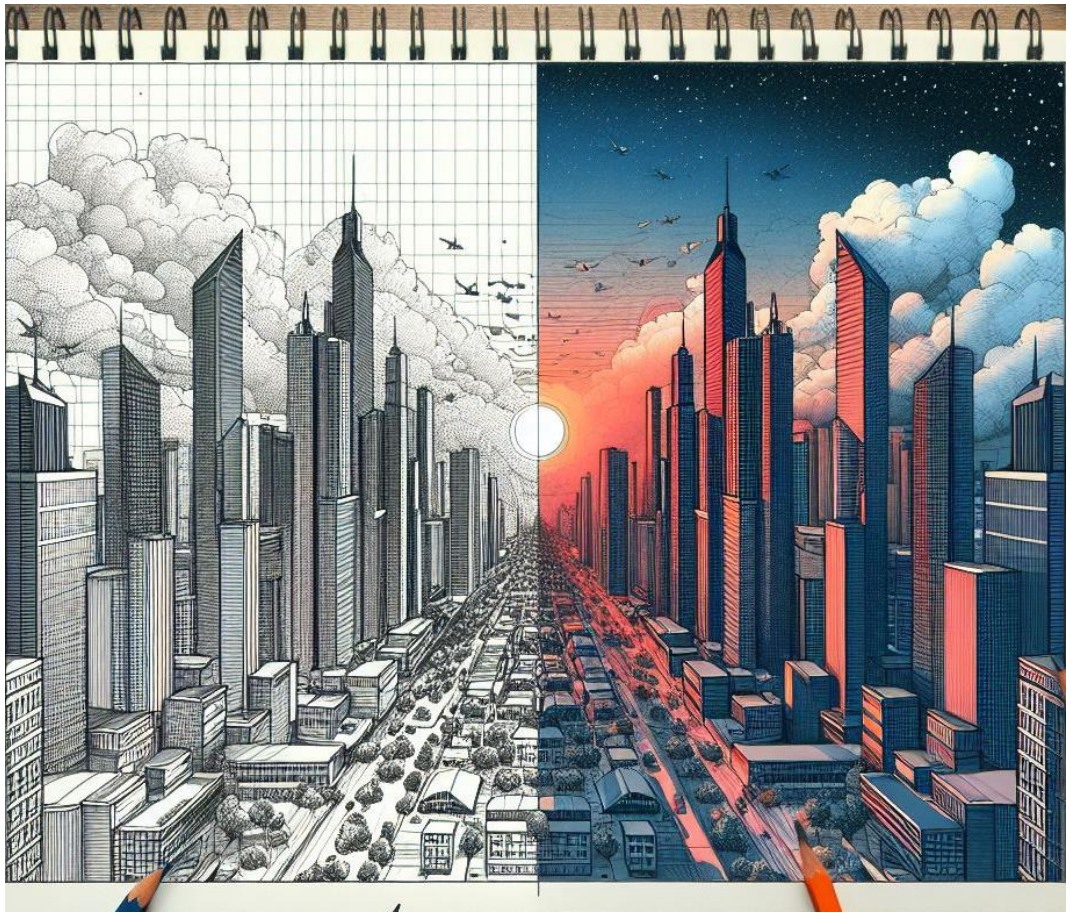
Say YES to Semantic Similarity and Relatedness



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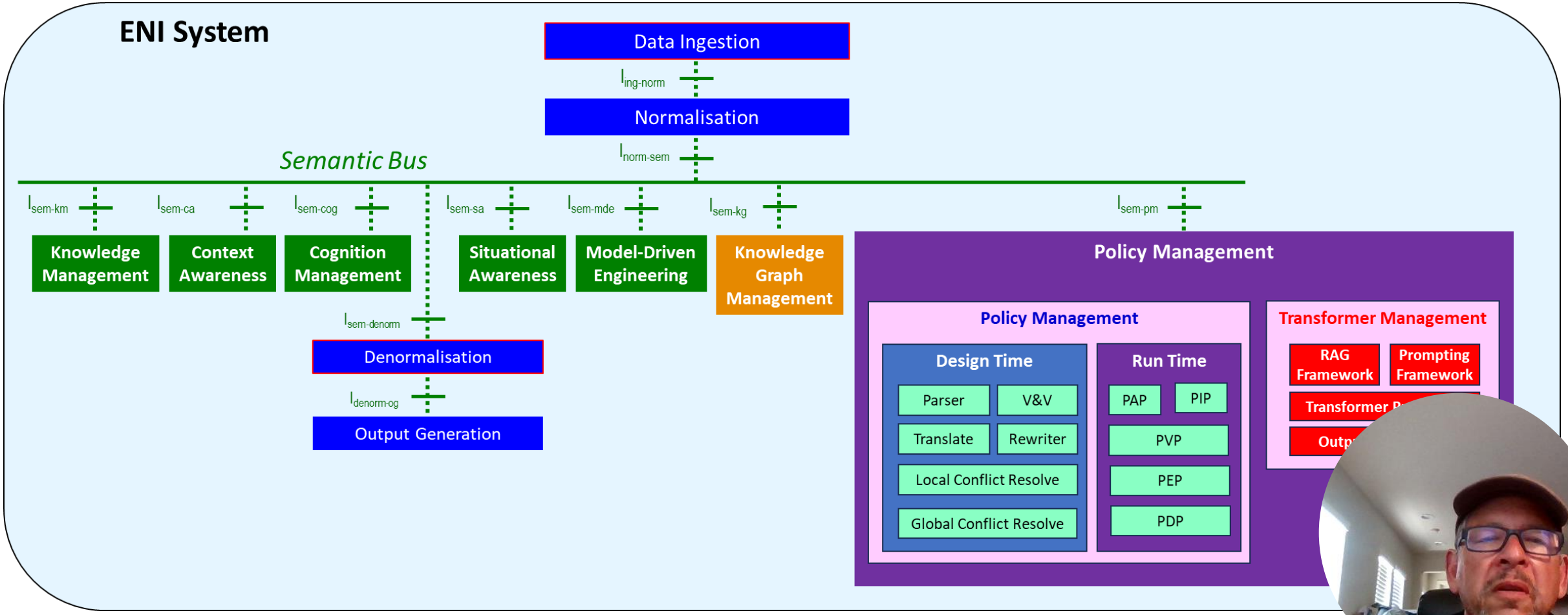
ENI System Architecture in Release 4 (2)



