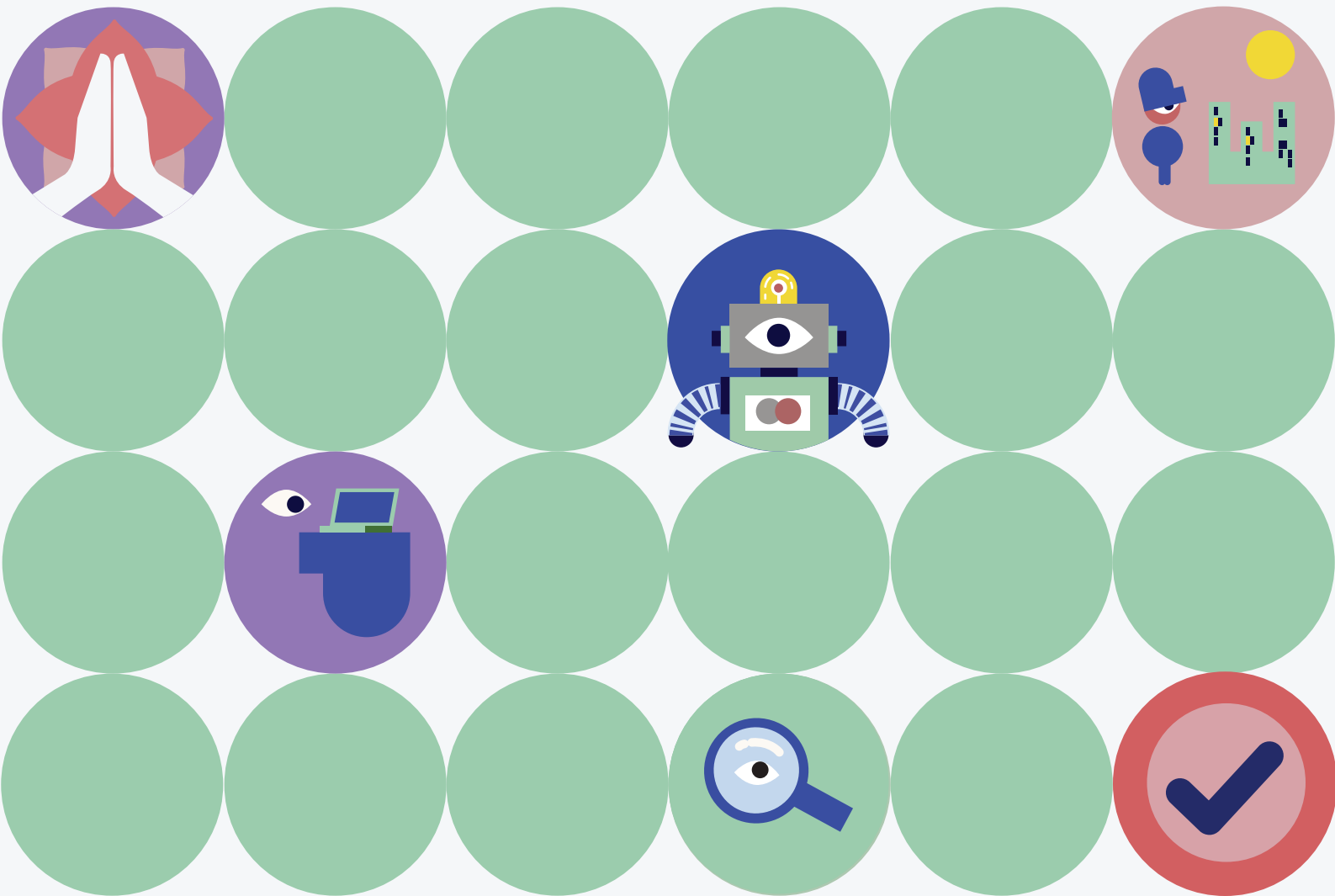


# Stakeholder Engagement for Responsible AI



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# Foreword



As we stand at the cusp of a technological revolution, where artificial intelligence (AI) shapes every facet of human life, the launch of the Open Loop India Report comes at a critical juncture. With the rapid strides in AI within India and globally, it is critical for us to approach this transformative technology responsibly and with a human-centric perspective. This report, an outcome of the innovative policy prototyping project spearheaded by The Dialogue and Open Loop, a program supported globally by Meta, is a testament to our commitment to fostering the responsible evolution of AI.

At Meta, we understand the transformative power of AI and its potential to redefine the landscapes of agriculture, health, finance, and education among other sectors. The engagement of eleven diverse B2C service companies in this project highlights the multifaceted impact of AI across different sectors. Through the Open Loop consortium's methodological approach, this project embraces and actively incorporates the principle of human centricism, as enshrined in India's national AI principles. It prioritizes incorporating community voices and local cultural realities into the lifecycle of AI systems, ensuring that the development of these technologies remains grounded in the societal context they aim to serve.

This policy prototype project has been a journey of collaboration and learning. By testing a framework for operational guidance, we have explored ways to make AI more accessible and actionable for companies at the forefront of this technology. The insights gained from the participating companies have been invaluable, providing clear, effective, and practical recommendations for policy and implementation strategies that resonate with the unique challenges and opportunities presented by the Indian market.

Meta is proud to support programmes like Open Loop that prioritize stakeholder engagement and foster an ecosystem where technology serves the greater good. We remain committed to supporting such initiatives, advocating for policies that advance the technological frontier and ensure that these advancements are equitable, sustainable, and beneficial for all.

As you delve into this report, I invite you to reflect on AI's immense possibilities and our collective responsibility to steer its evolution responsibly. Let us continue working together to ensure that AI development remains human-centric and culturally attuned.

**Shivnath Thukral**

Vice President & Head of Public Policy – India  
Meta

# About the program and this report

**Meta's Open Loop** is a global program that connects policymakers and technology companies to help develop effective and evidence-based policies for AI and other emerging technologies.

Through a structured methodology, Open Loop participants co-create policy “prototypes” and test new or existing AI policies, regulations, laws, or voluntary frameworks. These multi-stakeholder efforts support rulemaking processes and improve the quality of guidance and regulations on emerging technologies, ensuring that they are understandable, effective and feasible in practice.

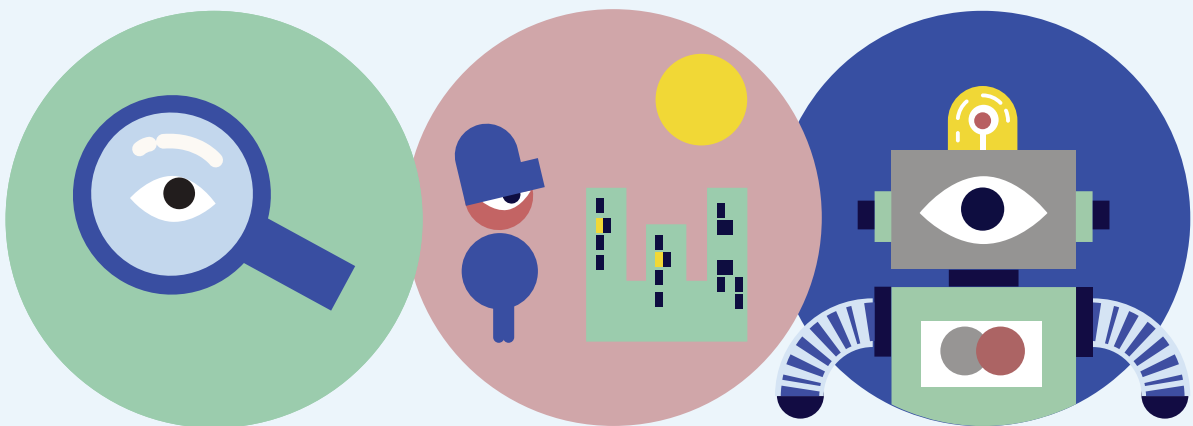
This report presents the findings and recommendations of the Open Loop India program, which focused on the operationalization of the principle of human-centered AI through stakeholder engagement strategies. This policy prototyping program was launched with the intention of guiding and enabling AI companies in India to implement the AI principle of human centricity, as enshrined in the national AI principles of India, in a way that accounts for local and regional cultural factors. This report contributes to responsible AI discussions in the G20 context on ‘leveraging AI for the public good by solving challenges in a responsible, inclusive and human-centric manner’ by providing evidence on how AI technologies can be developed and deployed responsibly through operationalizing human-centered AI. The program was rolled out in India from January 2023 to August 2023 in partnership with The Dialogue.

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## How to cite this report?

Shekar, Kamesh, Shreya, Shruti, Rizvi, Kazim, Galindo, Laura, Nugteren, Maartje, and Arora, Raghav. "AI Stakeholder Engagement Strategies: Insights from Open Loop's India Human Centric AI Program" (2024), at [https://openloop.org/reports/2024/09/India\\_Report\\_Stakeholder\\_Engagement\\_for\\_Responsible\\_AI.pdf](https://openloop.org/reports/2024/09/India_Report_Stakeholder_Engagement_for_Responsible_AI.pdf)



# Acknowledgements

The Open Loop India program was created by Meta and co-designed and facilitated in collaboration with The Dialogue.

We want to thank in particular

- Elonnai Hickok, Managing Director, Global Network Initiative
- Nishant Shah, Professor (assoc) Global Media / Director Digital Narratives Studio, Chinese University of Hong Kong
- Vincent Zhong, Research Coordinator and Researcher Music, Artificial Intelligence and Social Sustainability, ArtEZ for drafting policy prototype.

We would like to extend our gratitude to our colleagues from The Dialogue for their research and operational support to this project:

- Aditi Seetha, Former Programme Manager
- Kriti Singh, Chief of Staff
- Garima Saxena, Research Associate
- Jameela Sahiba, Senior Programme Manager
- Ayush Tripathi, Senior Programme Manager
- Saksham Malik, Senior Programme Manager

We also extend our gratitude to our colleagues from Meta for their invaluable feedback and inputs throughout the program:

- Sunil Abraham, Public Policy Director
- Snehashish Ghosh, Public Policy Manager
- Abhishek Jain, Public Policy Manager

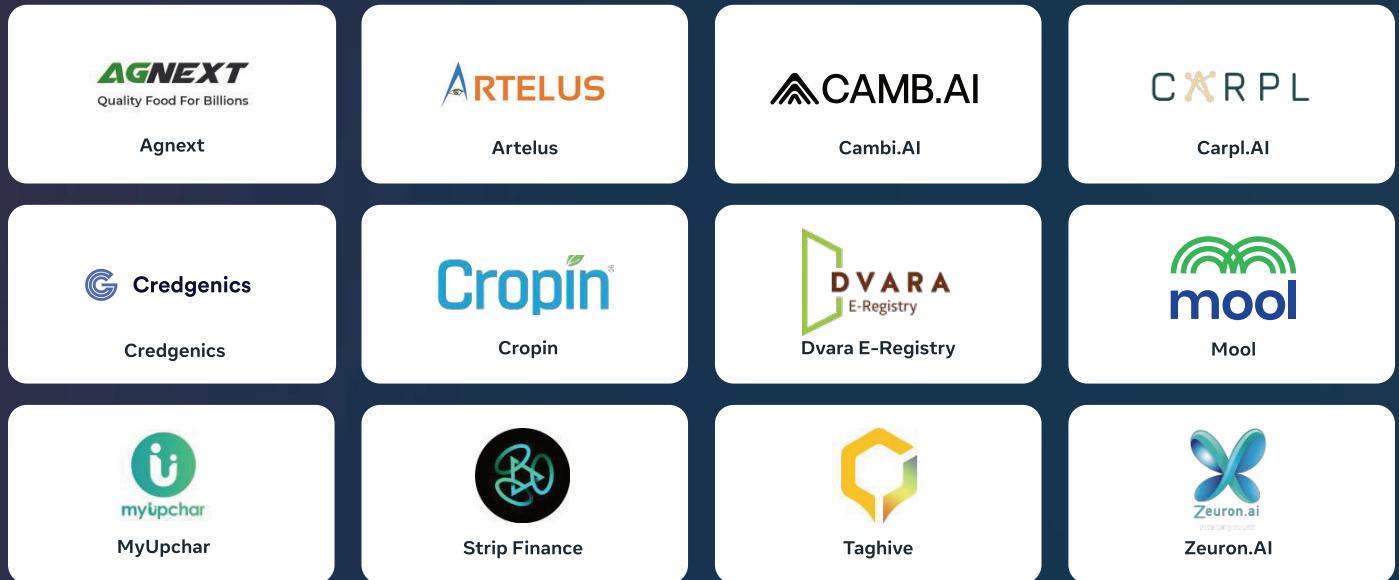
A special thanks to :

- Marlena Wisniak, Senior Advisor, European Center for Not-for-Profit Law Stichting
- Lara Groves, Researcher, Ada Lovelace Institute
- Nikhil Narendran, Partner, Trilegal
- Ameen Jauhar, Senior Resident Fellow, Vidhi Centre for Legal Policy
- Asna Siddiqui, Former Head INDIAai, NASSCOM
- Sarayu Natarajan, Founder, Aapti Institute
- Prateek Sibal, Programme Specialist, UNESCO
- Chloé Bakalar, Chief Ethicist, Meta
- Amber Sinha, Director of Research, Pollicy
- Dr. M. Manivannan, Professor, IIT Madras
- Beni Chugh, Research Manager, Dvara Research
- Dr. Avik Sarkar, Visiting Associate Professor, Indian School of Business

for their invaluable contributions as experts and observers to this project.

