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Responsible AI for Simulation Modeling

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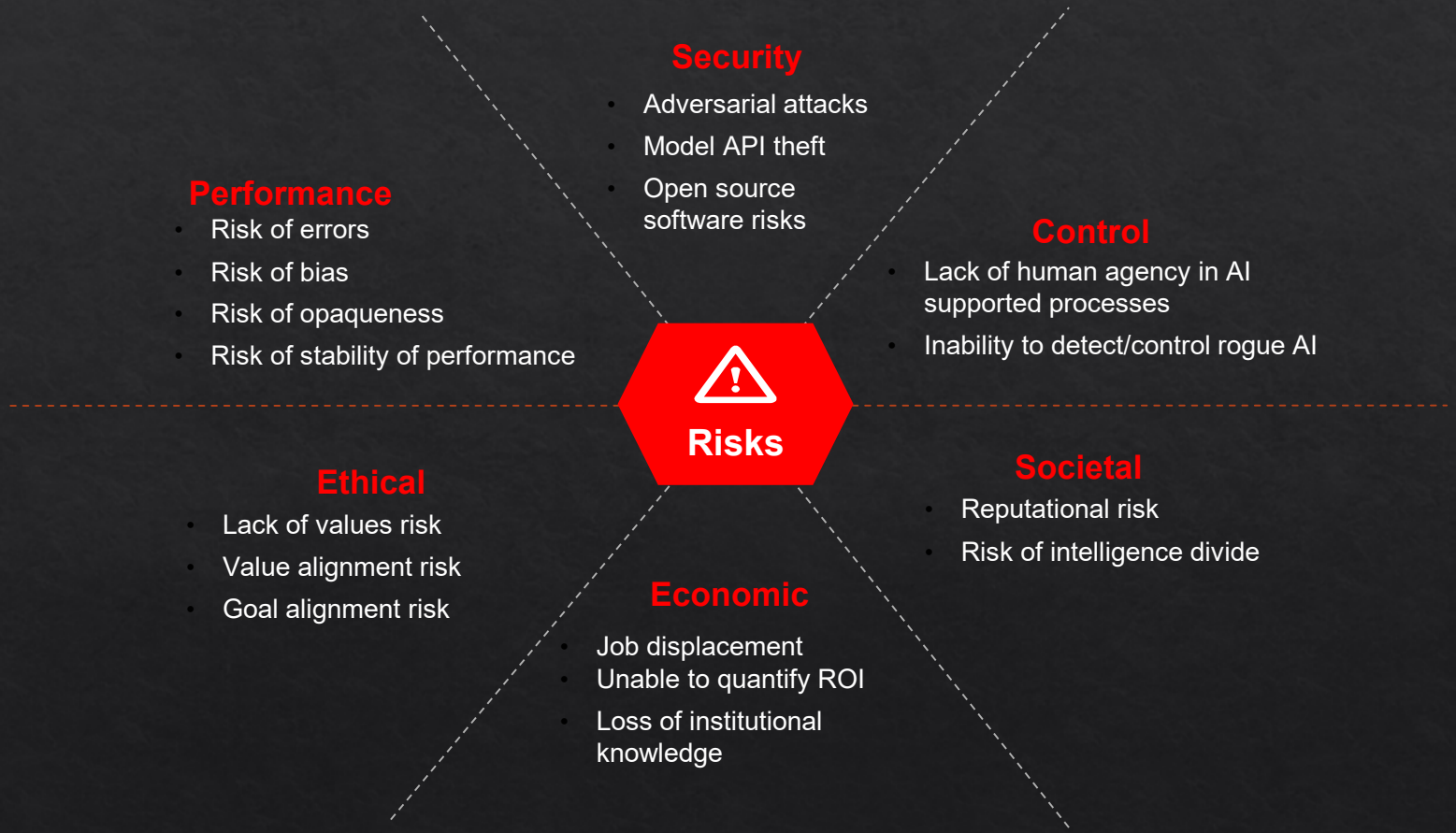
AI risks that need to be assessed, mitigated and managed can be categorized into six categories

BUSINESS-LEVEL RISKS



NATIONAL-LEVEL RISKS

3

PwC's Responsible AI toolkit covers the five fundamental aspects that make AI responsible

Ethical & Societal

ETHICS & LEGAL
Ensure AI development is in line with major local and global regulations, both enacted and emerging; and allow the business to evaluate the ethics of an AI system and how to operationalize ethics in the organization

Performance & Security

BIAS & FAIRNESS
Uncover bias in the underlying data and model development process and enable the business to understand what process may lead to unfairness

INTERPRETABILITY
Explain model decision making overall and what drives an individual prediction to different stakeholders

ROBUSTNESS & SECURITY
Assess the performance of AI over time to identify potential disruptions, challenges to long term performance, or impact to data privacy

Control

GOVERNANCE
Introduce enterprise-wide and end-to-end accountability for AI applications and consistency of operations to minimize risk and maximize ROI

Simulation and Responsible AI

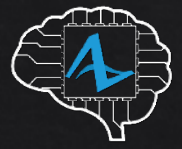
Responsible AI is commonly considered in the context of machine learning and deep learning.

Going forward, we need to consider how to embed tenets of responsibility to Simulation

- Simulation on its own is quite transparent
- Traditional simulation is constructed using business logic
- As we explore the combination of machine learning/reinforcement learning with simulation, we need to understand how to audit the models and monitor the results

Simulation also has the potential to add responsibility to real-world machine learning

- E.g. what are the feedback lops in the system? How can we break them? Consider: predictive policing
- This is an active area of exploration



thank you!