

IEEE Microgrid Controller Standard 2030.7 and Artificial Intelligence (AI)

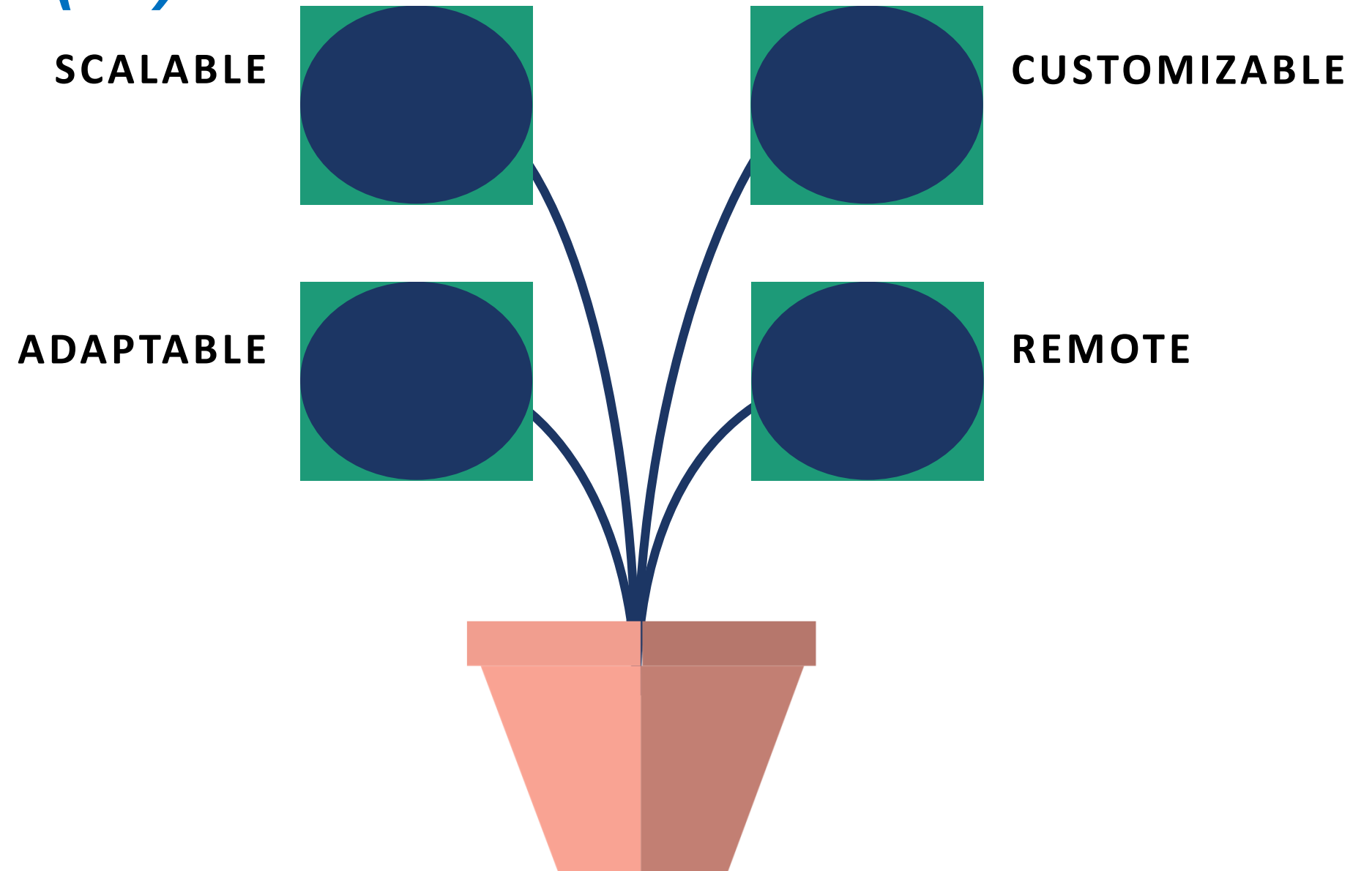
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Energy Summit
Seattle, WA*