The Policy Continuum

Business View: SLAs, Processes, Guidelines, Goals, Commercial Settlement

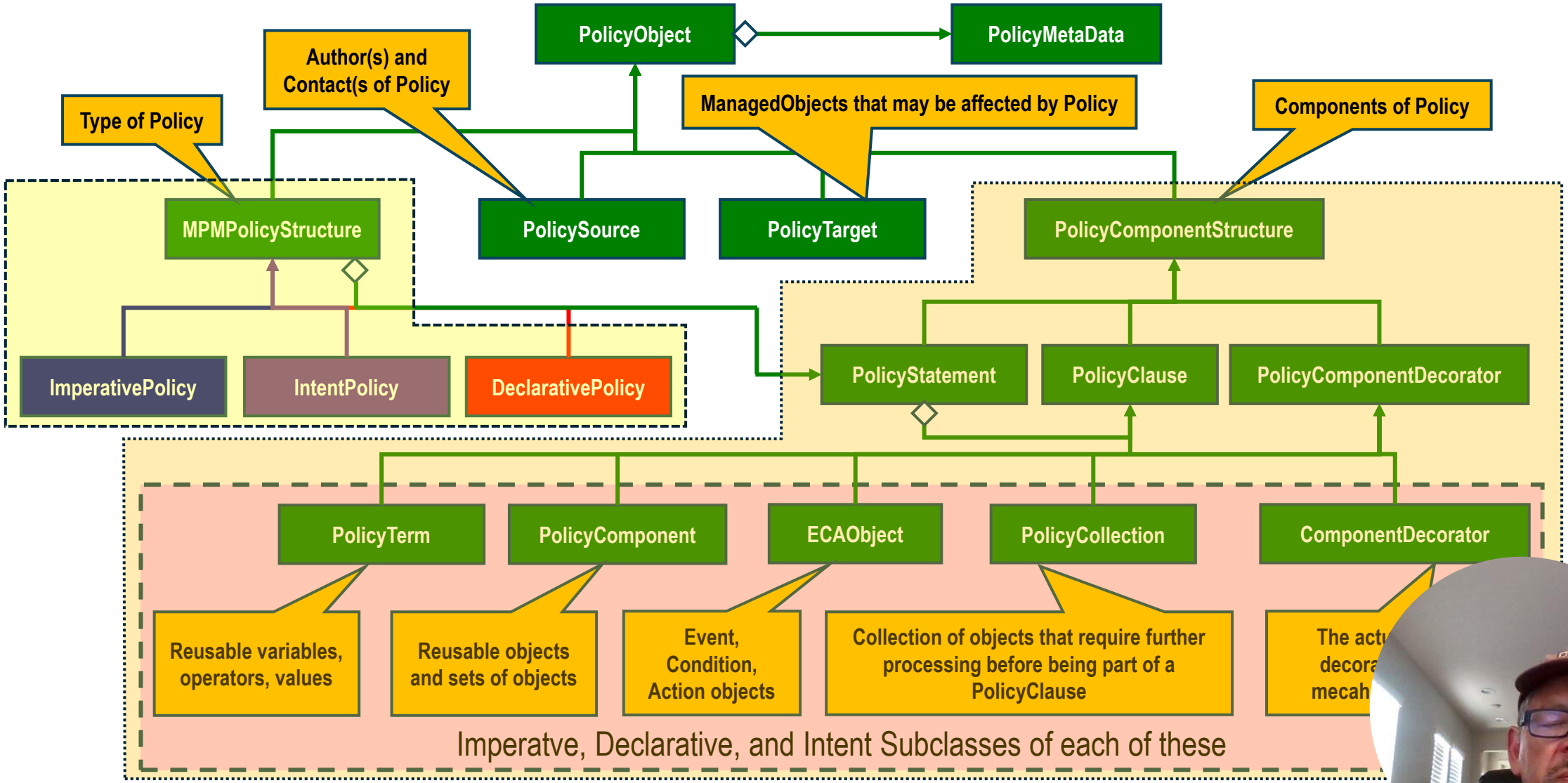
System View: Service-, Device-, and Technology-Independent Operation

