

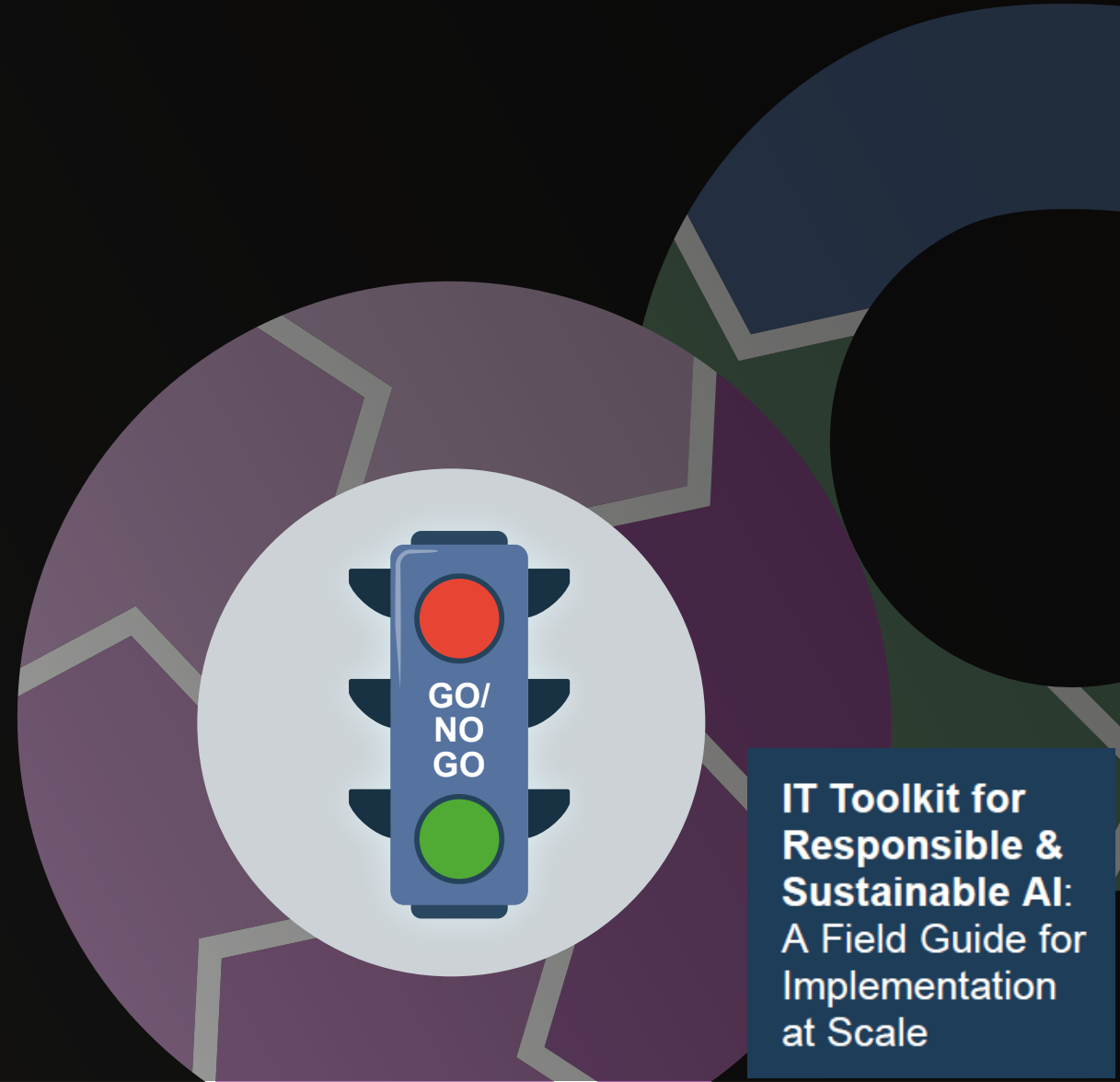
Responsible AI Governance Lifecycle

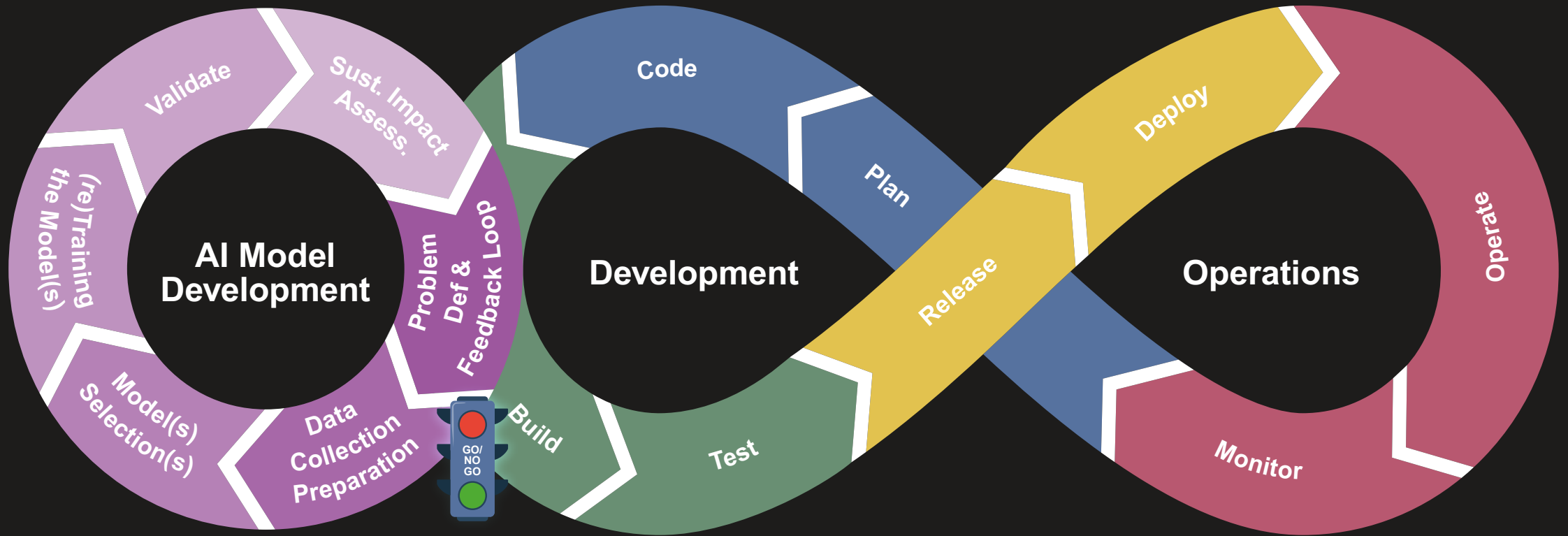
Introduction

This model series, “**Responsible AI Governance Lifecycle**,” embeds governance practices aligned to environmental, social and sustainability objectives across the AI system lifecycle.