# Acknowledgements

We would like to thank the following start-ups in India for their partnership and participation. Without their commitment and active involvement this project would not have been possible:



Thank you to the company representatives who actively participated and represented their start-ups throughout the program

- Rahul Gondane, TagHive
- Atharva Surve, Carpl.AI
- Swetha Chodavarpur, Carpl.AI
- Rajat Garg, MyUpchar
- Girish Somvanshi, Artelus
- Yash Jejani, Strip Finance
- Siddharth Nair, Zeuron.AI
- Abhinav Nayar, Mool
- Aakash Agarwal, Credgenics
- Kaushik Ghosh, Cropin
- Sakshi Sharma, Agnext
- Muhammad Shoaib Rahman, Dvara E-Registry
- Akshat Prakash, Camb.AI

# Executive Summary

Open Loop is a global program that connects policymakers and innovative companies to help develop effective and evidence-based policies around AI and other emerging technologies. The primary objective of this Open Loop India program was to guide and enable companies in India to implement the AI principle of human centricity, as enshrined in the national AI principles of India, in a way that accounts for local and regional cultural factors with an emphasis on AI stakeholder engagement.

To facilitate the exploration of the impact of stakeholder engagement strategies on the implementation of human-centered AI, a **policy prototype framework** was co-developed and tested in collaboration with ArtEZ University of the Arts and The Dialogue. This policy prototype aims to support start-ups in operationalizing the principle of human-centered AI by using stakeholder engagement as a practical tool to map and engage with AI actors across the AI lifecycle in an aim to bring feedback to AI product development.

This report shares the results of this policy prototyping program, which was rolled out in India from October 2022 to July 2024 in partnership with The Dialogue and involved 12 Indian start-ups. The start-ups all provide B2C services and were clustered into four groups according to their sectors - Healthtech, Edtech, Fintech and Agritech.

## The program investigated:

- How effectively does the policy prototype balance policy clarity, technical feasibility, and policy effectiveness for its intended audience?
- How Indian start-ups currently perceive and engage with AI actors (and AI stakeholders) across the lifecycle and AI value chain and why?
- The main challenges and pain points experienced by start-ups in India when mapping and engaging with stakeholders in the context of human-centered AI.
- Best practices that contribute to successful implementation of stakeholder engagement strategies and human-centered AI (as part of broader risk-management strategies).

## Our findings demonstrate that:

- The prototype improved start-ups' understanding of stakeholder engagement and enabled start-ups to conduct stakeholder mapping.
- Business development, technical expertise and compliance and ethics are key drivers for stakeholder engagement.
- When disclosing information to stakeholders, there is a trade-off between being transparent and safeguarding proprietary knowledge.
- Start-ups experience two key barriers to stakeholder engagement:
  - Start-ups experienced a significant burden of costs and human resource constraints.
  - Socio-cultural barriers play a role when engaging stakeholders in India.
- Start-ups saw opportunities beyond the policy prototype:
  - Stakeholder engagement is a key element of AI risk management practices.
  - Stakeholder engagement is a cross-cutting and multidisciplinary function within organizations.

**Based on the results** of the Open Loop India program and the feedback received from participating AI start-ups, the following recommendations - directed at policymakers, investors and the private sector - should be considered:



## Recommendations for policymakers

- 1 Developing guidance on stakeholder engagement for AI actors**, focusing on the entire AI lifecycle. Guidance should be voluntary, accounting for the nuances across sectors, AI use cases, and risk profiles. Additional considerations include ensuring the framework is adaptable to the needs and constraints of start-ups, SMEs and MSMEs; and including toolkits, templates and best practices for key activities around stakeholder engagement.
- 2 Promoting interoperability and synergies** by designing guidance for AI stakeholder engagement that integrates with other key AI risk management frameworks and standards. Guidance should be comprehensive, recognizing the interdependence among responsible AI principles.
- 3 Catalyzing capacity building and knowledge sharing** by establishing dedicated innovation funds and non-monetary benefits for companies that demonstrate a commitment to stakeholder engagement proactively, and by building a vibrant ecosystem for continuous learning. This can be achieved by promoting communities of practice that encourage participatory engagement among stakeholders. The promotion of open source AI can help democratize AI and allow the benefits to reach society at large as well as cut down costs to developers for building localized AI solutions.
- 4 Ensuring accountability and ecosystem enablers** by proactively leading by example in stakeholder engagement in public AI initiatives. Leveraging existing policy frameworks and institutional infrastructure can further bolster stakeholder engagement capabilities.





## Recommendations for companies

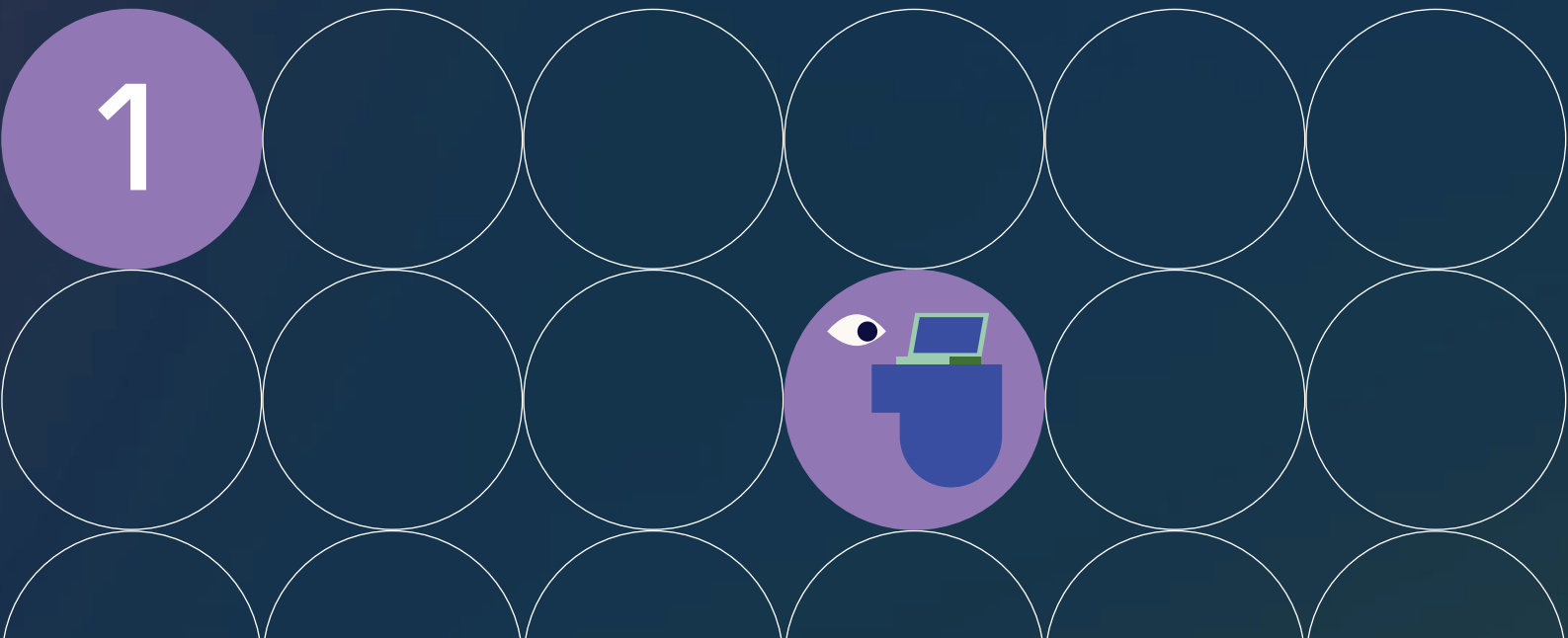
- 1 **Fostering continuing stakeholder engagement** throughout the AI lifecycle by: 1) embracing stakeholder engagement as an organizational value; 2) establishing dedicated leadership and governance structures; and 3) establishing a comprehensive stakeholder engagement strategy that integrates stakeholder input throughout the AI lifecycle, from initial planning to ongoing monitoring and evaluation.
- 2 **Building capabilities and mechanisms** by investing in comprehensive training and skill development, designing applied training programs covering: stakeholder mapping, customized engagement techniques for diverse socio-cultural contexts, and inclusive participation mechanisms.
- 3 **Measuring and communicating value** by: 1) defining comprehensive evaluation metrics and KPIs around stakeholder engagement; 2) integrating stakeholder engagement into corporate reporting and due diligence; 3) and building accountability through proactive communication.



## Recommendations for investors

- 1 **Conducting due diligence with an AI human-centered lens** by extending due diligence beyond traditional and financial assessments, and by prioritizing companies with robust processes for responsible AI development, demonstrating a commitment to transparency and accountability.
- 2 **Integrating human-centered AI into investment decisions** by prioritizing human-centered AI as a competitive advantage into investment theses, considering factors like fairness, transparency, and accountability. Prioritizing companies that demonstrate a commitment to meaningful stakeholder engagement throughout the AI lifecycle can further support the integration of human-centered AI.

# Introduction





India's Artificial Intelligence (AI) ecosystem has been developing exponentially, with it being home to the world's second-largest developer ecosystem<sup>1</sup> and an AI-ready market valued at USD 6.4 billion.<sup>2</sup> AI solutions are deployed across sectors, enabling economic development, better service and welfare delivery, and crisis management. NASSCOM's Responsible AI Report 2023 indicates that 60% of the businesses surveyed by them reported having either mature Responsible AI practices and policies or having initiated formal steps towards such practices and policies.<sup>3</sup> This expansion is driving economic development, technological innovation, and enhanced delivery of public services.<sup>4</sup> With the acceleration of the development of AI solutions and the potential challenges this brings, it is increasingly important to consider society's overall wellbeing throughout the AI lifecycle. Integrating human-centered AI principles during the development and deployment of AI solutions can help make them empathetic and responsive to human needs, thereby enhancing user trust and acceptance. Yet, operationalizing human-centered AI brings its own challenges and barriers, such as: ensuring AI aligns with AI principles, understanding cultural nuances, and addressing diverse societal expectations while mitigating risks.<sup>5</sup>

**To tackle these challenges, human-centered AI principles must be integrated at every level of the AI lifecycle, involving various AI actors like developers, deployers, and end-users.<sup>6</sup>**

In this context, the Open Loop India program considers the impact of stakeholder engagement in operationalizing human-centered AI, specifically targeting AI actors involved across the AI system lifecycle. By fostering collaboration among this diverse set of stakeholders, the program aims to guide and enable companies in India to implement the AI principle of human centrality, as enshrined in the national AI principles of India, in a way that accounts for local and regional cultural factors with an emphasis on AI stakeholder engagement. This collaboration is pivotal in ensuring that AI technologies are technologically proficient, ethically grounded, and socially responsible.