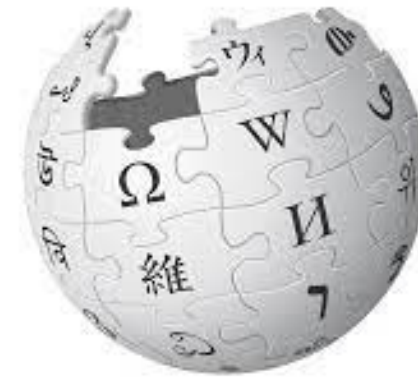
Jim Dodenhoff

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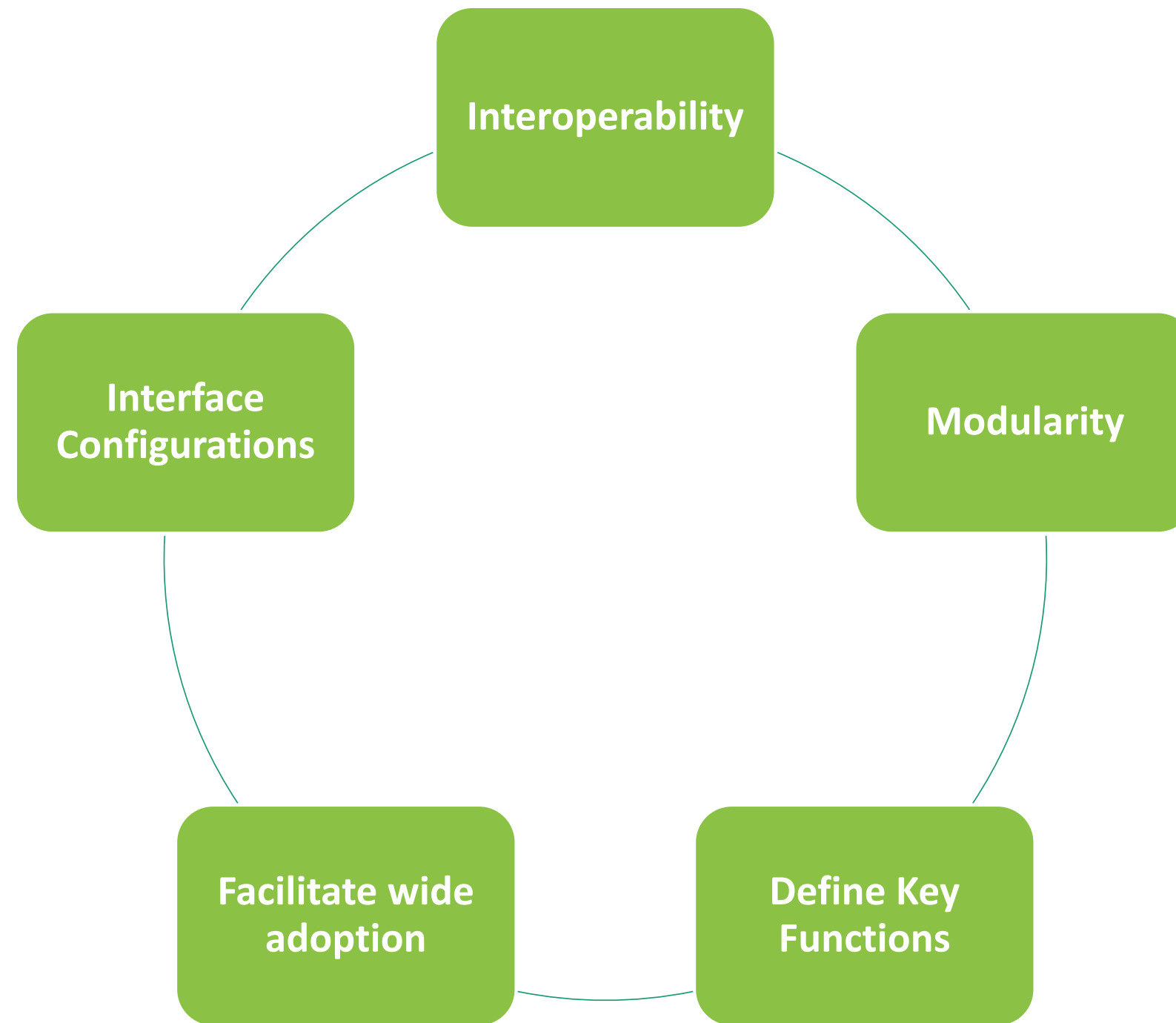
What's the Definition of Artificial Intelligence?