Network View: Device-Independent, Service- and Technology-Specific Operation

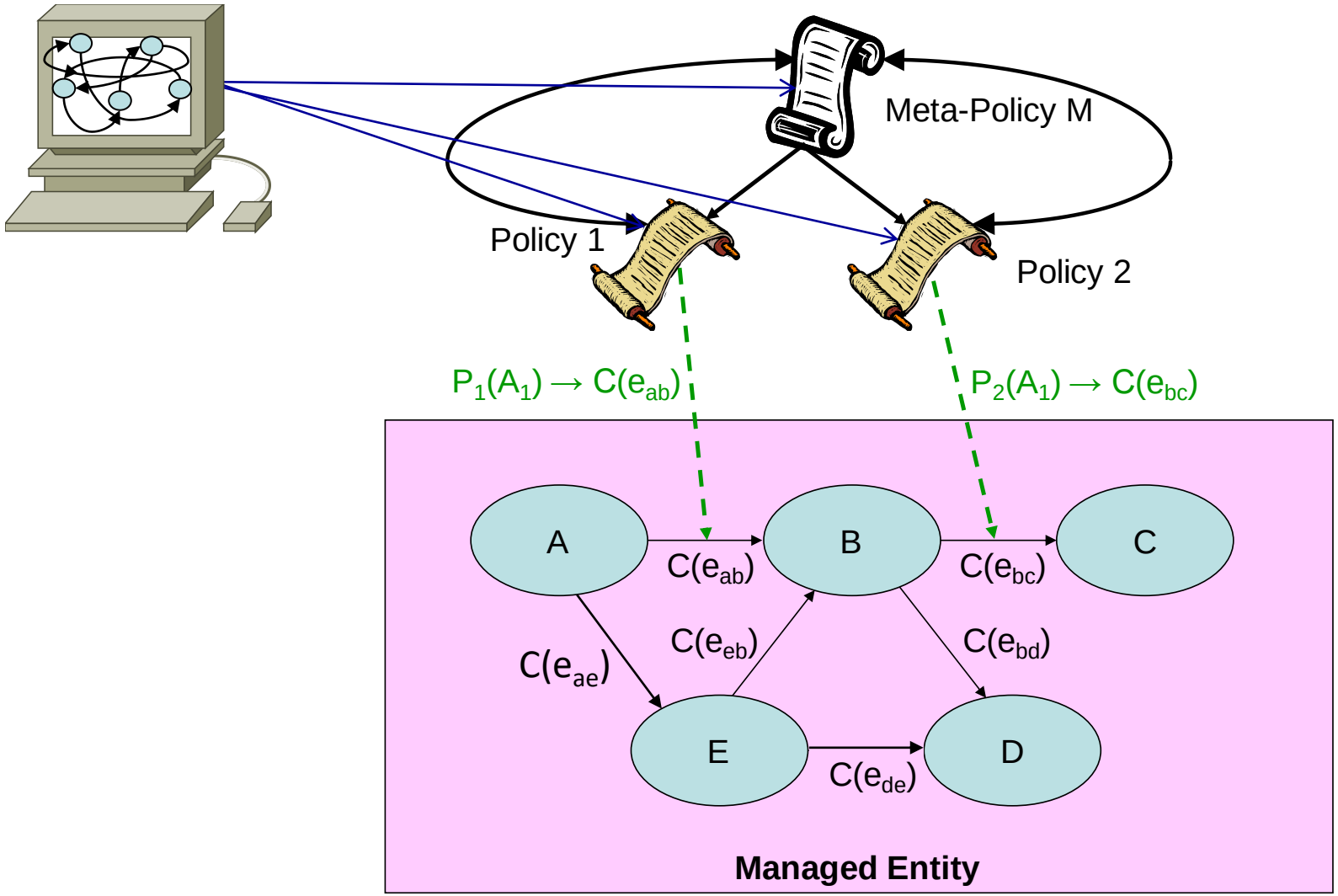
Device View: Device-, Service-, and Technology-Specific Operation

