

# Ten Design Rules for a Conscious System

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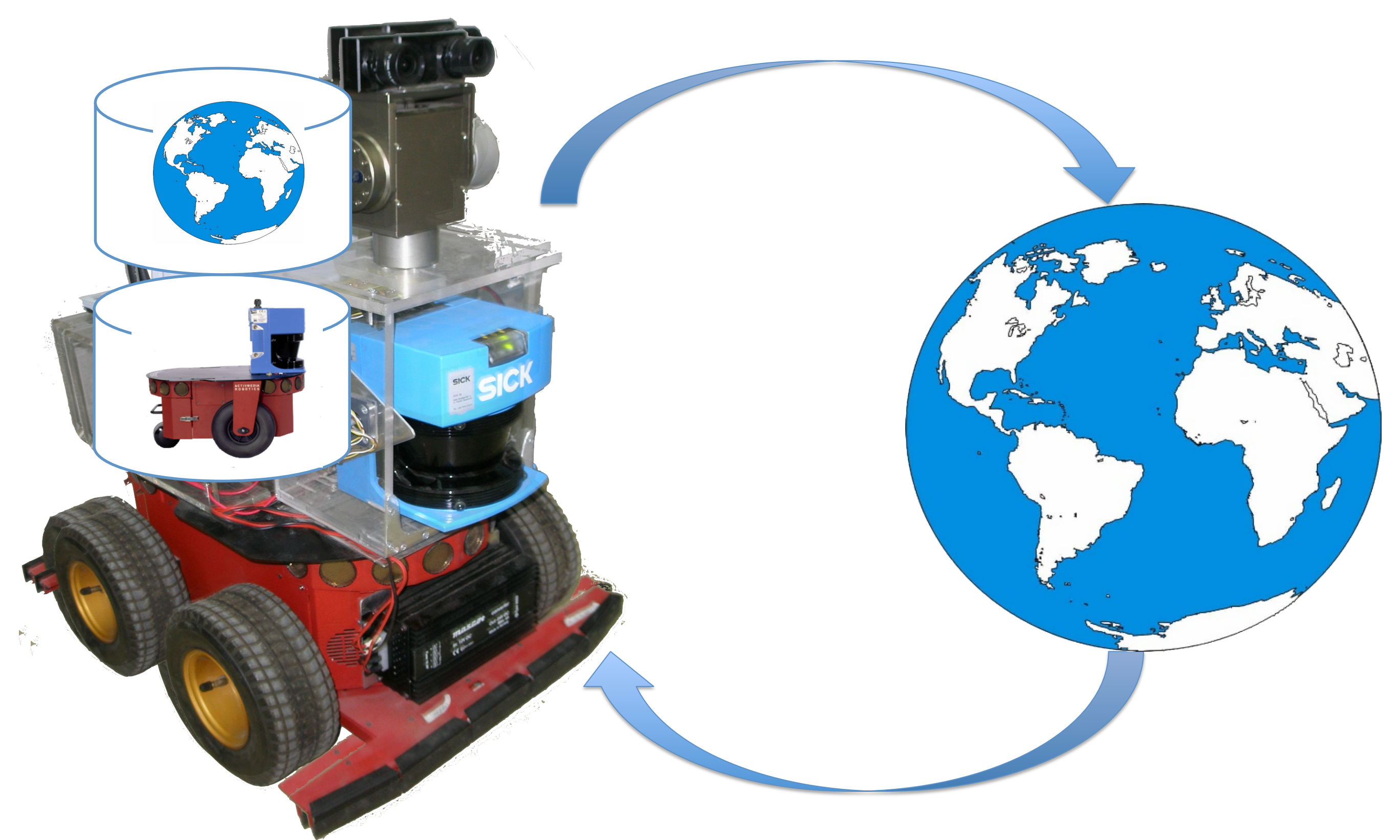
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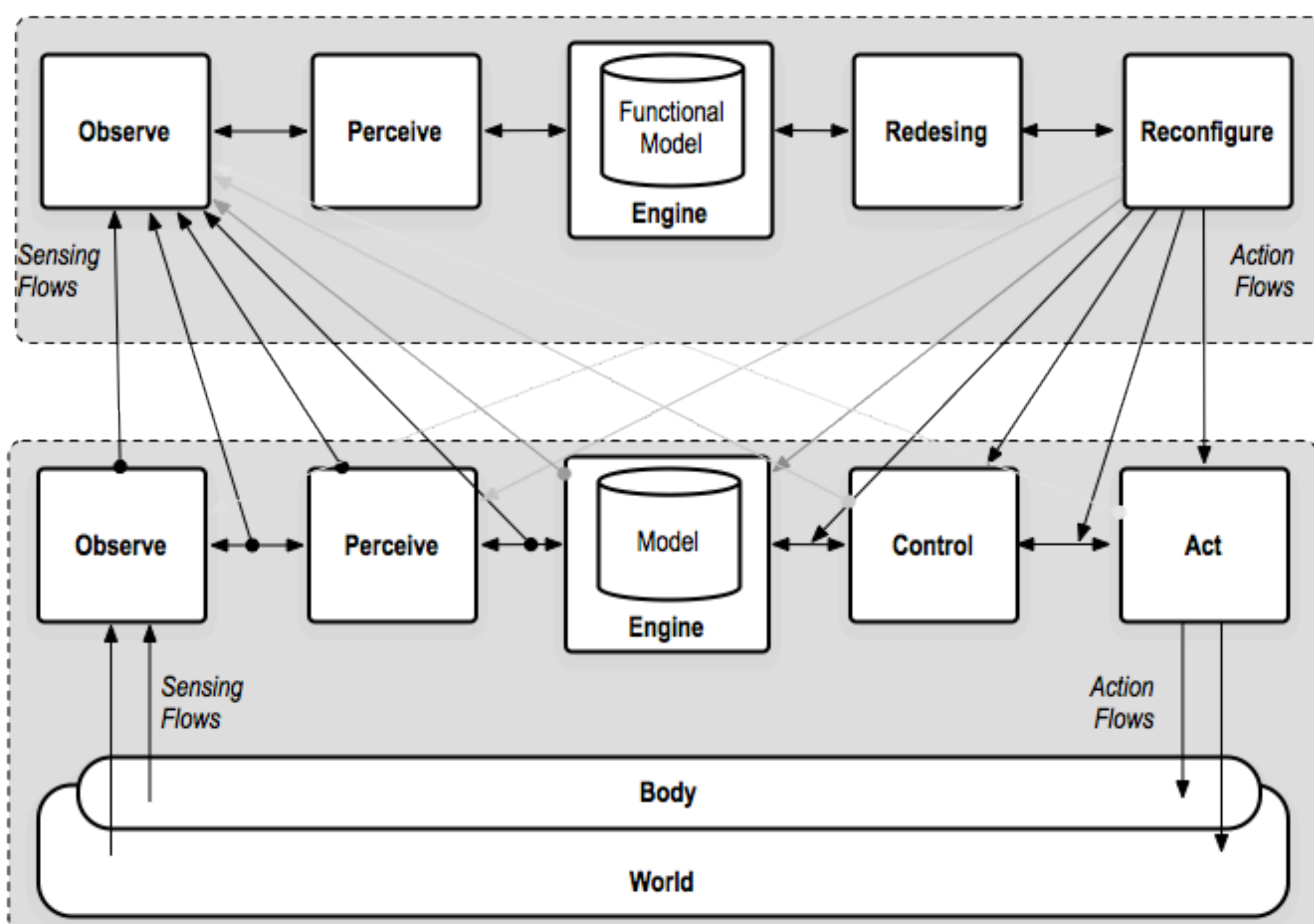


## Engineering Self-Aware Machines

1. A cognitive agent build and exploits models of other systems in their interaction with them.
2. Agents use multiple integrated, scalable and unified models of task, environment and self.
3. A cognitive agent is as good performer as its models are.
4. Use predictive models to achieve timely performance.
5. Perception is the continuous update of the integrated models by means of real-time sensorial information.



6. Models are exploited -executed- by engines and may be collapsed with them into simpler subsystems.
7. Attentional mechanisms allocate both physical and cognitive resources for system perceptive and modeling processes to optimize performance.
8. An aware system is continuously perceiving and computing meaning –i.e. future value- from the continuously updated models.
9. Agents reconfigure its functional organisation for context-pertinent behaviour using value-driven anticipatory metasignals -emotions.



# 10. Self-aware systems continuously generate world-self meanings.