WIKIPEDIA
The Free Encyclopedia



IEEE 2030.7 Standard for the Specification of Microgrid Controllers



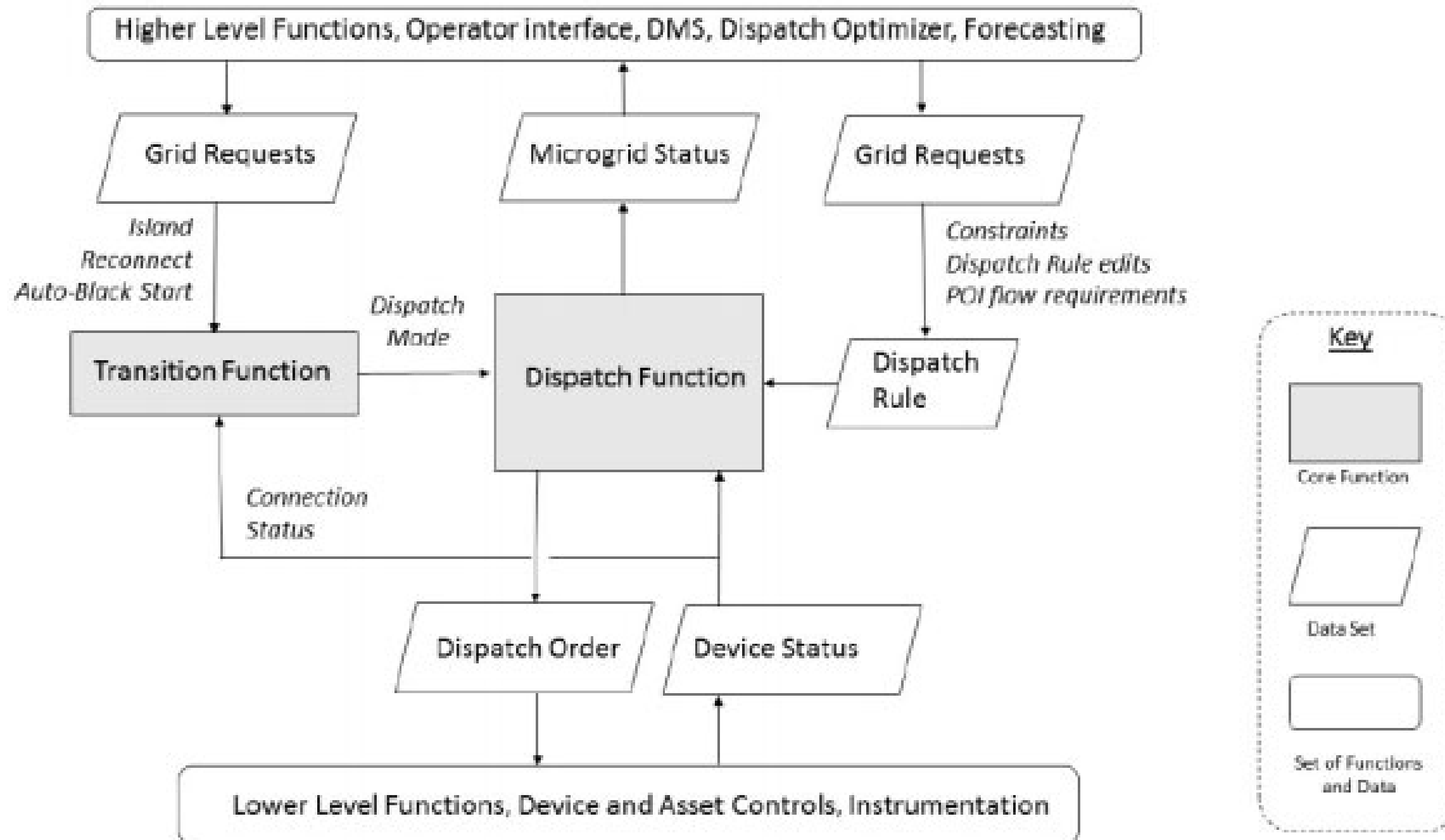


Figure 2—Relationship between transition and dispatch functions

Source: IEEE Standard 2030.7

IEEE Std 2030.7-2017
IEEE Standard for the Specification of Microgrid Controllers