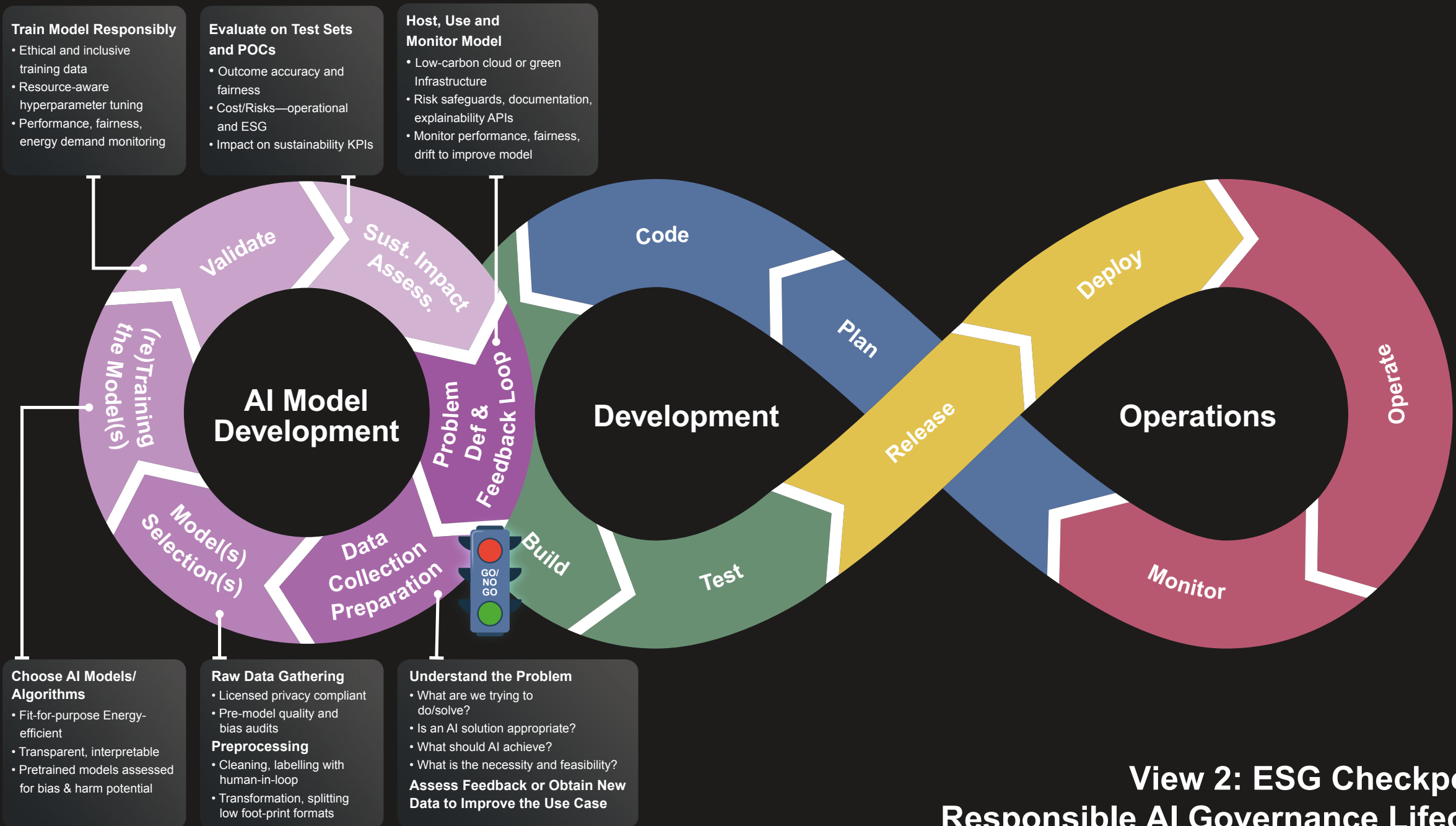
- » View 1 depicts the AI development lifecycle and its intersection with the enterprise DevOps model, where AI models are integrated deployed, and monitored.
- » View 2 emphasizes ESG sustainability checkpoints and actions, and maps them to the AI development cycle.
- » View 3 maps an IT Sustainability Impact Assessment to the lifecycle.
- » View 4 describes a GenAI lifecycle governance strategy, composed of “Six Rs,” mapped to the most relevant stages.

Together, these complementary views allow IT and business leaders to toggle between technical and governance priorities, enabling a holistic approach to AI stewardship that aligns with sustainability goals.