# Understanding the concepts and their relevance

Stakeholder engagement plays a pivotal role in the development and deployment of AI systems. It serves as a fundamental mechanism for identifying and mitigating potential risks associated with bias, fairness, and social impact in AI technologies.

By actively involving a diverse range of stakeholders throughout the AI lifecycle, organizations can leverage their insights and perspectives to address issues such as algorithmic biases, discriminatory outcomes, and societal impacts.

Furthermore, continuous engagement with stakeholders creates a feedback loop that facilitates ongoing monitoring and evaluation of AI systems, leading to iterative improvements that enhance fairness and mitigate risks. By fostering transparency, accountability, and trust through stakeholder engagement, companies can align their AI practices with ethical standards, regulatory requirements, and societal expectations, contributing to the development of more responsible and human-centered AI solutions.



Some of the key terminologies underlying this initiative are defined as follows:<sup>7</sup>

### What is the Human-Centered AI Principle?

The definition of the Human-Centered AI Principle in this report is informed by the Protection and Reinforcement of Positive Human Values as defined in India by NITI Aayog.<sup>8</sup> This principle emphasizes promoting positive human values in the development of AI and not disturbing the social harmony during this process.

#### NITI Aayog's AI principles and their origin

NITI Aayog published seven AI principles in 2021, in an approach paper that built on India's National Strategy on AI.<sup>9</sup> The aim of this publication was to establish broad ethics principles for design, development and deployment of AI in India – drawing on similar global initiatives but grounded in the Indian legal and regulatory context.

Such existing global initiatives were, for example, the OECD's AI Principles, of which Principle 1.2 on human-centered values and fairness prescribes that AI systems should be designed in a way that respects the rule of law, human rights, democratic values and diversity, and should include appropriate safeguards to ensure a fair and just society.<sup>10</sup>

Similarly the Institute of Electrical and Electronics Engineers' (IEEE) General Principles of Ethically Aligned Design, recommended under Principle 1 on Human Benefit that: "society must assure the safety and security of AI/ automated systems to ensure they are designed and operated in a way that benefits humans".<sup>11</sup>

### What is Meaningful Stakeholder Engagement?

The program draws upon the definition of 'Meaningful Stakeholder Engagement' put forward by the OECD:<sup>12</sup> "Stakeholder engagement involves an interactive process of engagement with relevant stakeholders. Stakeholder engagement can take place, for example, through meetings, hearings or consultation proceedings. Meaningful stakeholder engagement is characterized by two-way communication and depends on the good faith of the participants on both sides."



## What is the AI System Lifecycle?

Informed by the OECD's<sup>13</sup> and the National Institute of Standards and Technology's (NIST)<sup>14</sup> definition of the AI system lifecycle, the program focuses on the following six stages:

- 1. Planning and design;**
- 2. Data collection & processing;**
- 3. Model building and interpretation;**
- 4. Verification and validation;**
- 5. Deployment; and**
- 6. Operation and Monitoring.**

## AI Actors

Based on the OECD's definition of AI actors, this report refers to AI Actors as those who play an active role in the AI system lifecycle, including organisations and individuals that deploy or operate AI.<sup>15</sup>

## AI Stakeholders

Stakeholders encompass all organizations and individuals involved in, or affected by, AI systems, directly or indirectly. AI actors are a subset of stakeholders.

# Approaches to stakeholder engagement in AI policy and existing frameworks

Existing policy instruments from government bodies and reputed research institutions across jurisdictions also emphasize the importance of stakeholder engagement with AI actors across the AI system lifecycle. The following examples illustrate stakeholder engagement efforts across national and international AI policy initiatives.



## India's National AI strategy (2018)

This strategy proposes establishing the National AI Marketplace (NAIM): a platform where business entities, government agencies, startups, AI researchers, system integrators, and academic research institutions are encouraged to engage with each other.



## Recommendation of the Council on OECD Legal Instruments AI (2018)

Under the principle of inclusive growth, sustainable development, and well-being, the importance of stakeholder engagement in responsible stewardship of trustworthy AI is highlighted.



## CAHAI-PDG's HUDERIA Framework (2021)

Through this framework, the Committee on AI (CAHAI) Policy Development Group (PDG) emphasizes the need for stakeholder engagement as part of the methodology, to assess AI systems' impact on human rights, democracy, and the rule of law.



Figure 1: Stakeholder Engagement Efforts Across AI Policy Initiatives





In addition to the above-illustrated policy instruments across jurisdictions and multilateral forums, civil society organizations and industry players have produced various frameworks that technically emphasize the importance of stakeholder engagement in different forms and at distinct stages of AI development.<sup>16,17</sup> These frameworks focus on ethical guidelines and best practices, advocating for responsible AI use. While not legally binding, these initiatives have complemented governmental efforts, ensuring a balanced and inclusive approach to AI governance.

**Meta's Guide for Conducting Inclusive Stakeholder Engagement** also aims to aid those looking to understand and navigate meaningful stakeholder engagement.<sup>18</sup> The guide highlights the issue of intersectionality: a concept that refers to the interconnected nature of social identities, and the need to recognize and address how they intersect and impact the needs of stakeholders. In a set of guiding questions, the guide specifically emphasizes the importance of understanding contextual knowledge and lived experience. In addition, Meta's Community Forum on Generative AI, puts stakeholder engagement for responsible AI in practice by bringing people together to produce feedback on the principles people want to see reflected in new AI technologies.<sup>19</sup>

Realizing human-centric AI through meaningful stakeholder engagement is still an evolving practice. Little guidance exists on how AI companies can comprehensively and systematically account for contexts across geographies and diverse types of solutions. As countries continue to grow domestic AI ecosystems and companies deploy solutions in global contexts, it is essential that AI systems are developed in a way that reflects and considers individual and community experiences, local context, and historical understandings. There is therefore a need for more practical guidance focused on operationalizing AI principles (in this program in particular: the principle of human-centered AI), to equip companies with the insights to autonomously create and further stakeholder engagement strategies, in a way that accounts for local and regional contexts and lived experiences.

# About the policy prototype

Motivated by the above, the Open Loop program, in collaboration with ArtEZ University, developed a policy prototype in 2022, aimed at supporting start-ups in operationalizing the principle of human-centered AI by using stakeholder engagement as a practical tool to map and engage with AI actors across the AI lifecycle in an aim to bring feedback into AI development and deployment. This includes:












- ① **A framework that consists of high-level focus areas that can be used by companies to implement AI principles at the organizational level and across the development lifecycle of the AI system. The framework also gives guidance on developing strategies for stakeholder engagement and incorporating context.**
- ② **Operational guidance for the principle of ‘human-centric’ AI that provides examples as to how the principle of human-centric AI can be implemented as per the framework. The guidance is informed by the principle of Protection and Reinforcement of Positive Human Values from the Responsible AI principles defined in India as well as research around the concept of ‘human-centric’ AI and ‘human-centered’ machine learning.**

# About the testing

This Open Loop program employed a mixed methods approach to answering key questions surrounding stakeholder engagement and the human-centric AI principle among participating start-ups ([Annex 1](#) for more details). The findings presented in this report were identified through online survey responses and sequential and thematic workshops with participating start-ups.

# About the cohort

We had 12 participating start-ups in the program. The representatives of the start-ups were clustered into four groups according to their sectors - Healthtech, Edtech, Fintech and Agritech - for conducting the two-part online workshop that informed this report. We first asked participating start-ups to identify the stakeholders with whom they seek to engage across the AI lifecycle. Secondly, after identifying the relevant stakeholders, start-ups drafted a stakeholder engagement strategy.

Company	Type - Sector	Business model
 <b>AGNEXT</b> Quality Food For Billions	Agritech	B2B
 <b>ARTELUS</b>	Healthtech	B2B
 <b>CAMB.AI</b>	Edtech	B2C
 <b>CORPL</b>	Healthtech	B2B
 <b>Credgenics</b>	Fintech	B2C
 <b>Cropin</b>	Agritech	B2B
 <b>DVARA</b> E-Registry	Agritech	B2C
 <b>mool</b>	Fintech	B2C
 <b>myupchar</b>	Healthtech	B2C
 <b>Strip Finance</b>	Fintech	B2C
 <b>TagHive</b>	EdTech	B2C
 <b>Zeuron.ai</b>	Healthtech	B2C



## Our fintech AI start-ups

The participating fintech AI start-ups (fintech start-ups) promise a multitude of benefits, such as enhanced efficiency, personalized services, debt collection platforms, NFT services, and robo-advisory. The fintech start-ups highlighted that while the sector has gone through rapid advancement, soliciting feedback through stakeholder engagement during the development of the technology is often overlooked.



## Our healthtech AI start-ups

The participating healthtech AI start-ups (healthtech start-ups) help healthcare professionals by providing data-driven recommendations, assisting with diagnoses, and offering personalized treatment plans based on individual patient characteristics. As the start-ups are trying to enhance accurate diagnoses and optimize treatment strategies, ultimately improving patient outcomes, they emphasize the importance of a human-centric approach and incorporating principles of human-centered AI within the AI lifecycle.



## Our edtech AI start-ups

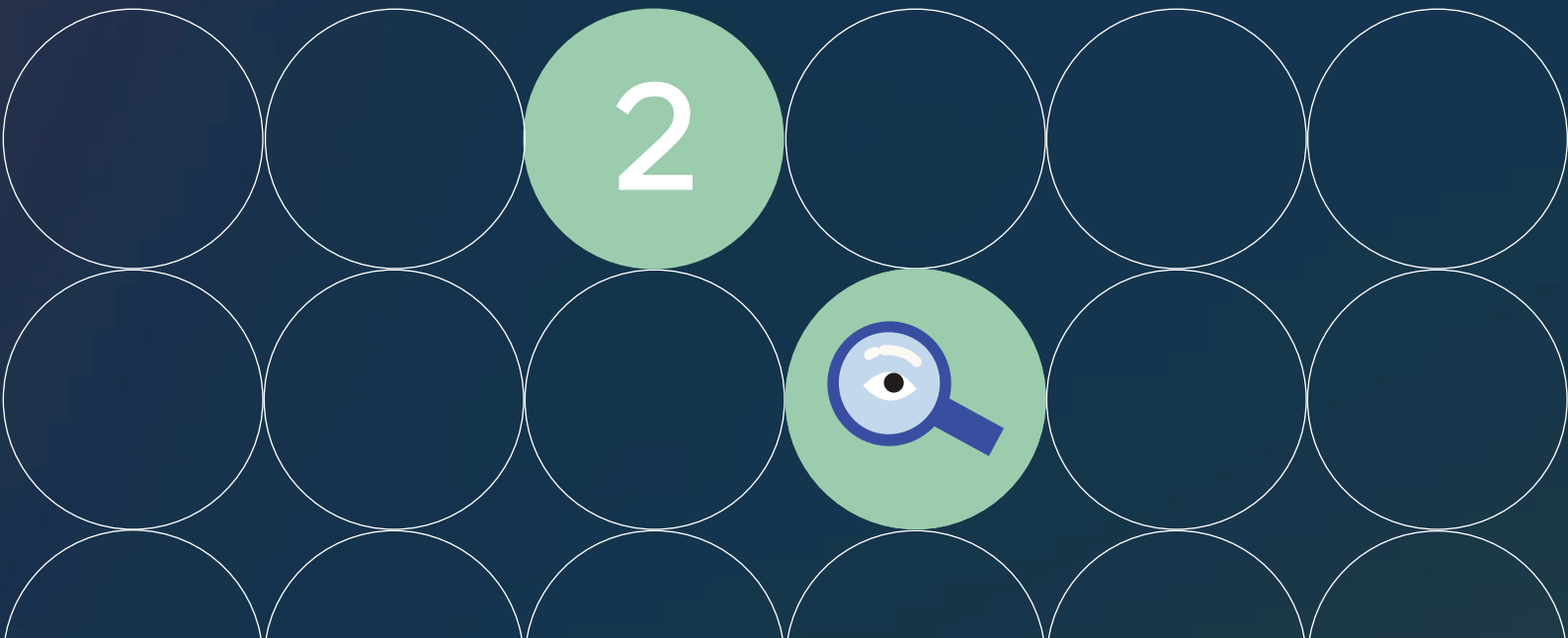
The participating edtech AI start-ups (edtech start-ups) are striving towards solving some key issues within primary education delivery and language diversity concerns. End users for whom education products are created are the prime focus of edtech start-ups' AI value chains.



