A.I. Governance in veterinary Big Data:
Why pursue it and How to achieve it

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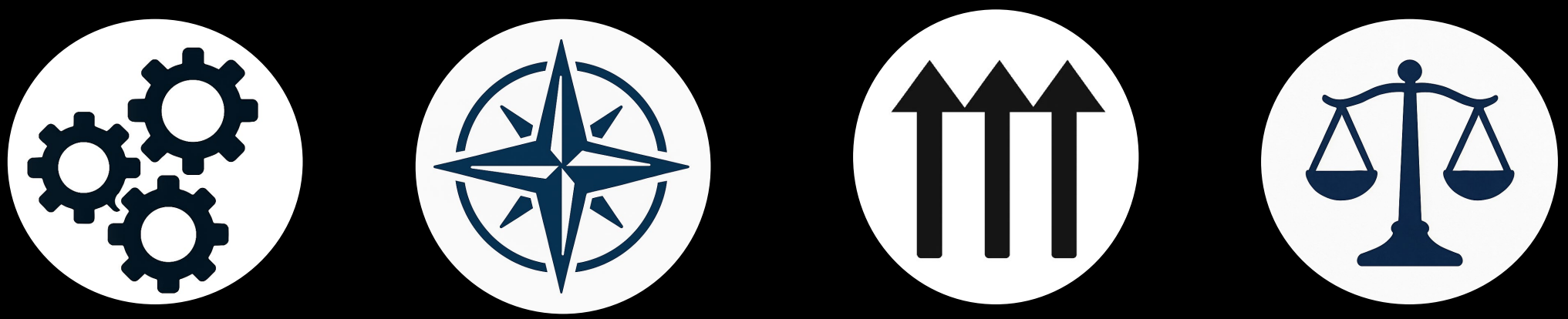
Why pursue it and How to achieve it

What is A.I. Governance?

- **System** of principles, policies, processes and oversight mechanisms
- **Guides** the **responsible** development, deployment and **use** of **artificial intelligence** within an organization or society **across AI lifecycle**
  - how decisions about AI are made
  - who is accountable for them
  - how compliance, ethics, risk management are ensured
- **Aligns** technical, legal, ethical and **organizational frameworks**
- **Promotes** trust, fairness, safety, privacy and societal **benefit while minimizing harm** or misuse.

System that **Guides** the **responsible use** of **artificial intelligence, Aligns** with your **organizational frameworks and Promotes benefits while minimizing harm**



AI governance creates the trust connection between your business, your regulators and your clients.

AI governance is within your reach

Why?

How?

Why?

Regulators

TRUST

Business

TRUST

Clients

Regulators

TRUST

Business

Why

European Commission (DG SANTE)

European Council

European Medicines Agency

Why

European Commission (DG SANTE)

European Council

European Medicines Agency

National Competent Authority

Veterinary Statutory Body

Why

European Commission (DG SANTE)

European Council

European Medicines Agency

National Competent Authority

Veterinary Statutory Body

Hospitals/Institutions/Corporations

Practitioners

REGULATION

European Commission (DG SANTE)

European Council

European Medicines Agency

National Competent Authority

Veterinary Statutory Body

Hospitals/Institutions/Corporations

Practitioners

ENFORCEMENT

European Commission (DG SANTE)

European Council

European Medicines Agency

National Competent Authority

Veterinary Statutory Body

Hospitals/Institutions/Corporations

Practitioners

TOP-DOWN TRUST

European Commission (DG SANTE)

European Council

European Medicines Agency

National Competent Authority

Veterinary Statutory Body

Hospitals/Institutions/Corporations

Practitioners

BOTTOM-UP TRUST

European Commission (DG SANTE)

European Council

European Medicines Agency

National Competent Authority

Veterinary Statutory Body

Hospitals/Institutions/Corporations

Practitioners

Regulators

TRUST

Business

TRUST

Clients

Business

TRUST

Clients

- **Trust that exists before a problem makes recovery more effective**

Abstract

Our paper examines how prior trust moderates consumer and firm responses to a firm's failures. We document that relatively high prior trust in a firm can help firms better recover from the negative effects of denying versus accepting failures, but that trust offers greater protection against competence as compared to ethical failures. We also consider the effects of two responses to ethical failures - external attribution and

Raju, Sekar, et al. “The Moderating Effects of Prior Trust on Consumer Responses to Firm Failures.” Journal of Business Research, vol. 122, Jan. 2021, pp. 24–37, https://doi.org/10.1016/j.jbusres.2020.08.059. Accessed 2 June 2021.