Instance View: Device-Specific YANG, CLI, and Other Commands

Part of the ENI Policy Model

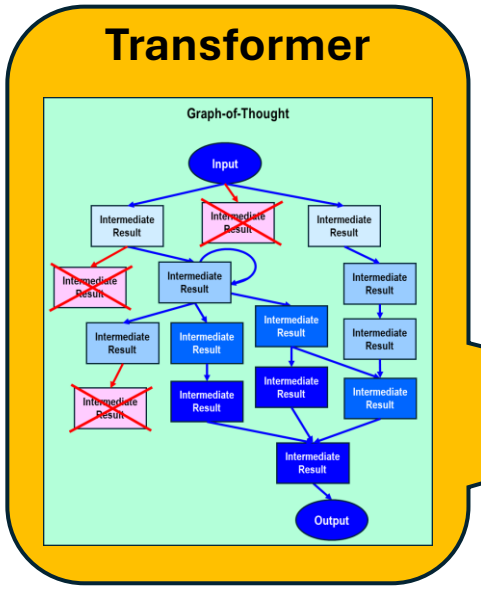


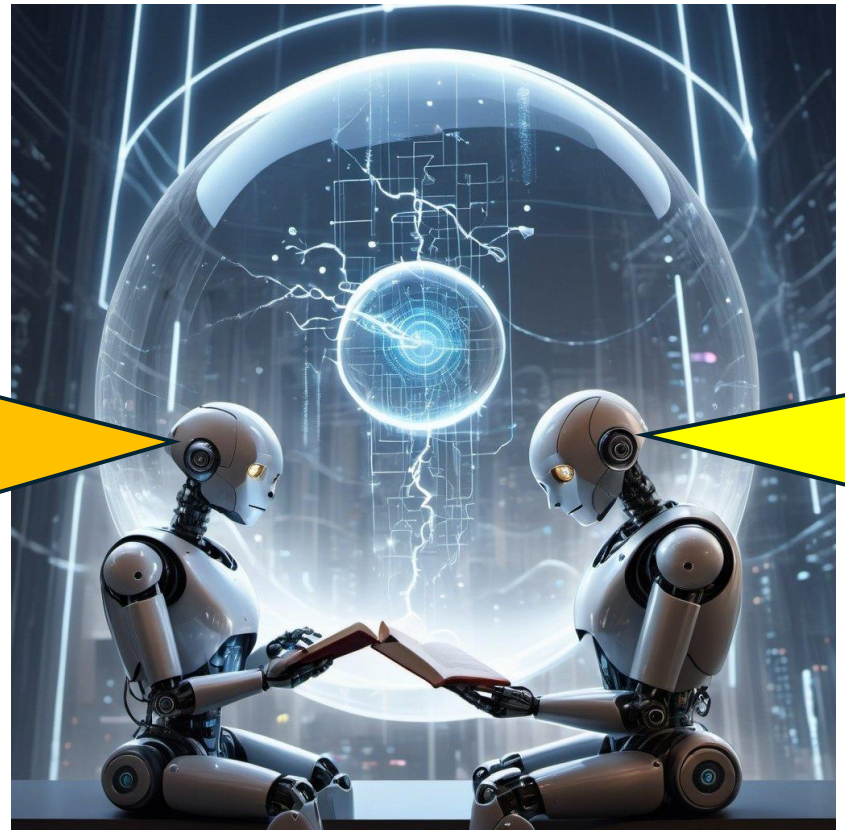
Policy-Based Orchestration



Graph-of-Thoughts Prompting

- **Semantics Are Not Formally Defined in LLMs**
- **ENI Provides Formal Semantics using Knowledge Graphs to Augment Transformers**
- **Graph-of-Thoughts Enables the Two to Communicate Efficiently**





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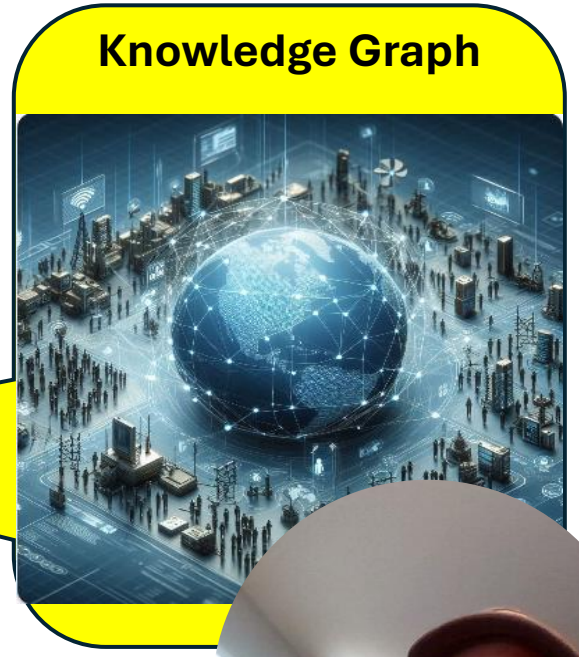