## Our agritech AI start-ups

The participating agritech AI start-ups (agritech start-ups) are using AI to provide integrated farming services, data platforms, analytics, financial solutions and supply-chain management. The agritech AI start-ups highlighted that local farmers from across the country are key stakeholders for them, particularly from the states of Haryana, Madhya Pradesh, Maharashtra, and Guhawati.

# Findings



# Findings

The objective of evaluating and testing the policy prototype was focused on three main analytical perspectives:

 <p><b>Policy Clarity</b></p> <p>the extent to which the policy text can be meaningfully and clearly understood.</p>	 <p><b>Policy Effectiveness</b></p> <p>the extent to which following the policy guidance enables one to meet its desired goals of meaningfully engaging stakeholders.</p>	 <p><b>Feasibility challenges</b></p> <p>the extent to which policy guidance is operationalizable within a given socio-political, economic, and cultural conditions and constraints.</p>
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Start-ups concluded that the operationalization framework was clear, well-structured, detailed, and understandable. Most of the participating start-ups believed that experimental methodology made the understanding of the operationalization framework easier.

The participating start-ups reported that testing the operationalization framework enhanced their awareness of stakeholder engagement and how that translates into operationalizing the human-centered AI principle. Moreover, the stakeholder mapping exercise helped them to conduct stakeholder mapping in a more structured way and as a core part of their risk management processes.

In terms of feasibility, one of the key constraints flagged by many start-ups was the lack of resources for executing holistic stakeholder engagement. They pointed out some direct economic impacts. For example, to implement the framework they noted constraints around (a) the need for an additional layer of capital on top of other compliance costs, (b) resources in terms of finding people to engage.

The following overarching findings were identified through two workshop sessions, structured surveys, and interviews. They delve deeper into the topics of stakeholder identification and engagement purposes, challenges, and opportunities for conducting stakeholder engagement for implementing the human-centered AI principle.

# 2.1 Stakeholder Identification and Engagement Purposes

FINDING

## 2.1.1 The prototype improved start-ups' understanding of stakeholder engagement

DETAILS

The participating start-ups reported that testing the operationalization framework enhanced their awareness of stakeholder engagement and how such strategies can support in operationalizing the human-centered AI principle. The framework provided them with new perspectives on potential stakeholders to engage and the measures to put in place when deploying an AI system. Moreover, start-ups reported that the stakeholder mapping exercise was helpful in making them think more deeply about sustainable product development and ways to enhance their products' reach and use.

FINDING

## 2.1.2 The prototype enabled start-ups to conduct stakeholder mapping

DETAILS

When comparing results from the four groups of start-ups that were separated by sector, internal stakeholders like board members, AI developers and data scientists were consistently highlighted as critical stakeholder groups that influence organizational strategy and AI system development. Board members, executive committees, and leadership teams in particular were seen as key internal AI system operators who play a critical role in terms of laying out the organizational strategy, which further dictates the organizational culture, vision and key principles.



**TagHive, one of the edtech start-ups, leverages AI to address key issues in primary education and language diversity. They identified internal teams, like board members and C-suite employees, as accountability organizations to be engaged at different stages of the AI lifecycle. Engagement with these individuals helps TagHive to check for AI system compliance levels, especially regarding data veracity.**

While many external stakeholders overlapped between sector groups, some experts were more specific. For example, the healthtech start-ups identified unique stakeholders, like caretakers and Non-Governmental Organizations (NGOs). Interestingly, while not covered in the program's operationalization framework, start-ups across sectors identified investors, like venture capitalist funders and grant bodies, as key stakeholders. External stakeholders like regulators, experts, and accountability organizations were also commonly engaged. For example, healthtech start-ups highlighted that by being a "compliance-heavy industry", engagement with accountability organizations like regulators was crucial for them.



**Mool, one of the participating fintech AI start-ups, is a fast-growing company providing personal financial advisory services and transaction support to India's growing middle class. Mool noted that they find value in engaging with experts at different stages across the AI lifecycle, which, for instance, aid them in addressing emerging challenges or complexities. Engaging these experts on an ongoing basis also enables them to prioritize user needs, values, and ethical considerations into the design of their solutions.**

Across participating companies from all four sectors, start-ups demonstrated an expansive approach to identifying stakeholders beyond just end-users and directly impacted populations. This group of stakeholders, unlike the other groups identified, differed between the groups and is therefore sector specific. For example, for the healthtech group, end-users and impacted populations could include doctors or patients. The agritech start-ups, contrastingly put critical importance on locals as end-users.



**Dvara E-Registry, one of the participating agritech AI start-ups, leverages the power of technology and data analytics to increase farm productivity and access to agricultural credit for smallholder farmers. The start-up identifies farmers and in particular: local, women, and youth farmers, as essential end-users to engage with when monitoring and accessing the impact of their AI systems. They also engage with end-users like village-level influencers and agriculturists in particular geographical areas, to understand the agriculture milieu of specific locations.**

Start-ups across sectors emphasized that AI stakeholders can take distinct roles at the same time. For instance, start-ups noted AI procurers can be both end-users and accountability organizations depending upon the stage at which they are engaged.



FINDING

## 2.1.3 Business development, technical expertise and compliance/ethics are key drivers for stakeholder engagement

DETAILS

The purposes driving stakeholder engagement emerged in three main categories:

### Business Development

Start-ups predominantly engaged with end-users/impacted populations for business development purposes like enhancing service delivery, analyzing gaps in the market, and understanding roadblocks in accessing services. As an edtech start-up mentioned, they engaged end-users "to bring expertise and perspective to the AI system for identifying and articulating impact."

### Technical Inputs

Engagement with experts like researchers, data scientists as well as internal AI developers/engineers was primarily for testing, review, and validation of the technology. As an agritech start-up noted, they engaged experts "to gather insights on the requirements of the users and how specific solutions can be tailored for the community."

### Compliance and Ethics

Accountability organizations like regulators, internal ethics committees were engaged "for business compliance, to ensure ethical and legal considerations are integrated" according to a fintech start-up. A healthtech firm highlighted engaging them "to get a better understanding of the regulations, for instance, to build Explainable AI."



**Artelus, one of the participating healthtech start-ups, markets two medical screening devices and an 'offline' AI program used to diagnose retinal abnormalities. The start-up highlighted that their sales team acts as an accountability organization, indirectly holding the company accountable and shaping the evolution and development of their products. This brings transparency and predictability to their AI solutions.**

FINDING

## 2.1.4 When disclosing information to stakeholders, there is a trade-off between being transparent and safeguarding proprietary knowledge

DETAILS

In terms of information disclosure to stakeholders, start-ups across sectors were willing to share:



- 1. Data requirements information like purpose of data collection and privacy policies.**
- 2. Human-AI configuration details specifying level of user control and autonomy.**
- 3. Limitations of AI systems in terms of accuracy rates and capabilities.**

However, start-ups were more hesitant about sharing certain technical details, such as procurement information around third-party involvement/API usage, and specific information on AI system design and modeling processes. This variance likely stems from a perceived need to balance being transparent while safeguarding proprietary knowledge.

## 2.2 Challenges to conducting stakeholder engagement

While acknowledged the importance of stakeholder engagement, start-ups across sectors flagged two key challenges of implementing meaningful stakeholder engagement strategies in practice. The following challenges were commonly shared:

FINDING

### 2.2.1 Start-ups experienced a significant burden of costs and human resource constraints

DETAILS

Start-ups highlighted that conducting meaningful stakeholder engagement entails significant costs, both in terms of monetary expenses as well as through human resource constraints. They pointed out some direct economic impacts. For example, to implement the framework they noted constraints around (a) the need for an additional layer of capital on top of other compliance costs, (b) resources in terms of finding people to engage.

For instance, the majority of start-ups reported needing to allocate an additional 15-20% of their annual budget approximately to cover stakeholder engagement expenses. Furthermore, start-ups indicated that they may have to divert key personnel from core projects to manage stakeholder interactions, leading to delays in product development cycles by an estimated average of 3-4 months.

Some start-ups suggested that pro-innovation fiscal support by the Government should be considered to develop responsible solutions that balance innovation, commercial and consumer interest. Start-ups also noted that direct and indirect fiscal support to essential processes like stakeholder engagement could further enable and encourage responsible AI innovations in India.

FINDING

### 2.2.2 Socio-cultural barriers play a role when engaging stakeholders in India

DETAILS

Start-ups mentioned that diversity and cultural differences within India make it difficult to engage with varied sets of the population. As part of this issue, they also pointed out a sense of distrust among stakeholders, making collaborative development process difficult. For example, an edtech start-up mentioned that "tackling value pluralism (variation in values across different population groups) is a key challenge in a diverse country like India."

## 2.3 Opportunities for stakeholder engagement

Going beyond the stakeholder engagement framework, participating start-ups saw more opportunities to improve their stakeholder engagement processes to operationalize the human-centered AI principle. Our research highlighted the following two findings:

FINDING

### 2.3.1 Stakeholder engagement is a key element of AI risk management

DETAILS

The feedback received from the start-ups during the program suggests that the Open Loop operationalization framework goes beyond general approaches outlined in various risk management frameworks because it:

- (a) provides clarity through laying out the process of engagement, helping startups navigate the complexities of identifying and interacting with relevant parties. This clarity reduces uncertainties and provides a clear direction for effective stakeholder engagement;
- (b) highlights the relevance of meaningful engagement as opposed to engagement in general, leading to more actionable insights and better risk management outcomes;
- (c) drives start-ups to think outside the box in terms of identifying stakeholders, seeking relevant information and ensuring power parity. By including diverse voices, startups are better equipped to foresee and mitigate risks. This includes expanding their stakeholder lists to include marginalized groups and underrepresented communities, which provides a more holistic view of potential impacts;
- (d) underscores the importance of ongoing dialogue rather than one-time consultations. Continuous engagement ensures that startups stay attuned to evolving stakeholder concerns and expectations, thereby enhancing the adaptability and resilience of their AI systems.

## 2.3.2 Stakeholder engagement is a cross-cutting and multidisciplinary function within organizations

Participating start-ups shared that the framework helped them to see stakeholder engagement as a cross-cutting and multidisciplinary function within their companies. To further improve such processes and make stakeholder engagement a key element in achieving the human-centered AI principle in the development and/or deployment of their systems, start-ups suggested the following interventions:

**People:** To shift the focus on developing human-centered AI solutions, some of the start-ups suggested creating a separate new department from their legal and IT teams to enhance internal operations and processes around stakeholder engagement.