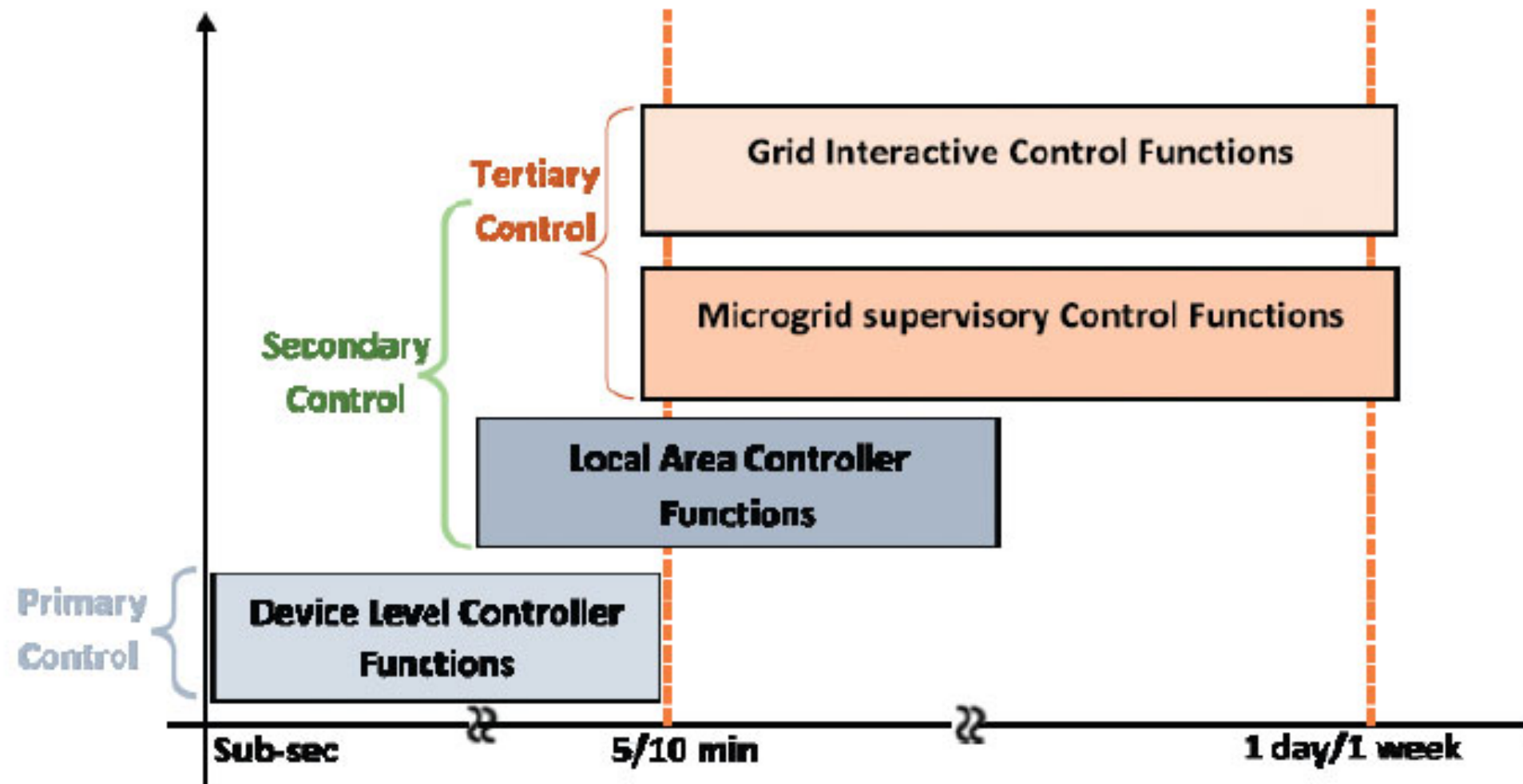
