseline awareness; L4 (Expert) means the depth at which the sub-competency defines the role and can be taught to others. The colour gradient runs from lightest at L1 to darkest at L4, which lets the matrix be read at a glance. The B / F / B+F type chip next to each sub-competency name carries over from the consolidated reference table and indicates the kind of pedagogy best suited to building the sub-competency at the required depth.

Section 4.4 — The stakeholder × sub-competency depth matrix

Thirty sub-competencies by six stakeholder categories at four depth levels.

Sub-Competency	Teachers	Master Trainers	Institutional Leaders	Programme Operators	Mentors & Advisors	Ecosystem Enablers
1. Imagination & Inquiry						
Curiosity ^B	L3	L4	L3	L2	L3	L3
Creative Thinking ^B	L3	L4	L3	L2	L3	L2
Critical Thinking ^B	L3	L4	L4	L3	L4	L4
Learning Agility ^B	L3	L4	L3	L3	L4	L3
Opportunity Recognition ^{B+F}	L2	L3	L4	L3	L4	L4
2. Human-Centred Problem Solving						
Empathy ^B	L3	L4	L3	L3	L4	L2
Problem Framing ^{B+F}	L3	L4	L3	L3	L4	L3
Design Thinking ^F	L3	L4	L2	L3	L3	L1
Decision Making ^{B+F}	L2	L3	L4	L3	L4	L4
Contextual Intelligence ^B	L3	L4	L4	L3	L4	L4
3. Experimentation & Creation						
Prototyping & Piloting ^F	L3	L4	L2	L3	L3	L1
Experimentation ^F	L2	L3	L2	L4	L3	L1
Knowledge Translation ^F	L2	L4	L3	L3	L3	L3
Digital & Data Fluency ^F	L2	L3	L3	L3	L2	L2
Technical Making / Solution Development ^F	L2	L3	L2	L3	L2	L1
4. Entrepreneurial Action & Value Creation						
Initiative / Ownership ^B	L2	L3	L4	L4	L4	L3
Resource Mobilisation ^F	L1	L3	L4	L3	L3	L4
Business & Financial Thinking ^F	L1	L2	L4	L3	L3	L4
Impact & Value Creation ^{B+F}	L2	L3	L4	L3	L3	L4

Sub-Competency	Teachers	Master Trainers	Institutional Leaders	Programme Operators	Mentors & Advisors	Ecosystem Enablers
5. Collaboration & Ecosystem Mobilisation						
Communication ^B	L3	L4	L4	L3	L4	L3
Collaboration ^B	L3	L4	L4	L3	L3	L3
Stakeholder Engagement ^{B+F}	L2	L3	L4	L4	L4	L4
Partnership Building ^{B+F}	L1	L3	L4	L3	L3	L4
6. Responsible Systems Leadership						
Systems Thinking ^B	L2	L3	L4	L2	L3	L4
Ethical Judgment ^B	L3	L4	L4	L3	L4	L4
Sustainability Orientation ^B	L2	L3	L3	L2	L2	L3
Execution and Operational Discipline ^F	L2	L3	L4	L4	L2	L2
Adaptive Leadership ^B	L2	L4	L4	L3	L4	L3
Strategic Foresight ^{B+F}	L1	L3	L4	L2	L3	L4
Inclusive Innovation ^{B+F}	L3	L4	L3	L3	L3	L4

What the framework does not do

Three points are worth setting out explicitly. First, the framework does not specify curriculum content. What learners read, watch, or do during a training programme is a matter for programme design, not for the framework. Second, the framework does not prescribe pedagogy directly. The B/F/B+F typology and the depth scale indicate the kind of method most suited to building each sub-competency at the required depth, but specific pedagogical choices are addressed in companion documents. Third, the framework does not prescribe institutional arrangements: who runs the training, who certifies the learners, who accredits the institutions. Those are matters for the AIM Training Architecture.