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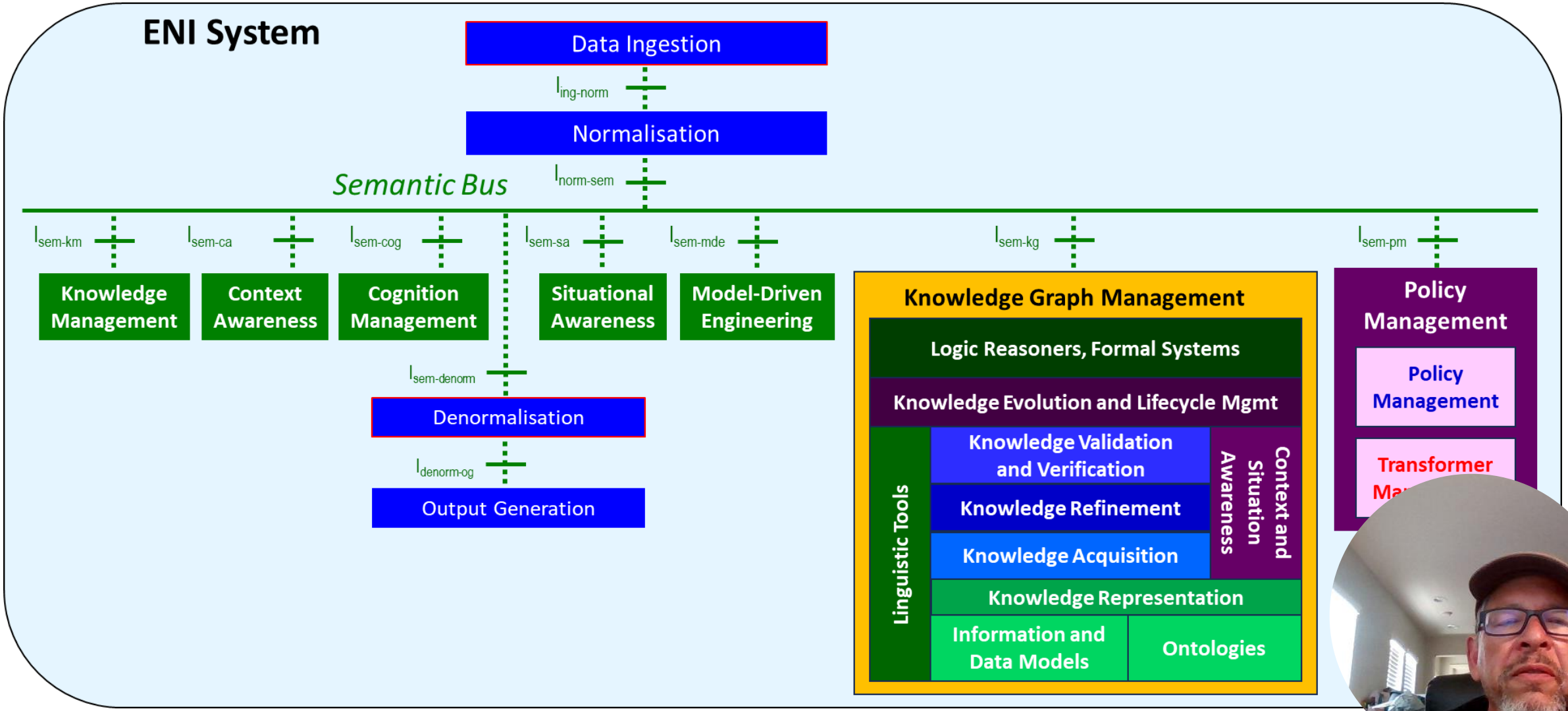