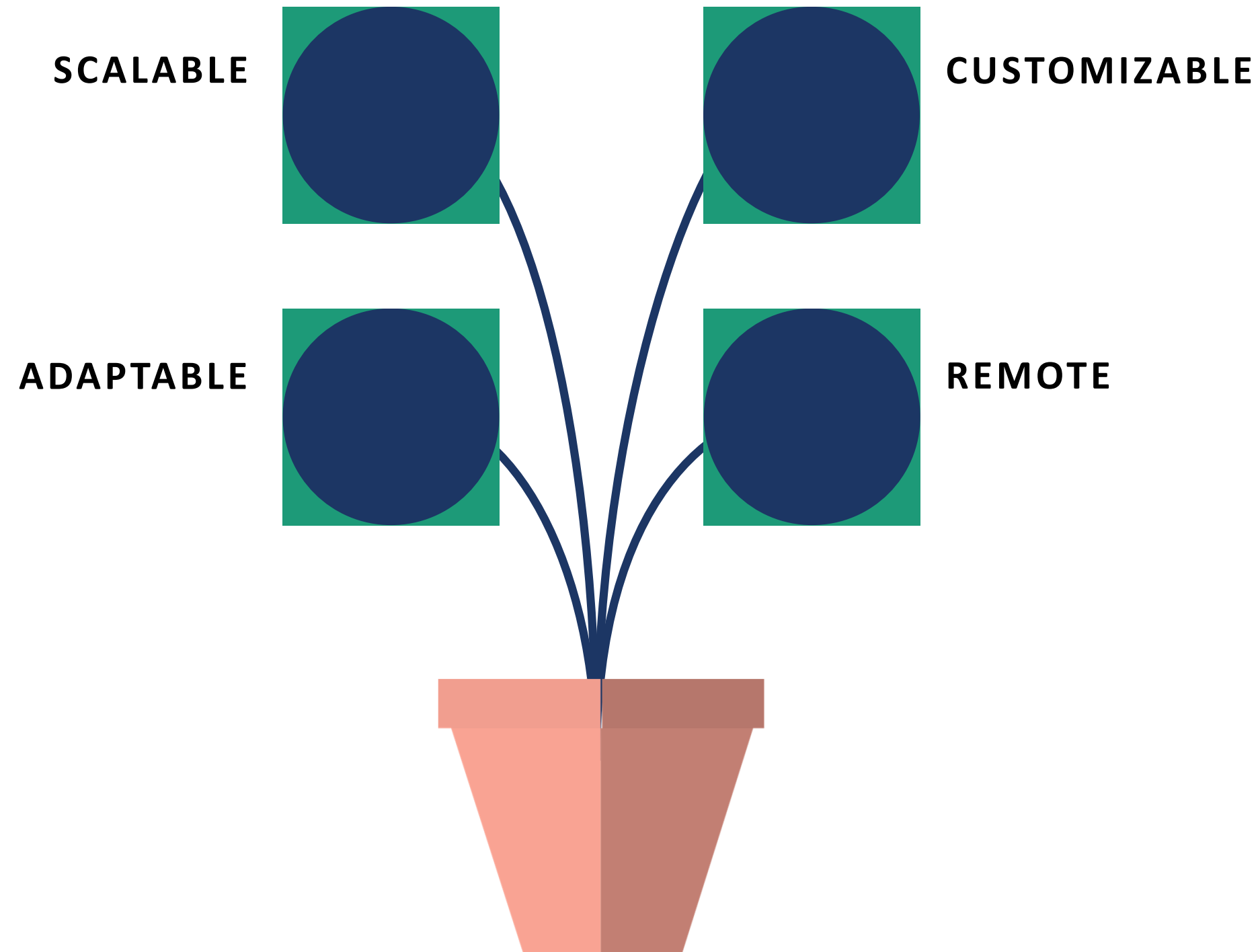