- **Internal AI governance builds client trust**

> Companies that have already made such investments report significant benefits, including improved business efficiency and cost reductions (42 percent), increased consumer trust (34 percent), enhanced brand reputation (29 percent), and fewer AI incidents (22 percent). Around 55 percent of organizations are investing in reducing inaccuracy as part of their RAI road map, along

Insights on Responsible AI from the Global AI Trust Maturity Survey." McKinsey & Company, 14 May 2025, www.mckinsey.com/capabilities/tech-and-ai/our-insights/tech-forward/insights-on-responsible-ai-from-the-global-ai-trust-maturity-survey. Accessed 5 Nov. 2025.

- **Internal AI governance builds client trust**

> The trend applies to other measures of financial value from AI, including ROI. Executives also report that AI ethics investments deliver advantages beyond financial value. The top three benefits cited: increased trust (61%), strengthened brand reputations (57%), and mitigated reputational risks (54%). These benefits, in turn, translate into performance gains.

Berente, Nicholas et. al. The AI Ethics Trust Engine: Converting Capital into Capabilities. IBM Institute for Business Value, in collaboration with the Notre Dame–IBM Tech Ethics Lab, October 2025. https://ibm.biz/ai-ethics-bc.

- **Financial repercussions (ROI)**

What is the business case for AI ethics investments?

Investing in AI ethics directly correlates with superior business performance. Organizations in the top quartile of AI ethics spending, as a percent of AI spend, demonstrate 30% higher operating profit attributable to AI than the lowest quartile over the past two years. Investments across the other three spending quartiles correlate with increasing operating profit as well.

Berente, Nicholas et. al. The AI Ethics Trust Engine: Converting Capital into Capabilities. IBM Institute for Business Value, in collaboration with the Notre Dame–IBM Tech Ethics Lab, October 2025. https://ibm.biz/ai-ethics-bc.

- **Financial repercussions (ROI): Create value**

Cultural/reputational: brand differentiation

Talent attraction/retention

Market advantage: customer loyalty, new markets

Strategic flexibility: Anticipate and adapt to regulatory and technological change

Domin, Heather, et al. “On the ROI of AI Ethics and Governance Investments: From Loss Aversion to Value Generation.” California Management Review Insights, 29 July 2024, cmr.berkeley.edu/2024/07/on-the-roi-of-ai-ethics-and-governance-investments-from-loss-aversion-to-value-generation. Accessed 5 Nov. 2025.

Why not?

It’s expensive!

We’re waiting on guidance from the EMA!

What if it’s premature?

I don’t know how!

Why not?

It’s expensive!

Why not?

We're waiting on guidance from the EMA!

- Responsibility + Accountability
- Transparency + Explainability
- Right to Privacy + Data Protection
- Proportionality + Do No Harm
- Safety + Security
- Multi-Stakeholder Adaptive Governance + Collaboration
- Fairness + Non-Discrimination
- Sustainability
- Awareness + Literacy
- Human Oversight + Determination

We're waiting on guidance from the EMA!

OECD

UNESCO

- Responsibility + Accountability
- Transparency + Explainability
- Right to Privacy + Data Protection
- Proportionality + Do No Harm
- Safety + Security
- Multi-Stakeholder Adaptive Governance + Collaboration
- Fairness + Non-Discrimination
- Sustainability
- Awareness + Literacy
- Human Oversight + Determination

- Inclusive Growth, Sustainable Development and Well-Being
- Human Rights + Democratic Values including Fairness + Privacy
- Accountability
- Robustness, Security + Safety
- Transparency + Explainability

OECD

Why not?

What if it’s premature?

Safety by Design

"…encourages technology companies to **alter their design ethos from 'moving fast and breaking things**' or 'profit at all costs' **to 'moving thoughtfully',** investing in risk mitigation at the front end and embedding user protections from the get-go. "

"Safety by Design (SbD)." World Economic Forum, 2025, www.weforum.org/projects/safety-by-design-sbd/.

Why not?

I don’t know how!

Why?

How?

How?

AI Governance for Tool Users

AI Governance for Tool Users : Regulations

Existing Non-AI Laws

Veterinary Industry Guidelines

AI-Specific Laws

AI Governance for Tool Users : Regulations

Existing Non-AI Laws

Veterinary Industry Guidelines

AI-Specific Laws

AI = new ways to violate existing laws

1. **Data Privacy Law**
2. **Consumer Protection Law**
3. **Copyright Law**

AI Governance for Tool Users : Regulations

Existing Non-AI Laws

Veterinary Industry Guidelines

AI-Specific Laws

AI = new ways to violate existing laws

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AI-Specific Laws

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Practitioners

Veterinary Statutory Body

AI Governance for Tool Users : Regulations

Existing Non-AI Laws

Veterinary Industry Guidelines

AI-Specific Laws

- **Client privacy**
- **Informed consent**
- **Scientific rigor**
- **Safety**
- **Accuracy**
- **Ethical implications**
- **Transparency**
- **Oversight**