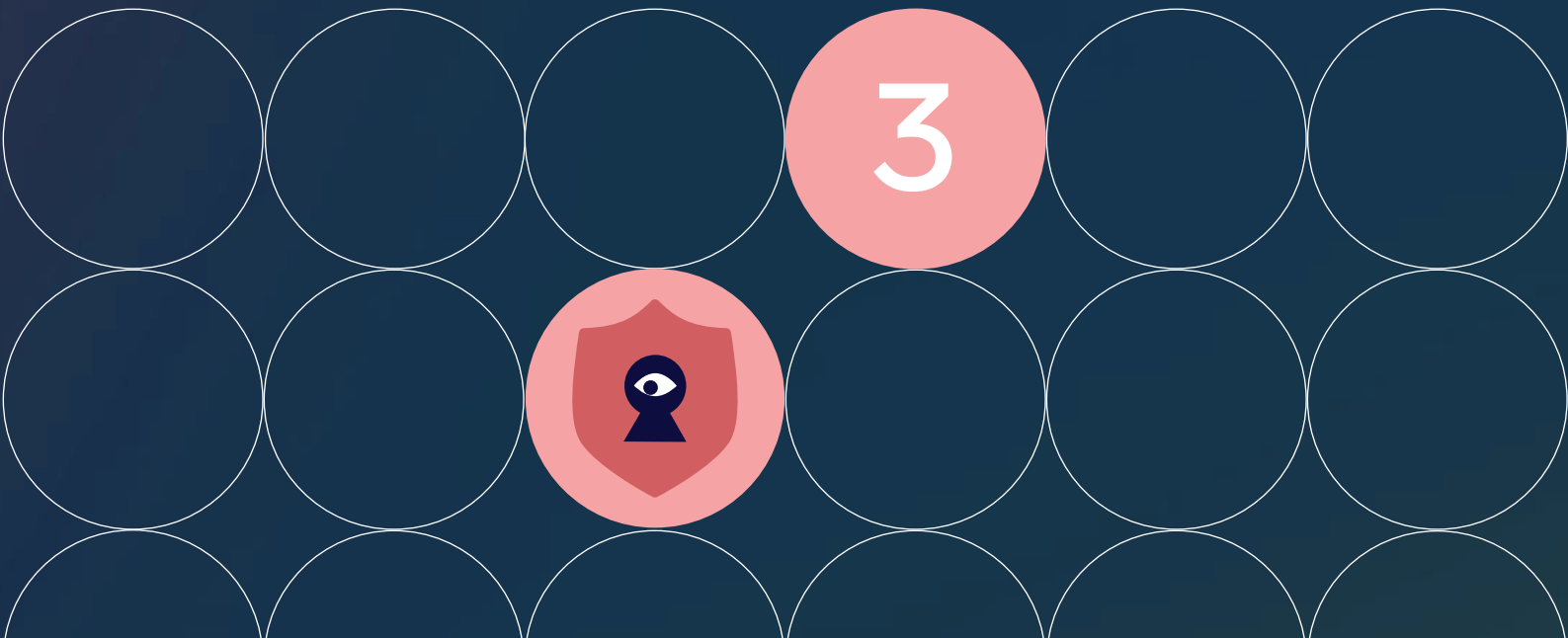
**Processes:** Participating start-ups highlighted that the implementation of the operationalization framework transformed their internal processes. For example, start-ups noted that they have moved toward weekly meetings and periodic workshops with employees to map out relevant stakeholders and discuss effective engagement strategies. As a result, start-ups were able to appreciate the role of meaningful stakeholder engagement in better servicing end-users and impacted populations, which in turn also contribute to the commercial interest of the start-ups.

The testing of the policy prototype highlighted the significant potential of stakeholder engagement in promoting human-centered AI development in India. Startups participating in the program recognized the value of stakeholder engagement in areas such as:

- **Enhanced understanding of user needs and market gaps.**
- **Improved AI system design through diverse stakeholder perspectives.**
- **Strengthened risk management by identifying and mitigating potential biases and ethical concerns.**

However, the testing phase also revealed critical challenges faced by start-ups, particularly around cost and resource constraints, as well as navigating India's socio-cultural complexities. To address these challenges and unlock the full potential of stakeholder engagement, Chapter 3 outlines a series of actionable recommendations targeted specifically for policymakers, companies, and investors.

# Policy recommendations



This chapter outlines a roadmap for fostering a responsible AI ecosystem in India by promoting meaningful stakeholder engagement across the AI lifecycle. The recommendations presented here target policymakers, companies developing and deploying AI systems, and investors.

## 3.1 Recommendations for policymakers



The Indian government has a crucial role to play in promoting and enabling meaningful stakeholder engagement practices by companies developing and deploying AI systems. To drive the adoption of human-centric AI principles, comprehensive policy measures are recommended across multiple fronts:

RECOMMENDATION

### 3.1.1 Developing guidance on stakeholder engagement for AI actors

DETAILS

**Develop clear and comprehensive guidance for AI stakeholder engagement that focuses on the entire AI lifecycle:** Guidance should be voluntary, accounting for the nuances across sectors (e.g., healthcare, education, finance, agriculture), AI use cases (e.g., disease diagnosis, personalized learning, fraud detection, crop yield prediction), and risk profiles (considering the potential impact of AI systems on privacy, fairness, and security).

Additional considerations: The framework should be adaptable to cater to the specific needs and constraints of start-ups and MSMEs (Micro, Small and Medium sized Enterprises). For instance, it could offer simplified guidance or tiered approaches based on company size and resource availability. Additionally, it should include toolkits, templates, and best practices for key activities like stakeholder mapping (identifying relevant stakeholders across the AI value chain), engagement design (tailoring engagement methods to specific stakeholder groups), feedback analysis (systematically collecting, analyzing, and interpreting stakeholder input), and response mechanisms (clearly outlining how companies will address stakeholder concerns and feedback).



RECOMMENDATION

## 3.1.2 Promoting interoperability and synergies

DETAILS

**Design guidance for AI stakeholder engagement to integrate with other key AI risk management frameworks and standards (like the NIST AI Risk Management Framework):** Guidance should be comprehensive, recognizing the interdependence among responsible AI principles like transparency, fairness, and privacy. For instance, effective stakeholder engagement can contribute to both transparency (by ensuring diverse viewpoints are considered in AI development) and fairness (by mitigating potential biases identified through stakeholder feedback).

RECOMMENDATION

## 3.1.3 Catalyzing capacity building and knowledge sharing

DETAILS

**Establish dedicated innovation funds and non-monetary benefits:** To support effective stakeholder engagement, governments can establish dedicated innovation funds and non-monetary benefits (e.g., tax breaks, regulatory streamlining) for companies that demonstrate a commitment to this practice.





**Build a vibrant ecosystem for continuous learning:** This can be achieved by promoting communities of practice that encourage participatory engagement among stakeholders (e.g., creating forums where companies, civil society organizations, and researchers can share experiences and best practices). Collaboration with industry bodies and academia can foster knowledge sharing through the development of training curricula, best practice toolkits, and guidance resources.

**Democratizing AI by promoting open source AI models and tools:** Governments can promote and support open approaches by investing in the adoption and use of open source AI to allow the benefits of AI to reach society at large and to cut down overall expenditure needed to build AI solutions.

RECOMMENDATION

### 3.1.4 Ensuring accountability and ecosystem enablers

DETAILS

**Lead by example:** Governments can do this by proactively engaging stakeholders in public AI initiatives and transparently sharing learnings from these experiences.

**Leverage existing policy frameworks and institutional infrastructure (e.g., regulatory bodies, industry associations):** Doing so can further bolster stakeholder engagement capabilities. This could involve integrating stakeholder engagement efforts into existing regulations or creating dedicated units within government agencies to support companies in implementing these practices.



## 3.2 Recommendations for companies

Indian companies at the forefront of AI development and deployment have a pivotal role in embedding stakeholder engagement as a core tenet of responsible, human-centric AI. Key recommendations for companies include:

### RECOMMENDATION

### 3.2.1. Fostering continuing stakeholder engagement throughout the AI lifecycle

#### DETAILS

**Embrace stakeholder engagement as an organizational value:** Champion human-centric AI principles by embedding meaningful stakeholder engagement into corporate policies, product development frameworks, and risk management processes.

**Establish dedicated leadership and governance structures:** Create senior leadership roles like Chief Ethics Officers with expertise in ethics and accountability, overseeing stakeholder engagement strategy and implementation. Form cross-functional teams with representatives across business units (e.g., product development, marketing, legal), technical functions (e.g., data scientists, engineers), support functions (e.g., communication, public relations), and impacted communities (e.g., patient groups in healthcare AI) to ensure inclusivity and diverse expertise is brought to bear.

**Establish a comprehensive stakeholder engagement strategy that integrates stakeholder input throughout the AI lifecycle, from initial planning to ongoing monitoring and evaluation.** This continuous dialogue fosters transparency, respects human autonomy, and leverages the collective expertise of diverse stakeholders. Key elements of this strategy include:

- **Early and ongoing stakeholder input:** Stakeholder insights should inform key strategic decisions at the outset, such as identifying priority use cases and defining success metrics that consider societal well-being alongside business goals.
- **Two-way communication channels:** Establish clear processes and platforms for continual two-way dialogue with stakeholders across the AI lifecycle. This may involve surveys, workshops, dedicated communication channels (e.g., hotlines, online forums) tailored to specific stakeholder groups.
- **Feedback analysis and response mechanisms:** Systematically collect, analyze, and interpret stakeholder feedback to identify key themes and concerns. Develop clear response mechanisms that outline how companies will address this feedback and integrate it into AI system development and deployment.
- **Cross-stakeholder collaboration:** Actively engage with industry bodies, civil society organizations, academic institutions, and impacted communities through communities of practice. Collaboration fosters knowledge sharing, exchange of best practices, and co-creation of solutions that address ethical considerations and ensure inclusive AI development.



RECOMMENDATION

## 3.2.2 Building capabilities and mechanisms

DETAILS

**Invest in comprehensive training and skill development:** Design immersive, applied training programs covering stakeholder mapping, customized engagement techniques for diverse socio-cultural contexts, and inclusive participation mechanisms. Move beyond theoretical training to real-world scenarios and activities.

RECOMMENDATION

## 3.2.3 Measuring and communicating value

DETAILS

**Define comprehensive evaluation metrics and KPIs:** Develop tangible indicators to quantify outcomes like user satisfaction, product adoption, community impact, public trust, and brand reputation gains from adopting a human-centric approach. Focusing on these metrics aligns with being socially beneficial by demonstrating how stakeholder engagement contributes to positive societal outcomes.

**Integrate into corporate reporting and due diligence:** Report on stakeholder engagement processes, outcomes, evaluation metrics, and learnings through annual reports, sustainability disclosures, investor due diligence, and other reporting mechanisms to uphold transparency.

**Build accountability through proactive communication:** To the extent possible disclose detailed information on stakeholder engagement activities, key stakeholder groups involved, their feedback, and how those inputs tangibly influenced AI system development and deployment. This demonstrates responsiveness and accountability in line with AI principles.



## 3.3 Recommendations for Investors

Investors play a critical role in shaping the future of AI by directing capital towards companies that prioritize responsible practices. This section outlines actionable steps for investors seeking to support the development of trustworthy and ethical AI solutions. By integrating these recommendations into their investment strategies, investors can contribute to a thriving AI ecosystem built on human-centered principles and robust stakeholder engagement.

### RECOMMENDATION

### 3.3.1 Conducting due diligence with an AI human-centered lens

#### DETAILS

**Extend due diligence beyond traditional technical and financial assessments:** This could be achieved by incorporating questions regarding:

- The company's stakeholder engagement strategy (e.g., stakeholder mapping, engagement methods, feedback mechanisms).
- Bias mitigation practices and methodologies employed to identify and address potential biases within AI systems.
- Alignment with established ethical AI principles (e.g., fairness, accountability, transparency) and industry best practices.
- Request evidence of successful stakeholder engagement and its impact on AI development outcomes (e.g., data showing reduced bias, improved user satisfaction).

**Prioritize companies with robust processes:** Favor companies that have established robust processes for responsible AI development, demonstrating a commitment to transparency and accountability. Look for evidence of:

- A clear and comprehensive stakeholder engagement strategy aligned with the national framework (if applicable).
- Investment in training and capacity building for employees on responsible AI principles and stakeholder engagement best practices.
- The use of metrics to measure the effectiveness of stakeholder engagement and its impact on AI development outcomes (e.g., reduced bias, improved user satisfaction).



