International Council on Systems Engineering
A better world through a systems approach

Adaptive Systems

– some thoughts on how to put things in practice

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Adaption

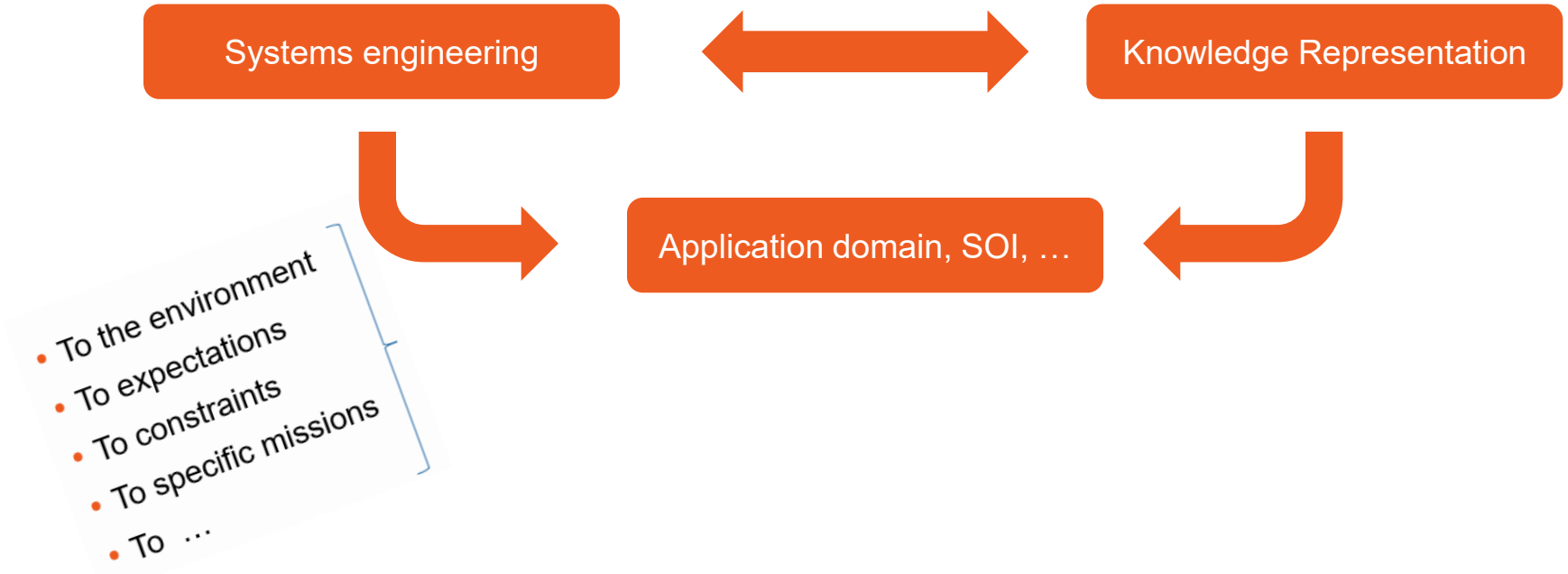
- To the environment
- To expectations
- To constraints
- To specific missions
- To …

Requirements

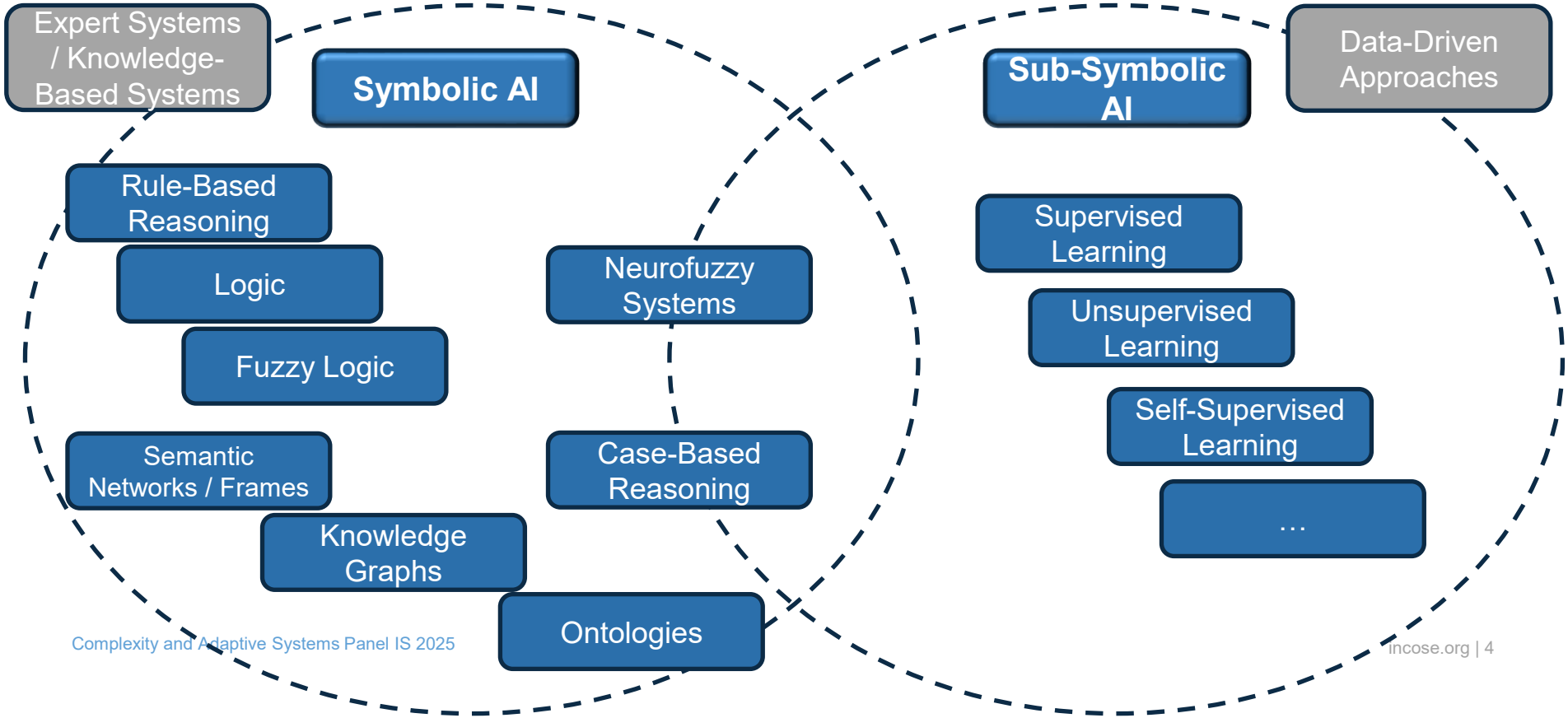
Design alternatives

Involves knowledge on the SOI, its operational environment, the expected functionalities, the constraints, …

Getting a handle on domain knowledge and SOI knowledge



Knowledge representation



Some thoughts

- Adaptation to various elements requires knowledge
- Different techniques developed in AI can be succesfully applied
- Points to be considered:
  - How about self-organization and adaptation
  - How about continuous learning
  - …

So… getting into the discussion…

- Andy: definitions of complexity and adaptation – a complex systems WG view
- Haifeng: three fundamental factors (missions and requirements evaluation space, design space, and switching costs)
- Michael: adaptability – a characteritic of complex systems or a confounding factor of complexity?
- Rob: knowledge representation so to address adaptation

Let's discuss…