AI Governance for Tool Users : Regulations

Existing Non-AI Laws

Veterinary Industry Guidelines

AI-Specific Laws

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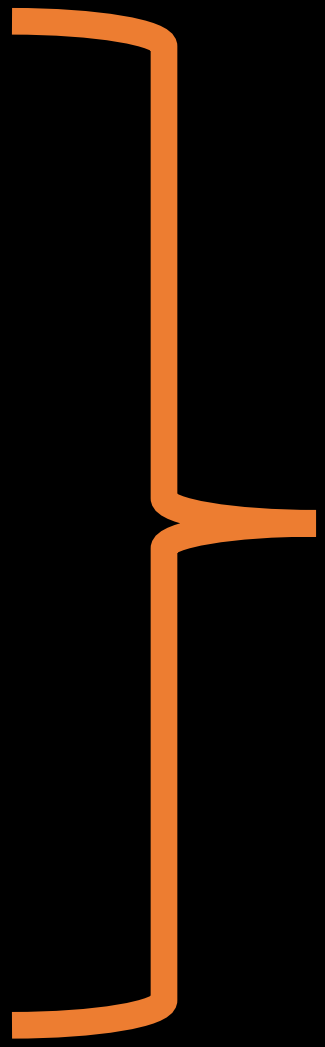

Refer to sources of risk

AI Governance for Tool Users

AI Governance Framework

Dynamic Risk Management

AI Governance for Tool Users : Building a Framework

1. Define trustworthy AI
   - Laws/guidelines
   - Own ethics (UNESCO/OECD)

AI Governance for Tool Users : Building a Framework

1. ✓ Define trustworthy AI
2. Catalogue existing AI tools
   - Workflow assistants
   - Patient monitoring devices
   - Diagnostic aids
   - Communication aids
   - Patient/client/email screening aids
   - General-purpose programs (e.g. ChatGPT)

AI Governance for Tool Users : Building a Framework

1. ✓ Define trustworthy AI
2. ✓ Catalogue existing AI tools
3. Evaluate tools based on risk to:
   - You
   - Your patients
   - Your clients
   - Your organization
   - Your profession
   - Your society

AI Governance for Tool Users : Building a Framework

1. ✓ Define trustworthy AI
2. ✓ Catalogue existing AI tools
3. ✓ Evaluate tools based on risk
4. Evaluate risk severity and probability

AI Governance for Tool Users : Building a Framework

1. ✓ Define trustworthy AI
2. ✓ Catalogue existing AI tools
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4. Evaluate risk severity and probability

Probability Levels:

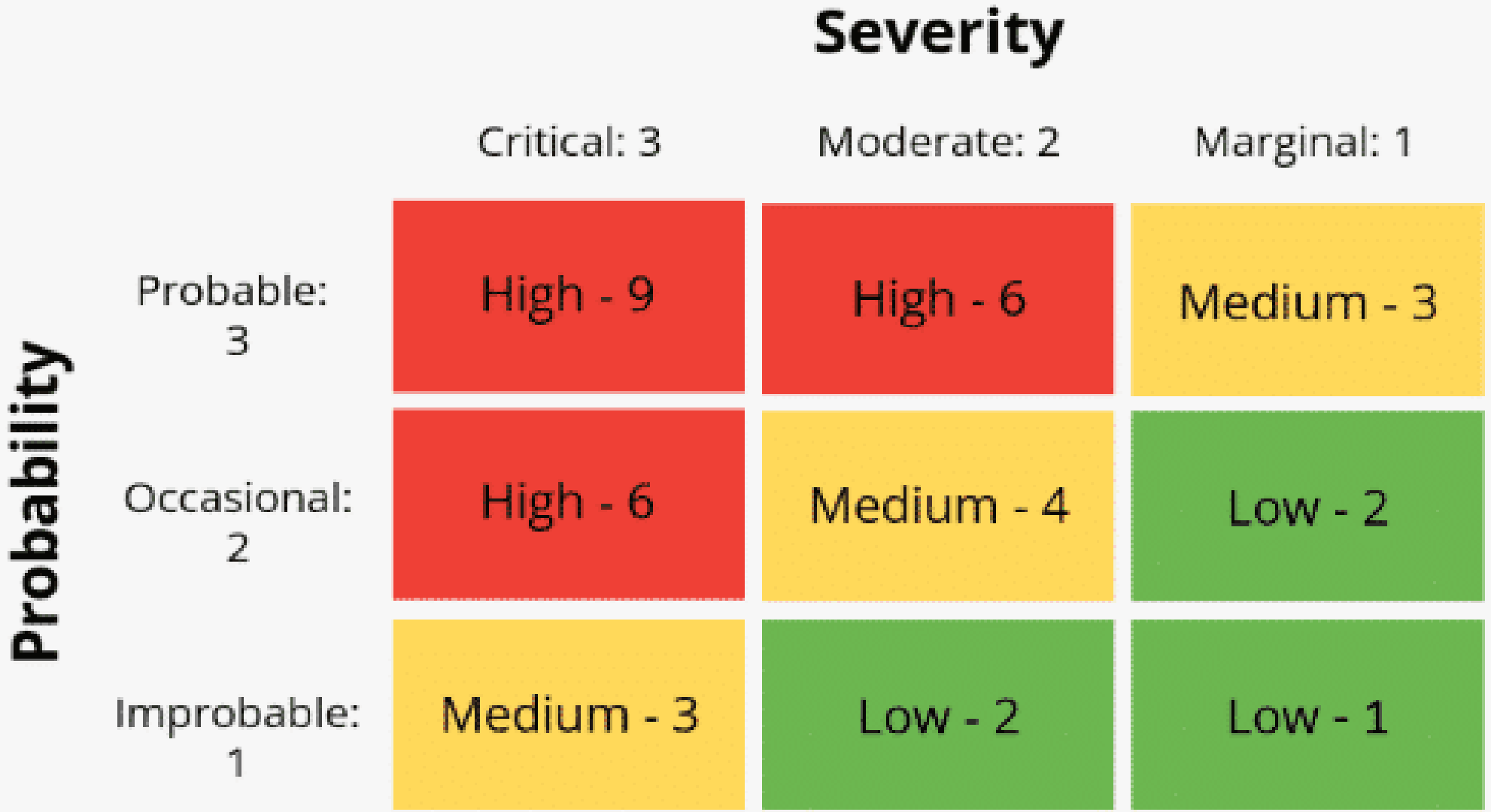
Improbable (1):	Rare or unlikely
Occasional (2):	Could happen under some conditions
Probable (3):	Likely or frequent