RECOMMENDATION

### 3.3.2 Integrating human-centered AI into investment decisions

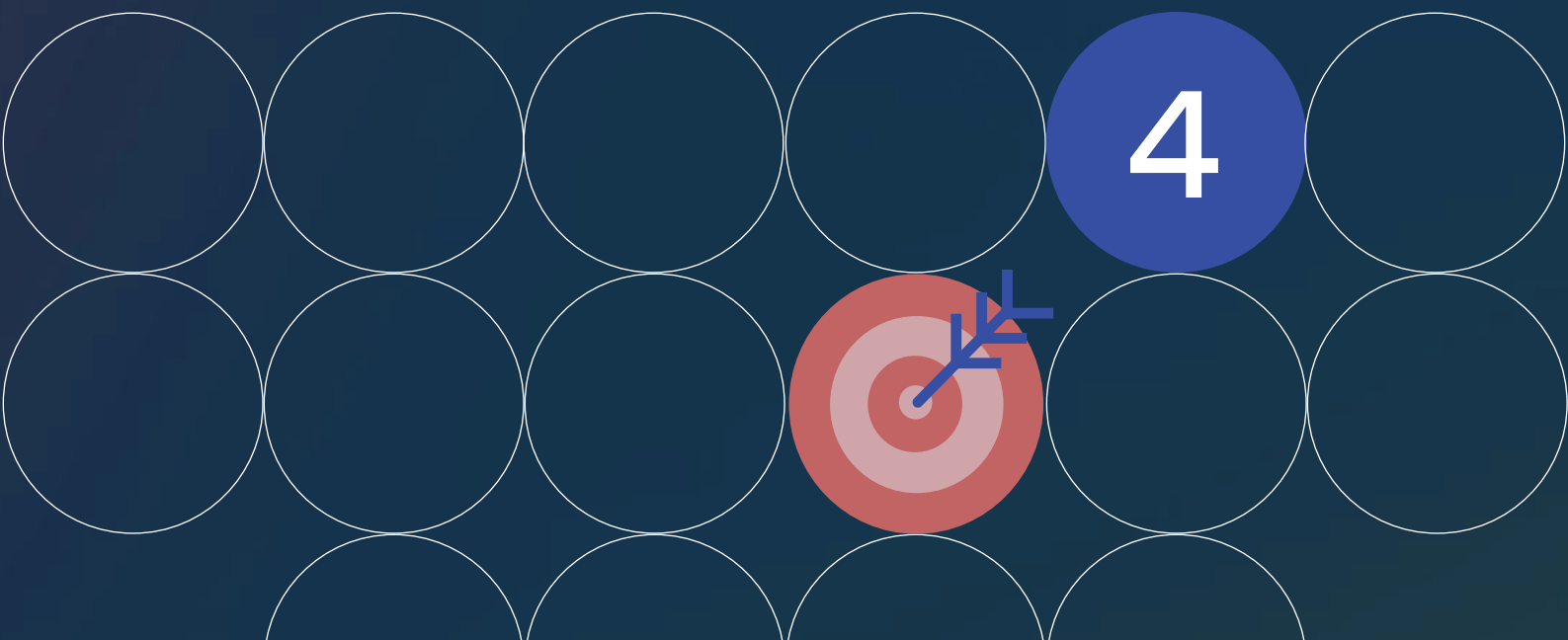
DETAILS

**Prioritize human-centered AI as a competitive advantage:** Integrate human-centric AI principles into investment theses, considering factors like fairness, transparency, and accountability. Companies that prioritize these principles are more likely to develop trustworthy and sustainable AI solutions in the long term.

**Evaluate companies based on stakeholder engagement:** Prioritize companies that demonstrate a commitment to meaningful stakeholder engagement throughout the AI lifecycle (development, deployment, monitoring, and evaluation). This can be assessed through several methods:

- Reviewing public reports and documentation outlining stakeholder engagement strategies (e.g., annual reports, sustainability disclosures).
- Conducting interviews with company leadership and relevant stakeholders to understand engagement practices and their impact on AI development.
- Analyzing case studies showcasing stakeholder engagement successes and their positive influence on AI outcomes (e.g., reduced bias, improved user experience).

# Conclusion & next steps





## CONCLUSION AND NEXT STEPS

The Open Loop India program served as a valuable exploration of how stakeholder engagement fosters human-centric AI development, in alignment with Indian national AI principles' emphasis on prioritizing human values throughout the AI lifecycle. This initiative confirmed that meaningful participation from diverse stakeholders is crucial for ensuring AI systems are designed and implemented with local realities and potential risks in mind.

**By integrating human-centric values throughout the AI system lifecycle through stakeholder engagement, AI actors can build systems that respect, understand, and augment human endeavors.**

Furthermore, this approach ensures that AI systems reflect and consider individual and community experiences and contexts, leading to more trustworthy AI that accounts for local realities and provides more comprehensive insights into potential risks and impacts.

The Open Loop program's success stemmed from a collaborative effort. A key element was the development of a policy prototype framework and a testing framework. This prototype empowered participating start-ups from healthtech, edtech, fintech, and agritech sectors to put human-centric AI principles into action. Start-ups gained valuable insights into stakeholder mapping and engagement strategies. Feedback from participants confirmed that genuine stakeholder engagement significantly enriches AI products and services, making them more relevant, accepted, and impactful.

While the prototype proved effective, the program also highlighted areas for further development. Key challenges identified included resource constraints, balancing transparency with proprietary knowledge protection, and navigating socio-cultural barriers specific to India. Despite these challenges, start-ups recognized stakeholder engagement as a crucial element of AI risk management practices and a driver for cross-functional collaboration within organizations.

Looking forward, the Open Loop India program underscores the importance of community-driven, qualitative evidence for developing effective AI governance frameworks. The multi-stakeholder consortium approach fosters a rich tapestry of perspectives, leading to more robust and responsible AI policies. We strongly recommend continued support to policy experimentation to encourage regulatory learning and improvement. Policymakers' active participation is crucial for witnessing firsthand the potential of AI and ensuring its development serves a balanced role for both businesses and people.



Building upon the program's findings and recommendations, the following key takeaways emerge:

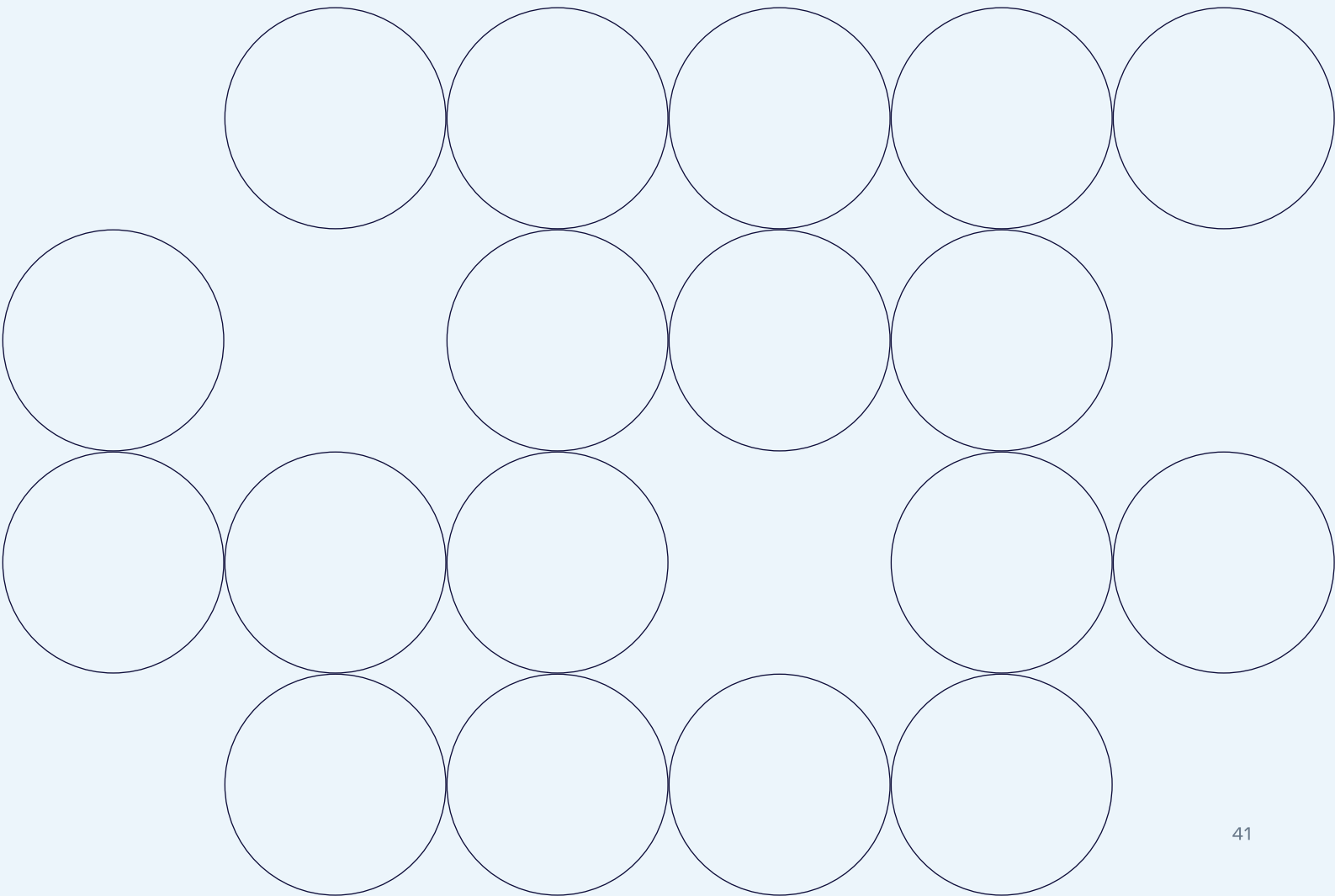
→ Policymakers can play a supportive role by providing financial and indirect support for conducting stakeholder engagement. Additionally, the government can create an environment that fosters cooperation between AI developers and deployers. Furthermore, India can actively contribute to international standard-setting initiatives and develop guidance for the industry on conducting meaningful stakeholder engagement. A comprehensive approach that considers synergies between human-centric AI and other responsible AI principles is crucial, while acknowledging the need for tailored frameworks for different sectors and risks.

→ Companies can enhance AI risk management by integrating meaningful stakeholder engagement, beyond end-users. Leadership buy-in, resource allocation, internal capacity building and collaboration on stakeholder engagement are crucial. Developing reliable methods to evaluate the long-term benefits of stakeholder engagement is also important.

→ Investors can view human-centric AI as a value proposition and incorporate mechanisms to ensure businesses prioritize this concept. Including proof of human-centric AI considerations in investment due diligence can encourage developers to utilize tools like stakeholder engagement.



# Stakeholder Engagement for Responsible AI Annex



# Annex 1 - Methodology

**Policy prototyping** has recently emerged as a transformative approach within the sphere of public policy making, signifying a departure from traditional, linear methods of policy development toward more dynamic, inclusive, and iterative processes.<sup>20</sup>

Inspired by design thinking and agile methodologies, policy prototyping allows policymakers to test and refine potential policy solutions in a controlled environment before full implementation, promoting exploration of complex issues.<sup>21</sup> It also facilitates stakeholder engagement by involving diverse stakeholder groups earlier in the policymaking process.

Based on this, a policy prototype framework was co-developed and tested in collaboration with ArtEZ University of the Arts and The Dialogue. This policy prototype aims to support start-ups in operationalizing the principle of human-centered AI by using stakeholder engagement as a practical tool to map and engage with AI actors across the AI lifecycle in an aim to bring feedback into AI product development. Recognizing India's diverse socio-cultural fabric, this framework also aims to ensure systems account for local context and the lived experiences of the impacted population.

# Research scope

By fostering collaboration among this diverse set of stakeholders, the program aimed to guide and enable companies in India to implement the AI principle of human centrality, as enshrined in the national AI principles of India, in a way that accounts for local and regional cultural factors with an emphasis on AI stakeholder engagement. This collaboration is pivotal in ensuring that AI technologies are technologically proficient, ethically grounded, and socially responsible.

## Research questions

### The program investigated:

- How effectively does the policy prototype balance policy clarity, technical feasibility, and policy effectiveness for its intended audience?
- How Indian start-ups currently perceive and engage with AI actors (and AI stakeholders) across the lifecycle and AI value chain and why?
- The main challenges and pain points experienced by start-ups in India when mapping and engaging with stakeholders in the context of human-centered AI.
- Best practices that contribute to successful implementation of stakeholder engagement strategies and human-centered AI (as part of broader risk-management strategies).