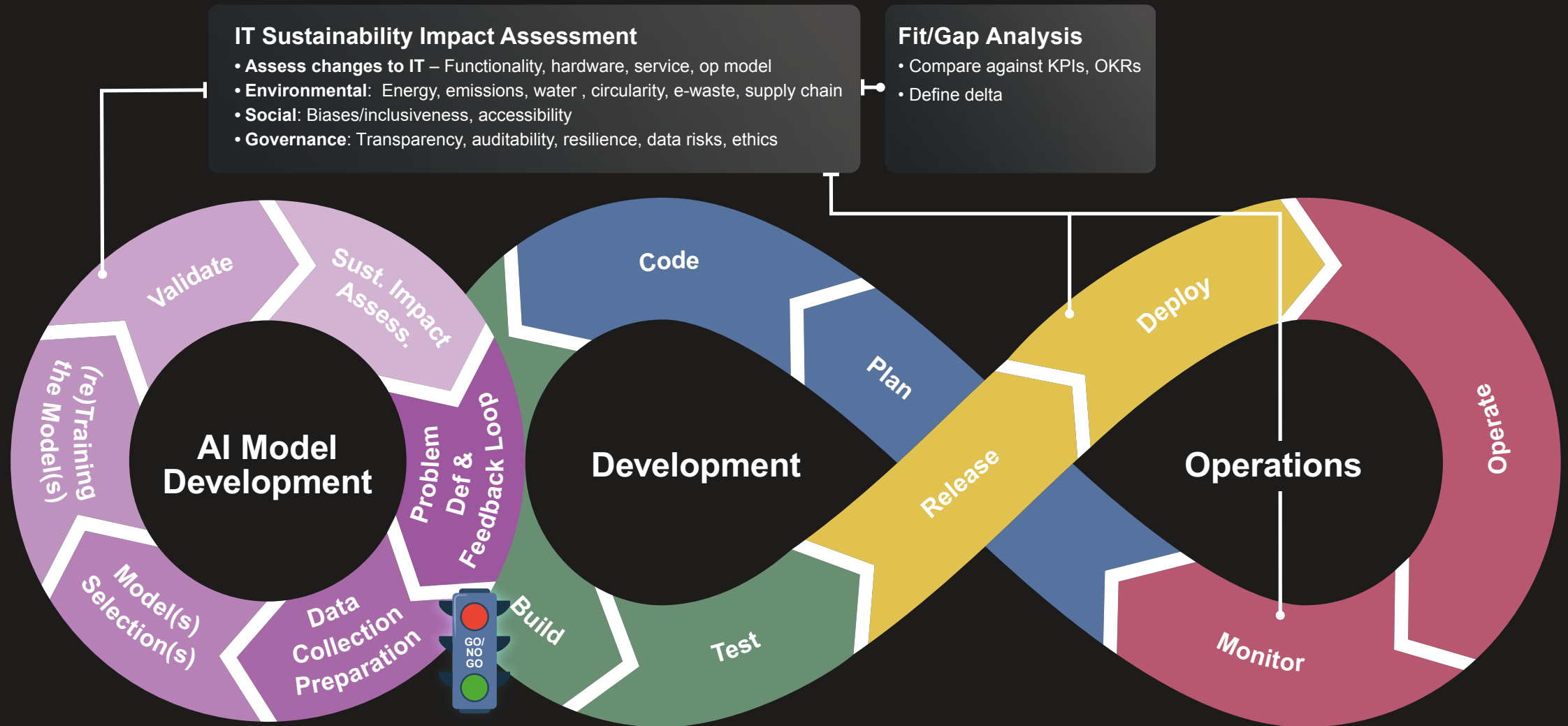




View 1: Responsible AI Governance Lifecycle










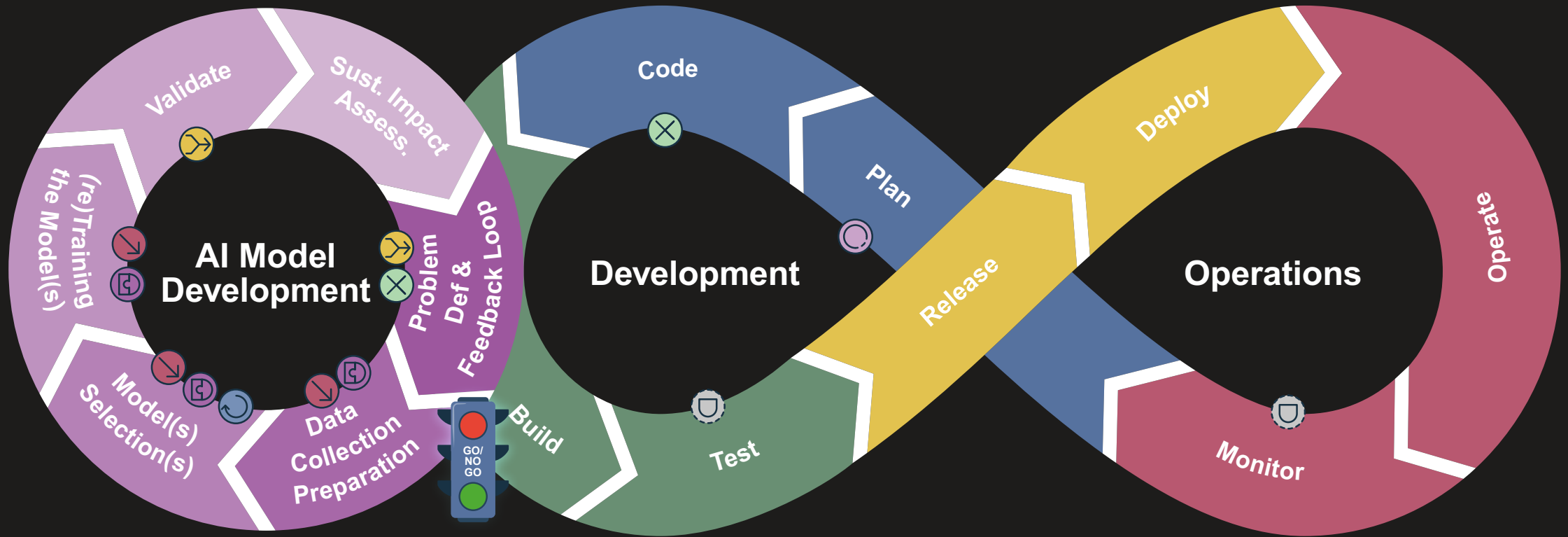
**View 2: ESG Checkpoints
Responsible AI Governance Lifecycle**



**View 3: Sustainability Impact Assessment
Responsible AI Governance Lifecycle**

Sustainable GenAI Governance Strategies – Explanations

<div><div>R0 Refuse</div><div></div><div><p>The function that GenAI is planned to perform is abandoned or performed by other means—no GenAI is deployed.</p><p>Example: A cost-benefit framework to weigh negative environmental impact of GenAI to the business-as-usual.</p></div></div>	<div><div>R1 Reframe</div><div></div><div><p>Reducing the resources required to fulfill a specific use-case, by reframing the project and designing the environment that the GenAI model will be embedded in (focus on strategy, organizational set-up, governance and design).</p><p>Example: Introduction of a CO2 budget, to steer all development processes within a project.</p></div></div>
<div><div>R2 Reduce</div><div></div><div><p>Optimizing the technological processes and mechanisms to reduce the required resources for development and operation of the technology (focus on technological process and mechanisms).</p><p>Example: Using adaptive backpropagation as a way to only tune the impactful parameters of a model instead of all parameters in finetuning.</p></div></div>	<div><div>R3 Re-Use</div><div></div><div><p>Leveraging preexisting models instead of creating new ones.</p><p>Example: Reusing a model in a different context, for example by finetuning it to the new use case.</p></div></div>
<div><div>R4 Release</div><div></div><div><p>Enabling applications that fail to perform their intended function to regain their functionality.</p><p>Example: Include mechanisms for automated bug-fixes in the model.</p></div></div>	<div><div>R5 Revise</div><div></div><div><p>Utilization of components from a preexisting model in the development of a new one.</p><p>Example: Using transfer learning, by teaching a smaller model to replicate the behavior of a pretrained, larger model and therefore reusing its knowledge structures.</p></div></div>
<div><div>Support</div><div></div><div><p>Approaches, that indirectly affect the sustainability of GenAI applications by increasing the acceptance or implementation rate of the other sustainability strategies.</p><p>Examples: Reporting of environmental impacts, forming research consortia on sustainable AI, open sourcing.</p></div></div>	



**View 4: GenAI Governance Strategy
Responsible AI Governance Lifecycle**