AI Governance for Tool Users : Building a Framework

1. ✓ Define trustworthy AI
2. ✓ Catalogue existing AI tools
3. ✓ Evaluate tools based on risk
4. Evaluate risk severity and probability

Severity Levels:
Marginal (1): Minor inconvenience
Moderate (2): Noticeable disruption or mild injury
Critical (3): Significant harm

Sample 3x3 Probability and severity harms matrix



AI Governance for Tool Users : Building a Framework

1. ✓ Define trustworthy AI
2. ✓ Catalogue existing AI tools
3. ✓ Evaluate tools based on risk
4. ✓ Evaluate risk severity and probability
5. Implement risk mitigation

High-risk : Discontinue/substitute

Moderate risk : Safeguards, close monitoring

Low-risk : Awareness, communication

AI Governance for Tool Users : Building a Framework

1. ✓ Define trustworthy AI
2. ✓ Catalogue existing AI tools
3. ✓ Evaluate tools based on risk
4. ✓ Evaluate risk severity and probability
5. Implement risk mitigation strategies: Training, SOPs
   Human verification
   Informed consent
   Audit and feedback loops

AI Governance for Tool Users : Building a Framework

1. Define trustworthy AI
2. Catalogue existing AI tools
3. Evaluate tools based on risk
4. Evaluate risk severity and probability
5. Implement risk mitigation
6. Assess effectiveness of risk mitigation

AI Governance for Tool Users : Building a Framework

1. ✓ Define trustworthy AI
2. ✓ Catalogue existing AI tools
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5. ✓ Implement risk mitigation
6. ✓ Assess effectiveness of risk mitigation
7. Repeat

AI Governance for Tool Users : Building a Framework

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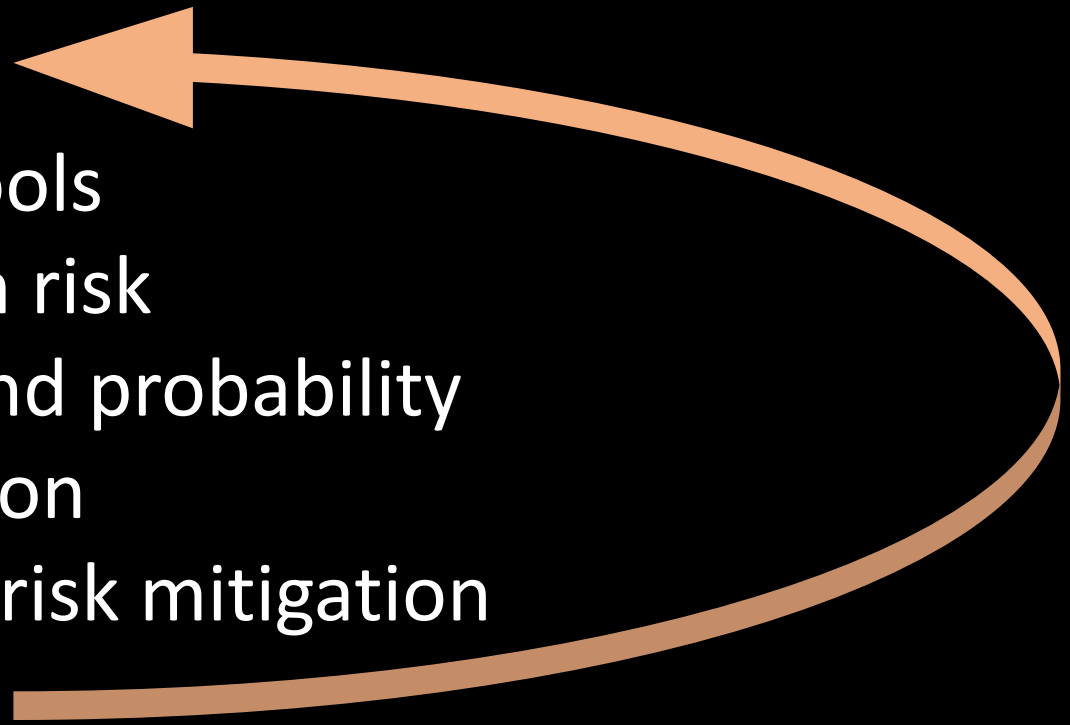