# Research methodology

The project adopted an experimental research design wherein start-ups were involved in a prototyping exercise to integrate human-centric AI principles enshrined in the framework.

## Research methods

A combination of the following six research methods was adopted for the prototyping exercise:

- a Sequential and Thematic Workshops:** These workshops were systematically organized throughout the research period. Each workshop was carefully themed to address different aspects of the AI lifecycle and stakeholder engagement, ensuring a holistic understanding.
- b Interactive Sessions with Experts:** The workshops included interactive sessions with AI and ethics experts, industry leaders, and user experience designers to provide multi-dimensional insights into the practical challenges and opportunities in integrating human-centric AI principles.
- c Case Study Discussions:** Real-world case studies were presented and analyzed to help start-ups contextualize theoretical principles in practical scenarios.
- d Role-playing and Scenario Analysis:** Participants engaged in scenario analysis to simulate decision-making processes and stakeholder interactions, fostering a deeper understanding of the impacts and implications of their AI systems.
- e Feedback and Reflection Sessions:** Each workshop concluded with feedback sessions where start-ups reflected on their learnings and discussed potential applications and modifications to their AI systems and practices.
- f Surveys:**
  - Comprehensive Structured Surveys:** Surveys were designed to probe deep into specific aspects of the start-ups' AI systems, lifecycle, and stakeholder engagement strategies.
  - Quantitative and Qualitative Metrics:** Surveys included both quantitative metrics for measurable aspects (like frequency and type of stakeholder engagement) and qualitative questions for subjective insights (such as perceived challenges and benefits).
  - Regular Interval Deployment:** Surveys were conducted at regular intervals to track progress and changes in the start-ups' approaches and understanding over time.
  - Data Analysis for Pattern Identification:** The survey data was analyzed for patterns and trends, facilitating a granular understanding of how start-ups' approaches evolved and how effectively they were integrating human-centric principles in their AI lifecycle.

# Stakeholder mapping and engagement strategy

As part of the evaluation and testing phase, the program focused on (a) Stakeholder Mapping and (b) Engagement Strategy components of the policy prototype. This was then broken down into workshop activities for evaluating and testing.

The following illustration showcases the stakeholder clusters and the different stages of AI lifecycle we considered.

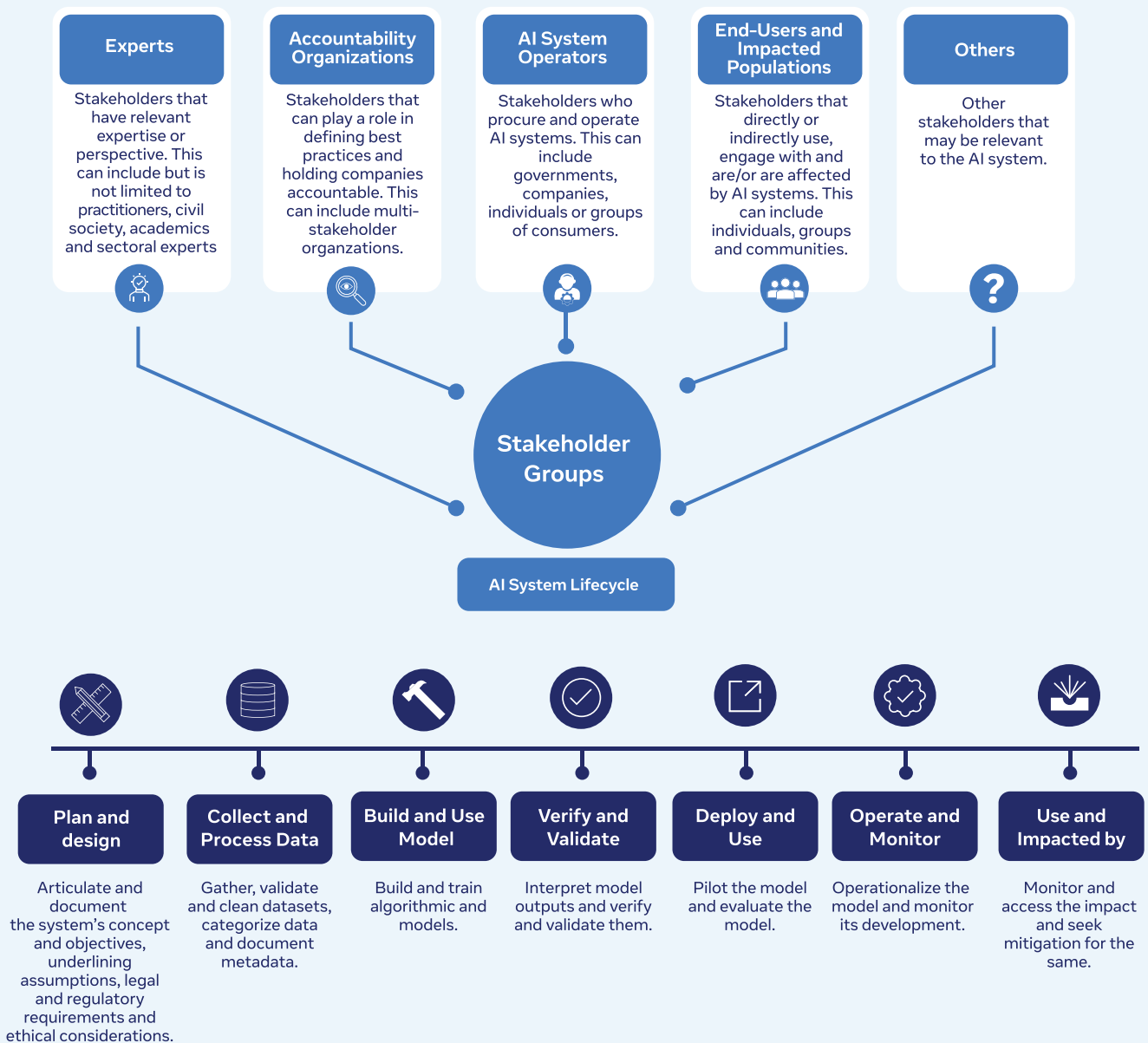


Figure 2: Stakeholder Groups & Stages of AI Lifecycle

The strategy for stakeholder engagement and operationalization of the prescribed framework was executed through the following phases:

- 1 Background Information Synthesis:**  
Start-ups delineated pertinent details concerning their AI systems, which included factors like the system's designed purpose, the geographical context of deployment (incorporating relevant languages), and foundational principles that underpin the system's lifecycle.
- 2 Stakeholder Identification:**  
Participating start-ups identified and outlined stakeholders crucial for the implementation of human-centric principles. They were then tasked to discuss the significance of these stakeholders, commit to measures ensuring inclusivity and diversity, and preemptively discern potential security risks related to stakeholder participation.
- 3 Stakeholder Engagement Strategy Formulation:**  
Post the stakeholder identification phase, organizations formulated comprehensive engagement strategies. This included defining the engagement's objective, its temporal span, magnitude, and engagement techniques. Additionally, start-ups identified specific questions to be posed and information to be disclosed to stakeholders.

The illustration below sums up the above-mentioned process towards operationalizing and testing the framework:

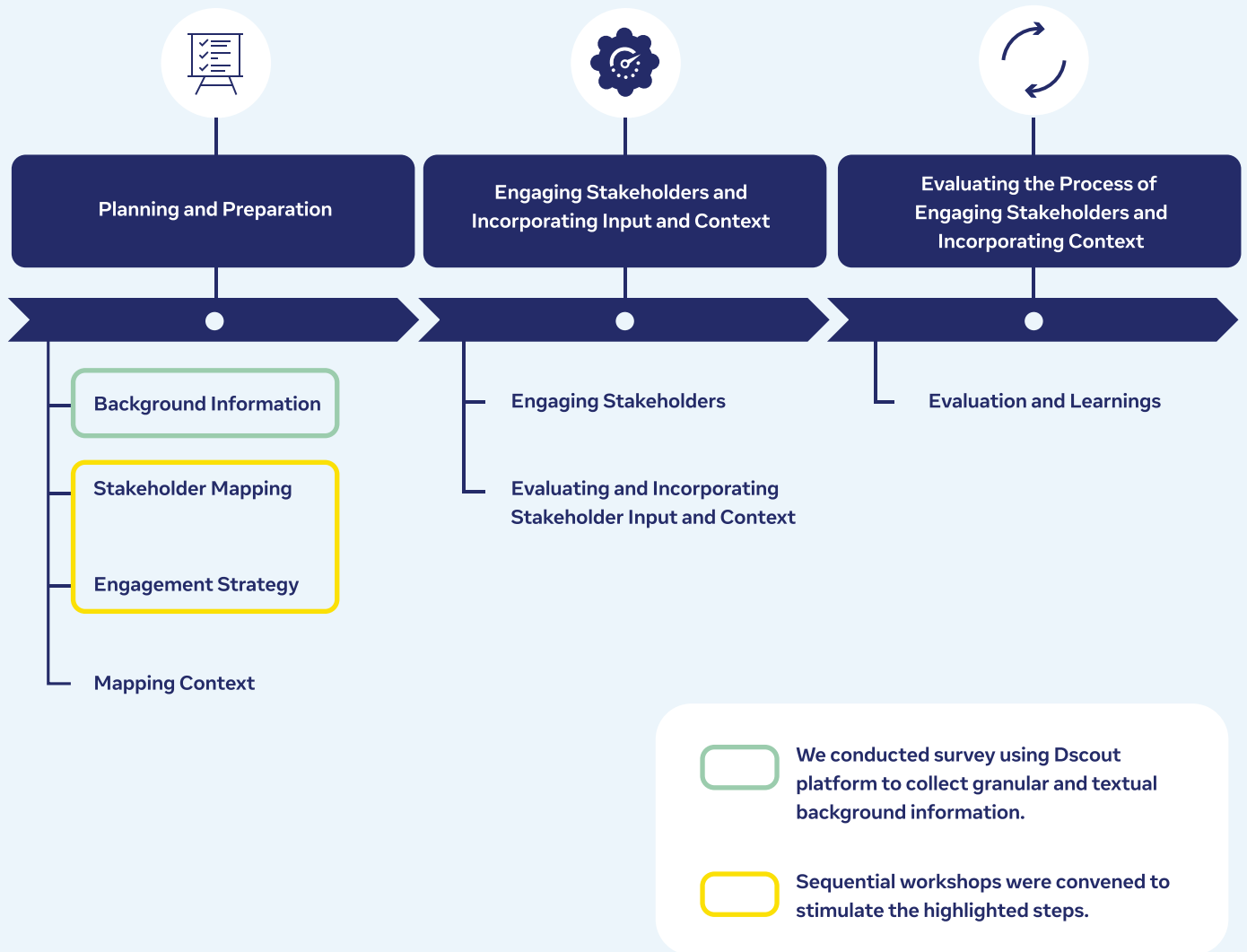


Figure 3: Research Process Towards Operationalizing and Testing the Framework

# Limitations and considerations

## Definition and Scope Constraints:

The boundaries set by the definition and scope of the framework may not fully encompass the diverse applications and implications of AI across sectors. These constraints may lead to blind spots in the evaluation or recommendations.

## Ambiguity of 'Human-Centric' AI:

The term "human-centric" is subjective and may be interpreted differently across various start-ups or sectors. Without a universally accepted definition, this can lead to inconsistencies in implementation.

## Stakeholder Engagement Limitations:

While stakeholder engagement is pivotal, the diversity and volume of stakeholders in the AI ecosystem mean that certain voices or concerns may unintentionally be overlooked or underrepresented.

## Contextual Limitations:

The context in which AI operates varies greatly, from the socio-economic environment to the tech landscape. A single framework may not cater to the nuances of every distinct context.

## Literature Sample Size Concerns:

The insights derived are based on a limited sample size of start-ups, which might not comprehensively cover the vast and rapidly evolving field of AI. Newer studies, alternate perspectives, or less-documented findings might be left out.

## Evolving Nature of AI:

AI is an ever-evolving field. A framework or prototype designed today may need regular updates to stay relevant and effective amidst technological advancements.