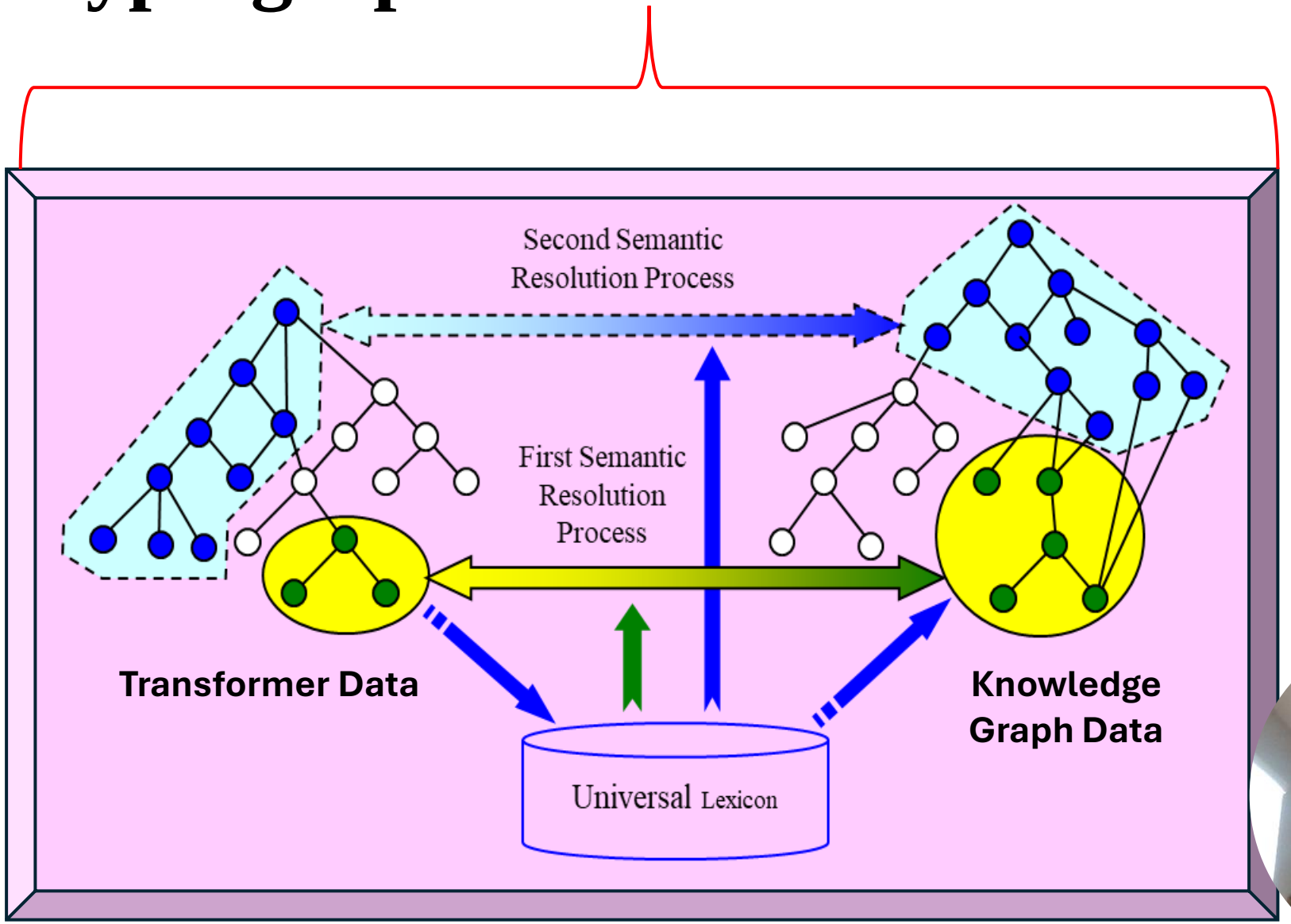
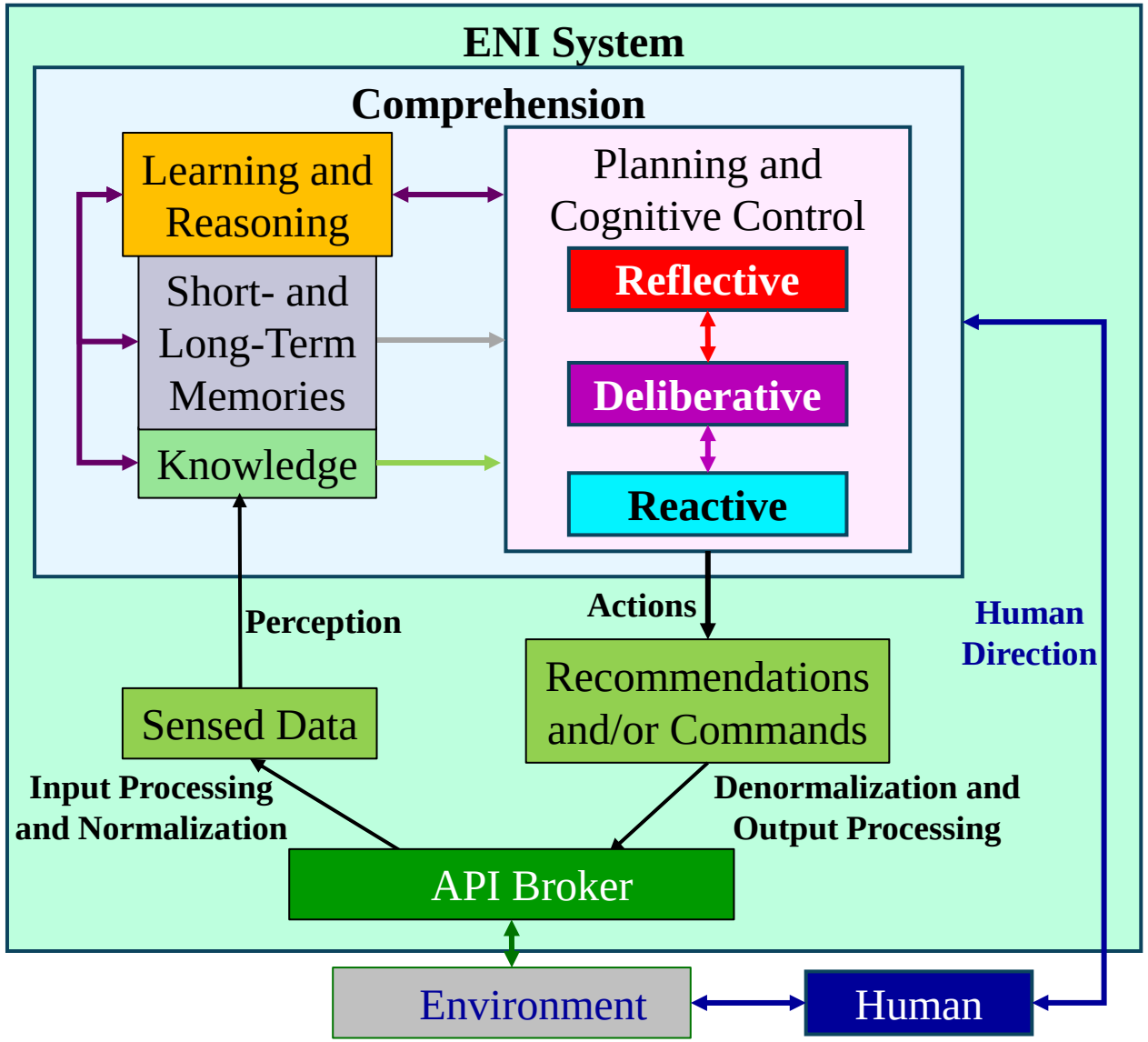
ENI System Architecture in Release 4 (3)