How?

AI Governance for Developers

How

AI Governance for Developers

How

Legal risk	Data stewardship	Reliability	Societal harms

AI Governance for Developers

How

Legal risk | Data stewardship | Reliability | Societal harms

Non-Compliance with Laws

Intellectual Property Disputes

Human Rights Violations

Liability for Harm

AI Governance for Developers

How

Legal risk	Data stewardship	Reliability	Societal harms

Third Party Risk

Supplier to the AI producer

AI producer

AI consumer

AI Governance for Developers

How

Legal risk	Data stewardship	Reliability	Societal harms

Third Party Risk

Supplier to the AI producer

COMPONENTS

AI producer

PRODUCT

AI consumer

SERVICE

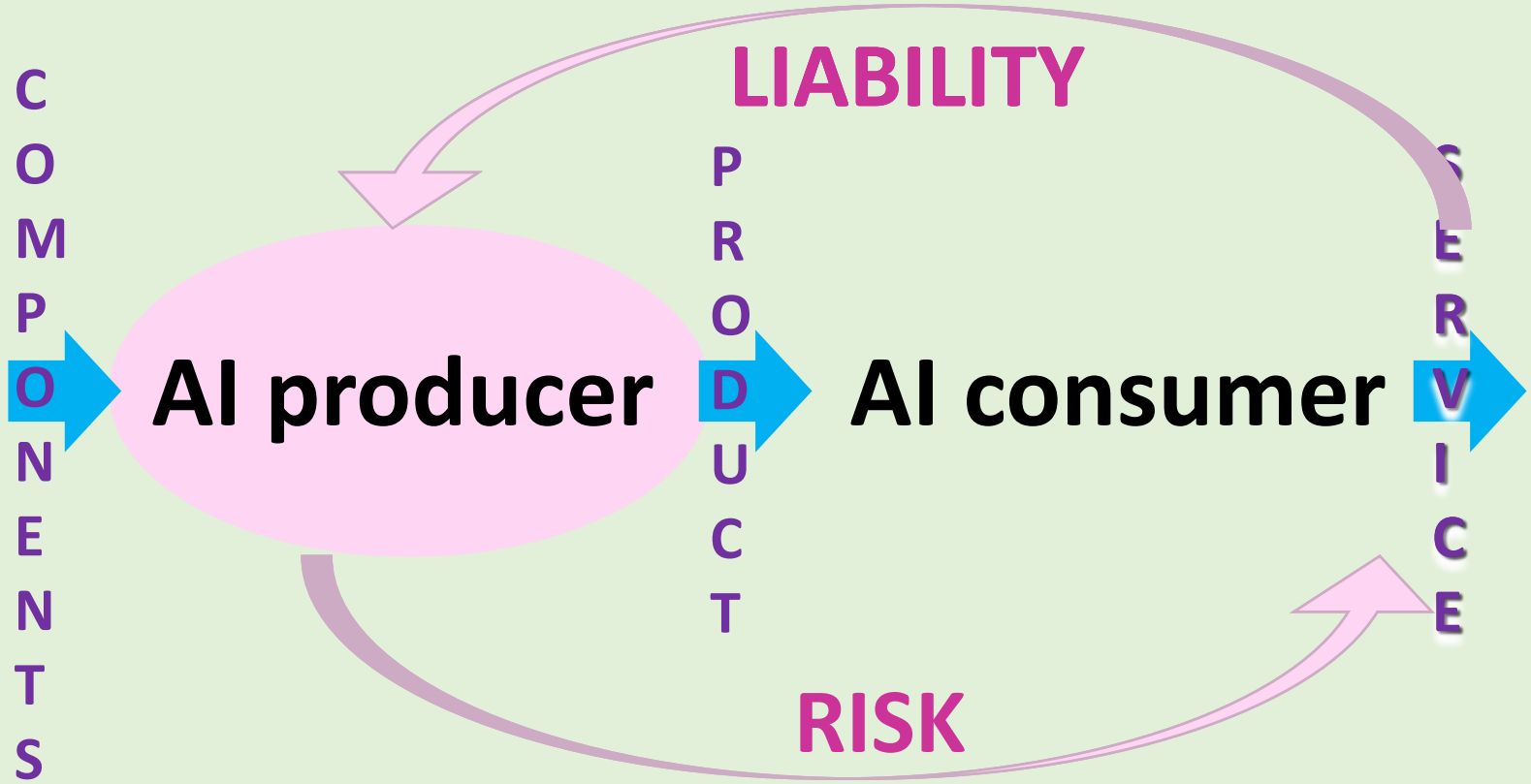
AI Governance for Developers

How

Legal risk	Data stewardship	Reliability	Societal harms