Figure C.2—Microgrid control system time frame and action time domain

What about Contingency Management?



A Utopian End State for Microgrid Control Systems



Conclusion: We are early in the AI Journey when it comes to AI and Microgrid Control Systems



Thank You!

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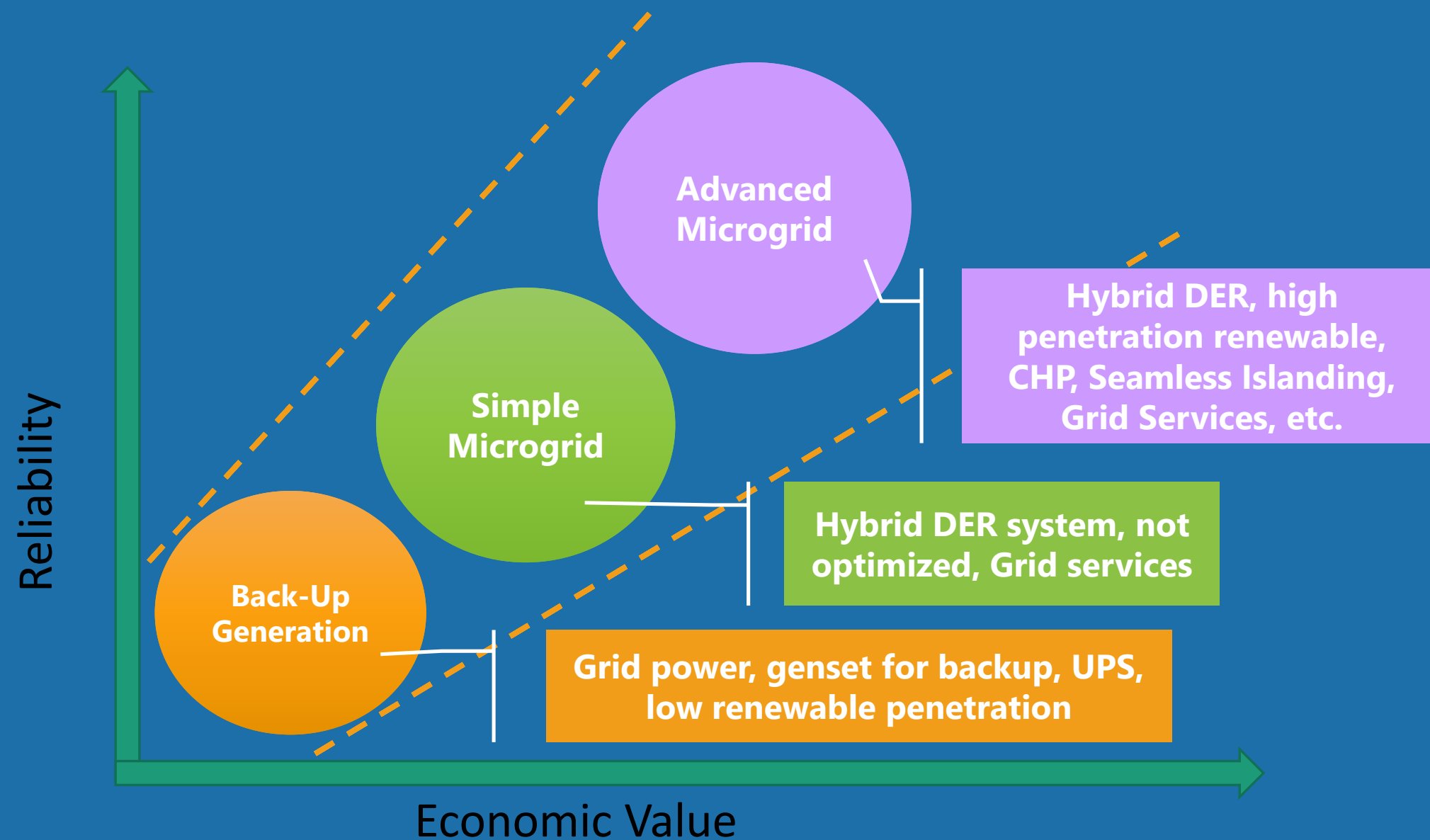
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Microgrid Value (from user standpoint) Grows with Complexity