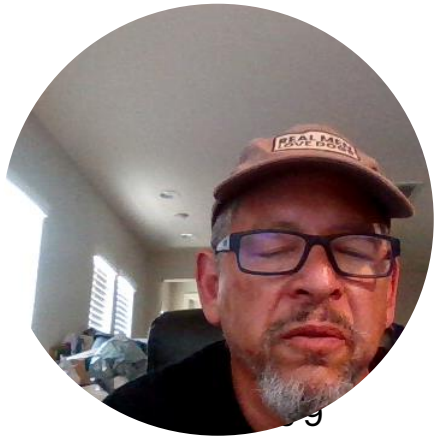


Semantic Hypergraph



Cognitive Learning in ENI





Simplified ENI Cognition Model

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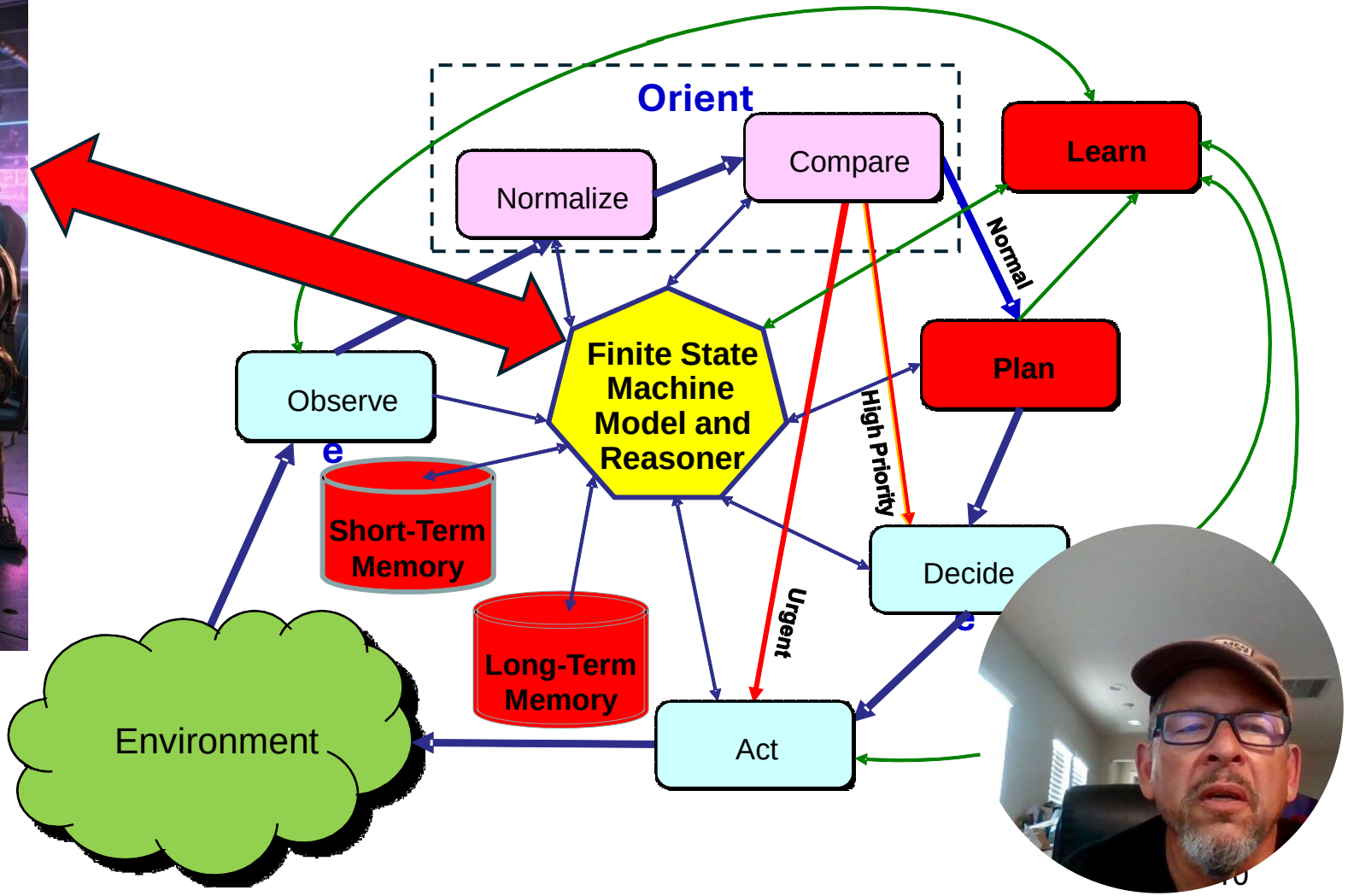