# Bibliography

- [1] 9.75 million developers in India use GitHub, 2nd largest after US. Business Standard. (2022, November 10). [https://www.business-standard.com/article/companies/9-75-million-developers-in-india-use-github-2nd-largest-after-us-122111000493\\_1.html](https://www.business-standard.com/article/companies/9-75-million-developers-in-india-use-github-2nd-largest-after-us-122111000493_1.html)
- [2] OECD AI Policy Observatory (January 30, 2023). AI for All: How India is carving its own path in the global AI race <https://oecd.ai/en/wonk/india>
- [3] The State of Responsible AI in India 2023. NASSCOM. (2023, December). <https://nasscom.in/ai/pdf/the-state-of-responsible-ai-india-2023-nasscom.pdf>
- [4] The Aldea of India: Generative AI's Potential to Accelerate India's Digital Transformation. EY. (2023). [https://www.ey.com/en\\_in/ai/generative-ai-india-report/industries-in-transformation/government-public-sector#:~:text=Gen%20AI%20is%20revolutionizing%20government,agile%2C%20citizen%2Dcentric%20services.](https://www.ey.com/en_in/ai/generative-ai-india-report/industries-in-transformation/government-public-sector#:~:text=Gen%20AI%20is%20revolutionizing%20government,agile%2C%20citizen%2Dcentric%20services.)
- [5] Ozmen Garibay, O., Winslow, B., Andolina, S., Antona, M., Bodenschatz, A., Coursaris, C., Falco, G., Fiore, S. M., Garibay, I., Grieman, K., Havens, J. C., Jirotko, M., Kacorri, H., Karwowski, W., Kider, J., Konstan, J., Koon, S., Lopez-Gonzalez, M., Maifeld-Carucci, I., ... Xu, W. (2023). Six Human-Centered Artificial Intelligence Grand Challenges. *International Journal of Human-Computer Interaction*, 39(3), 391-437. <https://doi.org/10.1080/10447318.2022.2153320>
- [6] Shekar, K., Sahiba, J., Saxena, G. and Birla, B. (2023, September). Principles for Enabling Responsible AI Innovations in India: An Ecosystem Approach. *The Dialogue*. <https://thediologue.co/publication/principles-for-enabling-responsible-ai-innovations-in-india-an-ecosystem-approach/>
- [7] The definitions here are not exhaustive and will be complemented by other important definitions in Section x of the report.
- [8] NITI Aayog.(2021). Responsible AI for All. <https://www.niti.gov.in/sites/default/files/2021-02/Responsible-AI-22022021.pdf>
- [9] NITI Aayog (2021). Responsible AI for All. <https://www.niti.gov.in/sites/default/files/2021-02/Responsible-AI-22022021.pdf>
- [10] OECD (May, 2019) Recommendation of the Council on Artificial Intelligence <https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0449>
- [11] IEEE (?). EAD General Principles. [https://standards.ieee.org/wp-content/uploads/import/documents/other/ead\\_general\\_principles.pdf](https://standards.ieee.org/wp-content/uploads/import/documents/other/ead_general_principles.pdf)
- [12] OECD. (2018). OECD Due-Diligence Guidance For Responsible Business Conduct . <https://mneguidelines.oecd.org/OECD-Due-Diligence-Guidance-for-Responsible-Business-Conduct.pdf>
- [13] OECD. (2021). Artificial Intelligence, Machine Learning and Big Data in Finance: Opportunities, Challenges, and Implications for Policy Makers. <https://www.oecd.org/finance/financial-markets/Artificial-intelligence-machine-learning-big-data-in-finance.pdf>
- [14] AI Risk Management Framework. NIST. (2024, January 26). <https://www.nist.gov/itl/ai-risk-management-framework>

- [15] OECD. (2019). Artificial Intelligence & Responsible Business Conduct. <https://mneguidelines.oecd.org/RBC-and-artificial-intelligence.pdf>
- [16] European Center for Not-for-Profit Law. Framework for Meaningful Engagement. <https://ecnl.org/sites/default/files/2023-03/Final%20Version%20FME%20with%20Copyright%20%282%29.pdf>.
- [17] Ada Lovelace Institute. (30 March 2021). The Citizens' Biometrics Council. <https://www.adalovelaceinstitute.org/report/citizens-biometrics-council/>
- [18] Meta (February, 2024) Guide for Conducting Inclusive Stakeholder engagement. [https://scontent-lhr6-2.xx.fbcdn.net/v/t39.8562-6/424827873\\_900035391575497\\_8367748505251825101\\_n.pdf?\\_nc\\_cat=100&ccb=1-7&\\_nc\\_sid=b8d81d&\\_nc\\_ohc=C5BTcXKEtwcAb5lBuw3&\\_nc\\_ht=scontent-lhr6-2.xx&oh=00\\_AfDZ6WEpfF3\\_VQ5gsvLammE7eX5zuiKOMwQ\\_RqjWFJd2YA&oe=6623025C](https://scontent-lhr6-2.xx.fbcdn.net/v/t39.8562-6/424827873_900035391575497_8367748505251825101_n.pdf?_nc_cat=100&ccb=1-7&_nc_sid=b8d81d&_nc_ohc=C5BTcXKEtwcAb5lBuw3&_nc_ht=scontent-lhr6-2.xx&oh=00_AfDZ6WEpfF3_VQ5gsvLammE7eX5zuiKOMwQ_RqjWFJd2YA&oe=6623025C)
- [19] Meta (June, 2023). Bringing People Together to Inform Decision-Making on Generative AI. <https://about.fb.com/news/2023/06/generative-ai-community-forum/>
- [20] Kimbell, L., & Bailey, J. (2017). Prototyping and the New Spirit of Policy-Making. *CoDesign*, 13(3), 214–226. <https://doi.org/10.1080/15710882.2017.1355003>
- [21] Pattnaik, R., & Banerjee, R. (2024). Extending Design Thinking to Public Policy: A Prototype for Fiscal Rule. *Economic and Political Weekly*, 55(34). <https://www.epw.in/journal/2020/34/special-articles/extending-design-thinking-public-policy.html>

# References

<sup>1</sup>9.75 million developers in India use GitHub, 2nd largest after US. Business Standard. (2022, November 10). [https://www.business-standard.com/article/companies/9-75-million-developers-in-india-use-github-2nd-largest-after-us-122111000493\\_1.html](https://www.business-standard.com/article/companies/9-75-million-developers-in-india-use-github-2nd-largest-after-us-122111000493_1.html)

<sup>2</sup>OECD AI Policy Observatory (January 30, 2023). AI for All: How India is carving its own path in the global AI race <https://oecd.ai/en/wonk/india>

<sup>3</sup>The State of Responsible AI in India 2023. NASSCOM. (2023, December). <https://nasscom.in/ai/pdf/the-state-of-responsible-ai-india-2023-nasscom.pdf>

<sup>4</sup>The Aldea of India: Generative AI's Potential to Accelerate India's Digital Transformation. EY. (2023). [https://www.ey.com/en\\_in/ai/generative-ai-india-report/industries-in-transformation/government-public-sector#:~:text=Gen%20AI%20is%20revolutionizing%20government,agile%2C%20citizen%2Dcentric%20services.](https://www.ey.com/en_in/ai/generative-ai-india-report/industries-in-transformation/government-public-sector#:~:text=Gen%20AI%20is%20revolutionizing%20government,agile%2C%20citizen%2Dcentric%20services.)

<sup>5</sup>Ozmen Garibay, O., Winslow, B., Andolina, S., Antona, M., Bodenschatz, A., Coursaris, C., Falco, G., Fiore, S. M., Garibay, I., Grieman, K., Havens, J. C., Jirotko, M., Kacorri, H., Karwowski, W., Kider, J., Konstan, J., Koon, S., Lopez-Gonzalez, M., Maifeld-Carucci, I., ... Xu, W. (2023). Six Human-Centered Artificial Intelligence Grand Challenges. *International Journal of Human-Computer Interaction*, 39(3), 391-437. <https://doi.org/10.1080/10447318.2022.2153320>

<sup>6</sup>Shekar, K., Sahiba, J., Saxena, G. and Birla, B. (2023, September). Principles for Enabling Responsible AI Innovations in India: An Ecosystem Approach. *The Dialogue*. <https://thedialogue.co/publication/principles-for-enabling-responsible-ai-innovations-in-india-an-ecosystem-approach/>

<sup>7</sup>The definitions here are not exhaustive.

<sup>8</sup>NITI Aayog.(2021). Responsible AI for All. <https://www.niti.gov.in/sites/default/files/2021-02/Responsible-AI-22022021.pdf>

<sup>9</sup>NITI Aayog (2021). Responsible AI for All. <https://www.niti.gov.in/sites/default/files/2021-02/Responsible-AI-22022021.pdf>

<sup>10</sup>OECD (May, 2019) Recommendation of the Council on Artificial Intelligence <https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0449>

<sup>11</sup>The IEEE Global Initiative for Ethical Considerations in Artificial Intelligence and Autonomous Systems. (2016). General principles.

<sup>12</sup>OECD. (2018). OECD Due-Diligence Guidance For Responsible Business Conduct . <https://mneguidelines.oecd.org/OECD-Due-Diligence-Guidance-for-Responsible-Business-Conduct.pdf>

<sup>13</sup>OECD. (2021). Artificial Intelligence, Machine Learning and Big Data in Finance: Opportunities, Challenges, and Implications for Policy Makers. <https://www.oecd.org/finance/financial-markets/Artificial-intelligence-machine-learning-big-data-in-finance.pdf>

<sup>14</sup>AI Risk Management Framework. NIST. (2024, January 26). <https://www.nist.gov/itl/ai-risk-management-framework>

<sup>15</sup>OECD. (2019). Artificial Intelligence & Responsible Business Conduct. <https://mneguidelines.oecd.org/RBC-and-artificial-intelligence.pdf>

<sup>16</sup>European Center for Not-for-Profit Law. Framework for Meaningful Engagement. <https://ecnl.org/sites/default/files/2023-03/Final%20Version%20FME%20with%20Copyright%20%282%29.pdf>.

<sup>17</sup>Ada Lovelace Institute. (30 March 2021). The Citizens' Biometrics Council. <https://www.adalovelaceinstitute.org/report/citizens-biometrics-council/>

<sup>18</sup>Meta (February, 2024) Guide for Conducting Inclusive Stakeholder engagement. [https://scontent-lhr6-2.xx.fbcdn.net/v/t39.8562-6/424827873\\_900035391575497\\_8367748505251825101\\_n.pdf?\\_nc\\_cat=100&ccb=1-7&\\_nc\\_sid=b8d81d&\\_nc\\_ohc=C5BTcXKEtwcAb5lBuw3&\\_nc\\_ht=scontent-lhr6-2.xx&oh=00\\_AfDZ6WEpfF3\\_VQ5gsvLammE7eX5zuiKOMwQ\\_RqjWFJd2YA&oe=6623025C](https://scontent-lhr6-2.xx.fbcdn.net/v/t39.8562-6/424827873_900035391575497_8367748505251825101_n.pdf?_nc_cat=100&ccb=1-7&_nc_sid=b8d81d&_nc_ohc=C5BTcXKEtwcAb5lBuw3&_nc_ht=scontent-lhr6-2.xx&oh=00_AfDZ6WEpfF3_VQ5gsvLammE7eX5zuiKOMwQ_RqjWFJd2YA&oe=6623025C)

<sup>19</sup>Meta (June, 2023). Bringing People Together to Inform Decision-Making on Generative AI. <https://about.fb.com/news/2023/06/generative-ai-community-forum/>

<sup>20</sup>Kimbell, L., & Bailey, J. (2017). Prototyping and the New Spirit of Policy-Making. *CoDesign*, 13(3), 214–226. <https://doi.org/10.1080/15710882.2017.1355003>

<sup>21</sup>Pattnaik, R., & Banerjee, R. (2024). Extending Design Thinking to Public Policy: A Prototype for Fiscal Rule. *Economic and Political Weekly*, 55(34). <https://www.epw.in/journal/2020/34/special-articles/extending-design-thinking-public-policy.html>