Third Party Risk

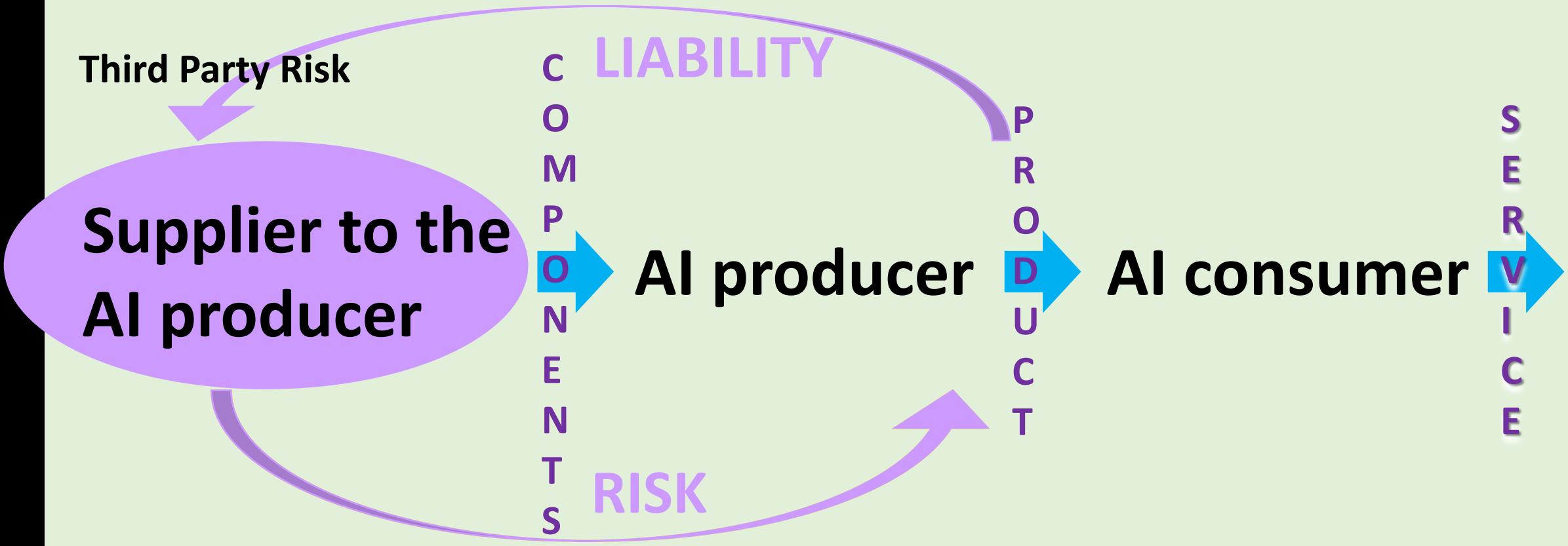
Supplier to the AI producer



AI Governance for Developers

How

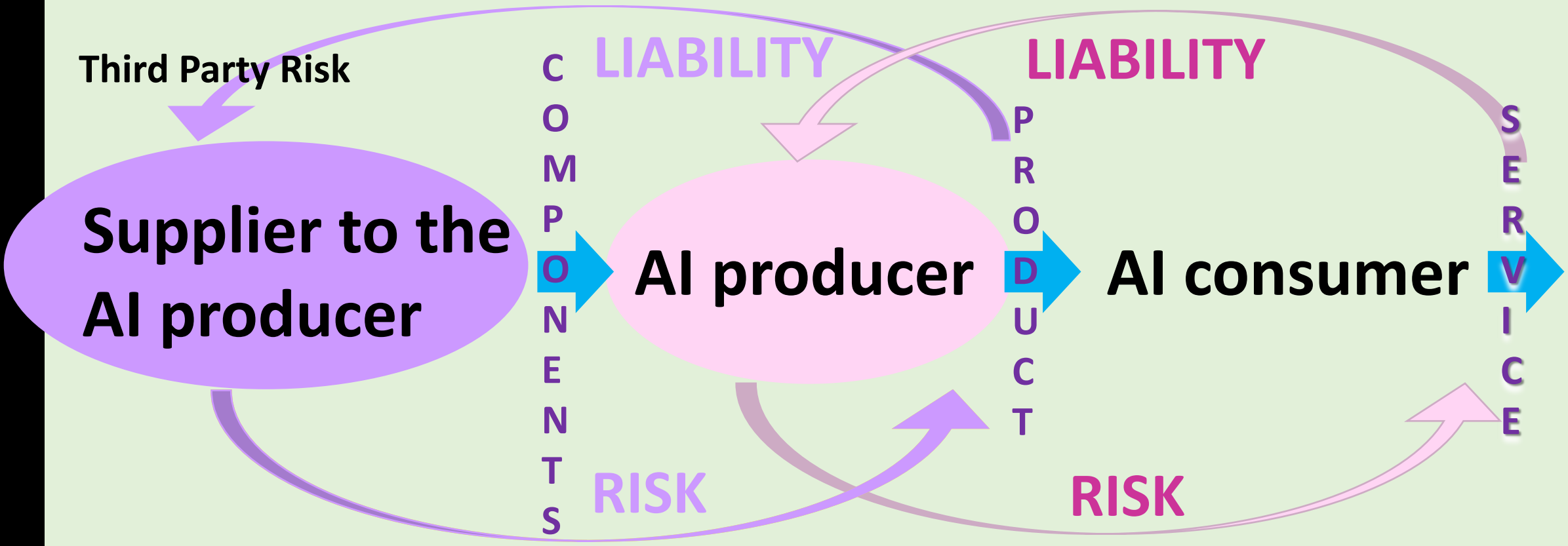
Legal risk	Data stewardship	Reliability	Societal harms



AI Governance for Developers

How

Legal risk	Data stewardship	Reliability	Societal harms



AI Governance for Developers

How

Legal risk	Data stewardship	Reliability	Societal harms

Third COUNTRY provider risk (EU AI Act)

If your product is used by an AI consumer in the EU, you may have legal obligations and may carry liability for damages caused by your product to your EU AI consumer.

AI Governance for Developers

How

Legal risk	Data stewardship	Reliability	Societal harms

Data Management

Data Persistence

Data Repurposing

Spillover Data Collection

Inability to Delete Data

AI Governance for Developers

How

Legal risk	Data stewardship	Reliability	Societal harms

- **Unreliable Product:**
- **Inadequate User Instruction:**

AI Governance for Developers

How

Legal risk	Data stewardship	Reliability	Societal harms

- **Unreliable Product:**
- **Inadequate User Instruction: Model cards**




AI Governance for Developers

How

Legal risk	Data stewardship	Reliability	Societal harms

- **Over-Reliance on AI**
- **Discriminatory Classification**
- **Autonomy harms**
- **Job losses**
- **Surveillance**

AI Governance for Developers

How

Legal risk	Data stewardship	Reliability	Societal harms

- **Socioeconomic Inequality**
- **Opaque Decision-Making**
- **Environmental Harms**

AI Governance for Developers : Building a Framework How

Risk management throughout the AI lifecycle:

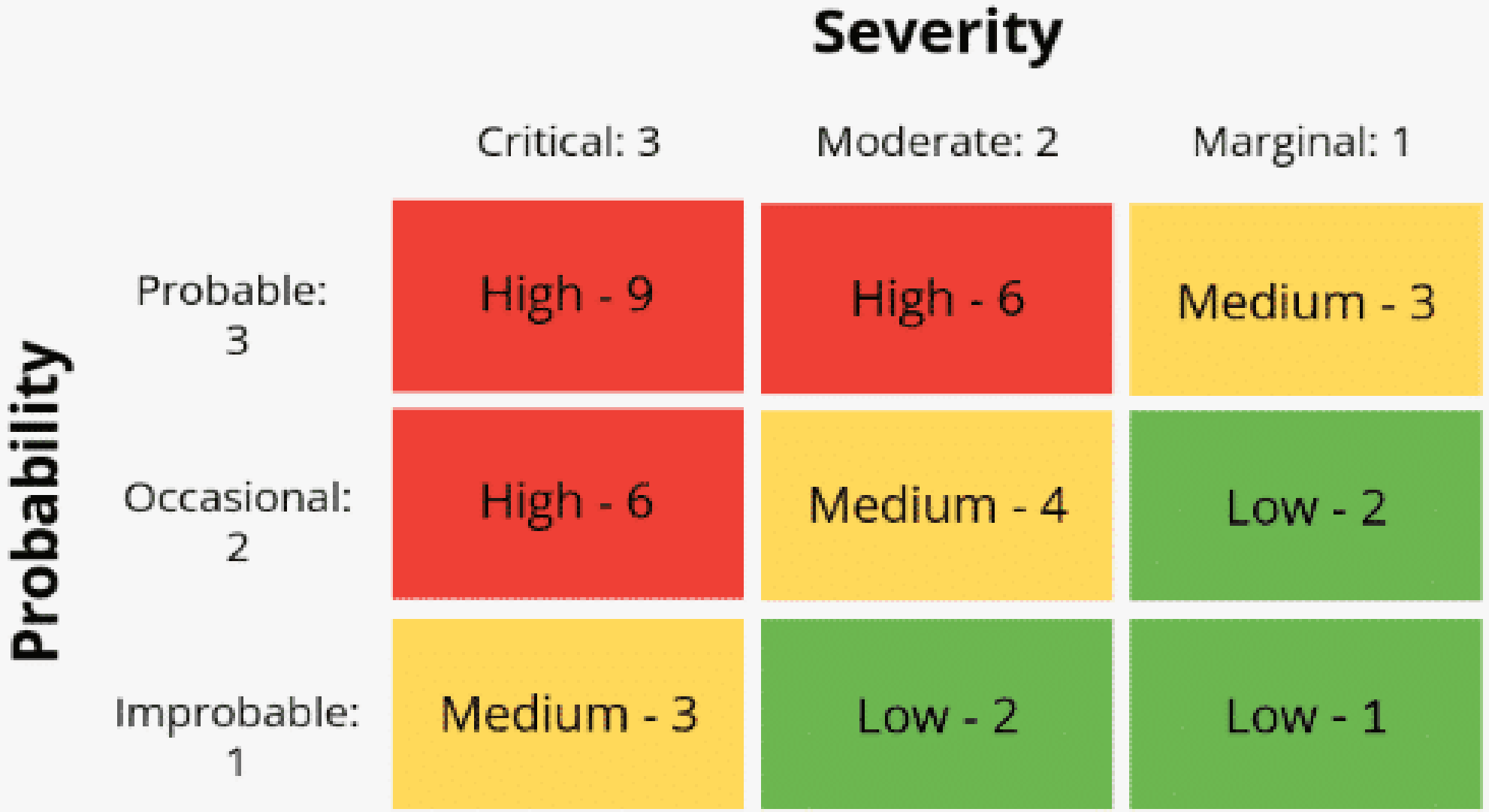
AI Governance for Developers : Building a Framework

How

Legal risk	Data stewardship	Reliability	Societal harms

1. Identify the risks

Sample 3x3 Probability and severity harms matrix



AI Governance for Developers : Building a Framework

How

1. ✓ Identify the risks
2. ✓ Assess the severity and probability of each risk
3. Implement mitigation strategies for each risk

AI Governance for Developers : Building a Framework

How

1. Identify the risks
2. Assess the severity and probability of each risk
3. Implement mitigation strategies for each risk
4. Review and assess the effectiveness of mitigation

AI Governance for Developers : Building a Framework

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5. Communicate

AI Governance for Developers : Building a Framework

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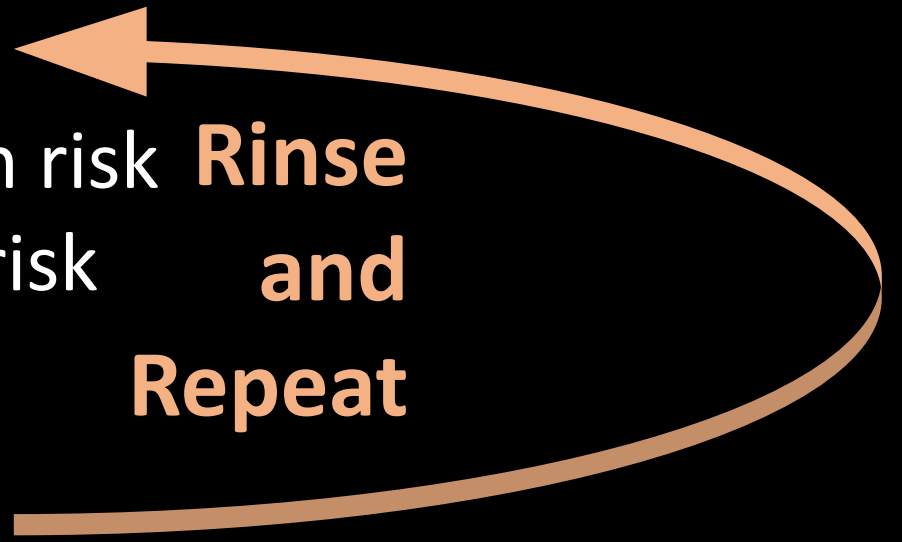

Thank you