Microgrid Control System Cybersecurity and Trade-Offs

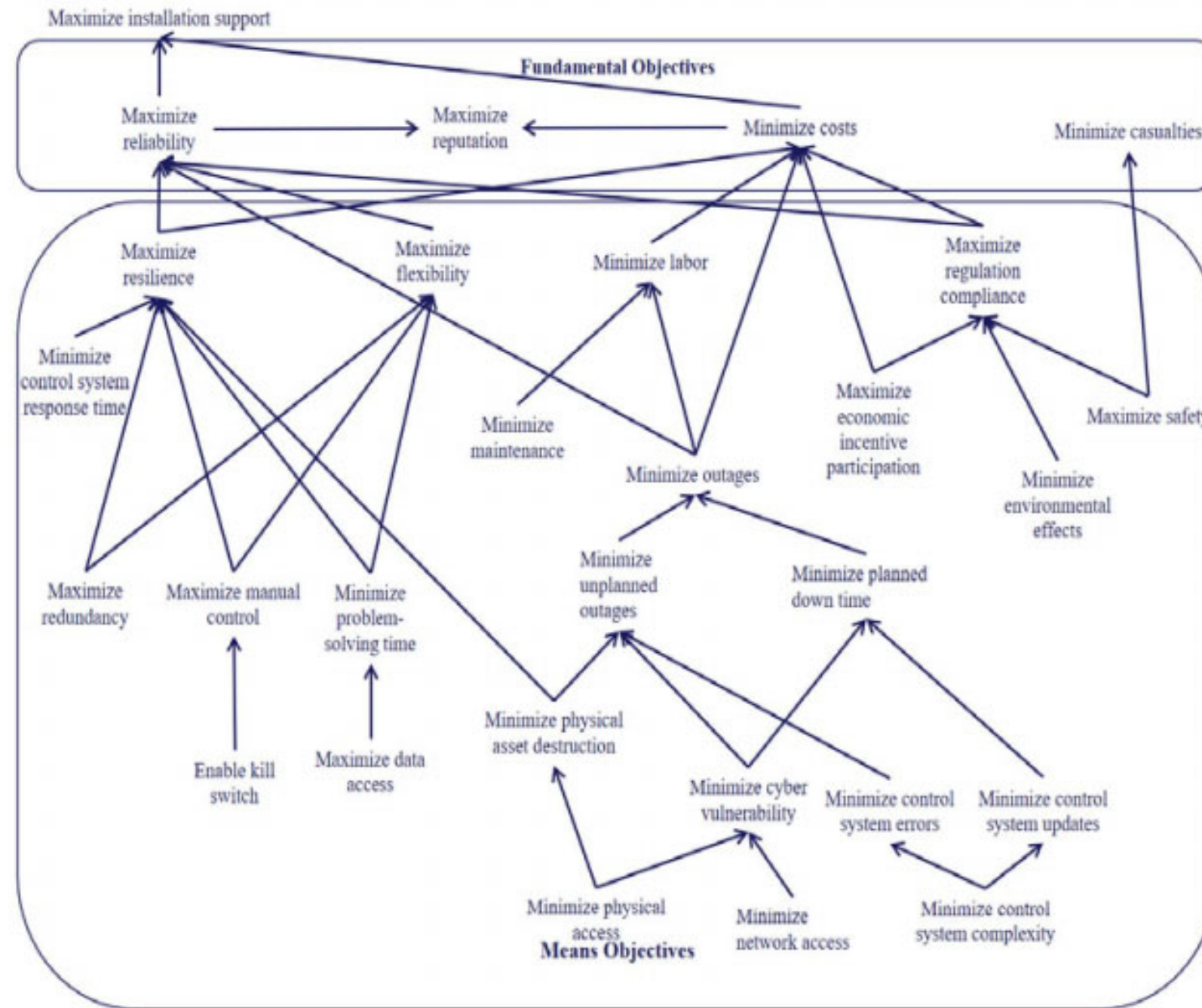


Figure 1: Means-ends objective network

Source: Hudgens, Bryan; Hartner, Cameron; Adams, Brian; Regnier, Eva; Proceedings of the 52nd Hawaii International Conference on System Sciences | 2019; "Investing in Cyber Defense: A Value-Focused Analysis of Investment Decisions for Microgrids,"

Resources and References

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