Generating Policies

SKGETR - Strassner

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Summary

- **Work in ETSI ISG ENI and ATIS ANA Groups**
- **A Knowledge Graph Enabled Transformer**
  - ➢ Policy Continuum represents different users with different concepts having different needs
  - ➢ Combines a Transformer with a Knowledge Graph
    - Structured and hierarchical data from the KG can enhance context of Transformer (e.g., network configs and dependencies)
    - Improves predictions by leveraging both the sequential patterns in data and the structured relationships in a KG.
    - Transformer learns entity-relation compositions and contextualizes relational information based on a source entity's neighborhood in a KG
    - Enables reasoning over complex relationships and semantics of KG
    - Formal Logic in KGs can **explain** predictions & recommendations

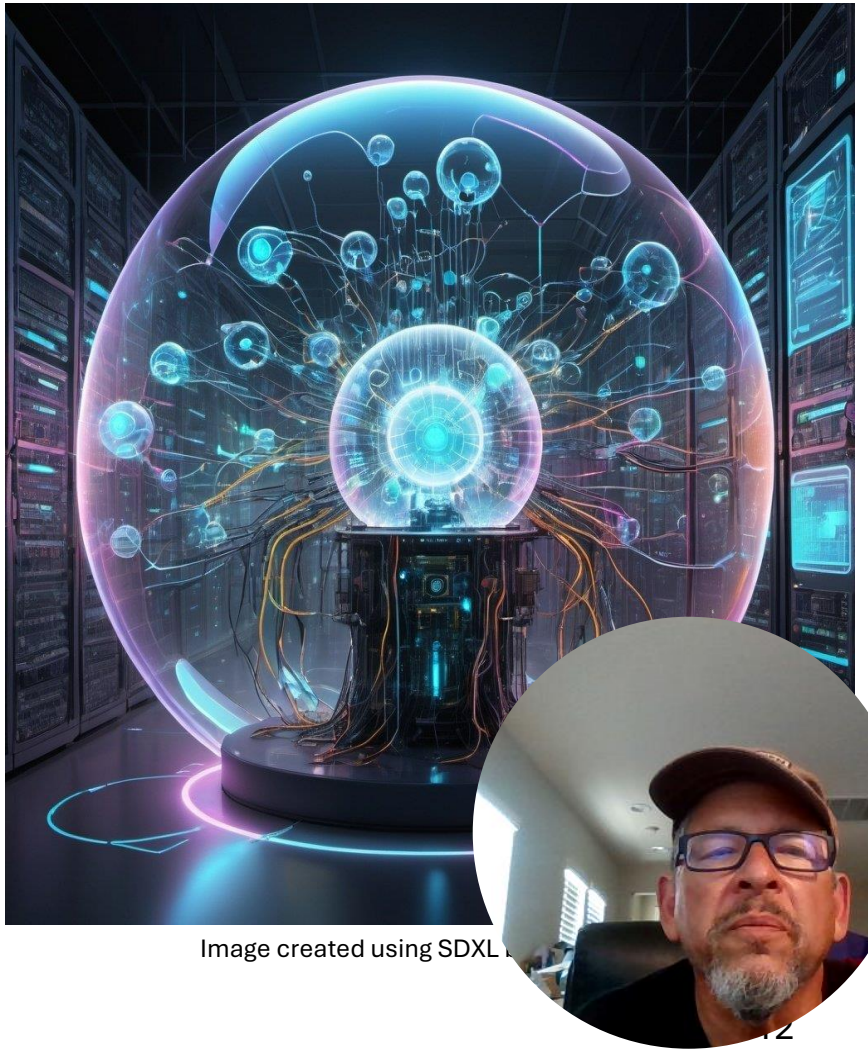

Image created using SDXL

Questions?

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“Create like a god. Command like a king. Work like a slave

- Constantin Brancusi