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Context

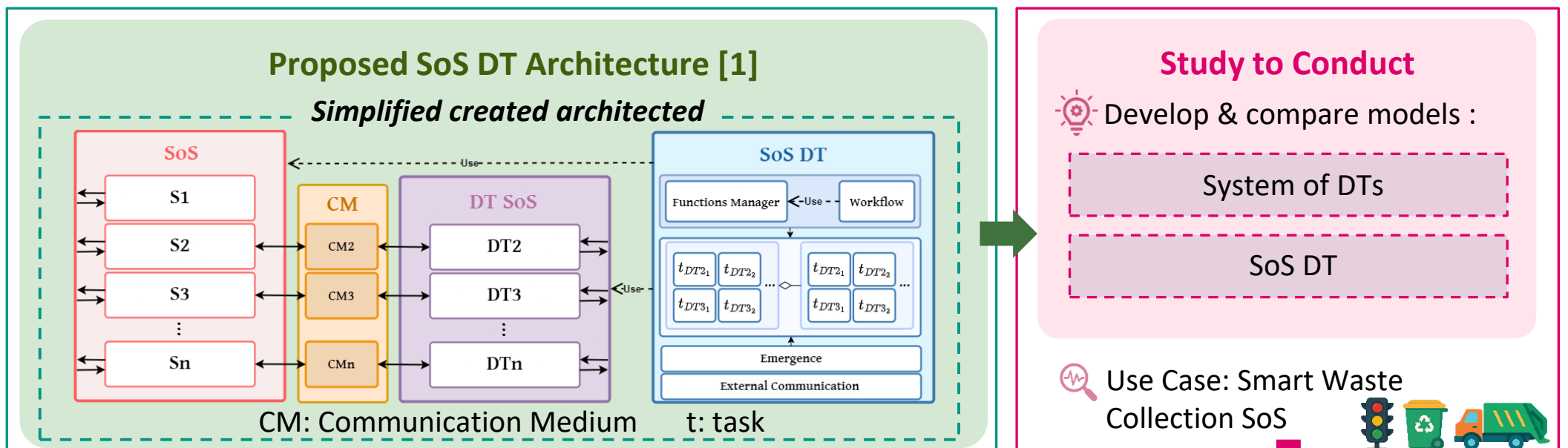
IoT-based SoS are complex and vulnerable to disruptions due to their distributed and autonomous nature. DTs offer promising tools to improve resilience through real-time monitoring, simulation, and adaptation. However, their integration into IoT SoS raises scientific challenges related to modeling, synchronization, and system interoperability.

Keywords: Digital Twins, Systems-of-Systems, Resilience, Internet-of-Things, Model-Driven Engineering

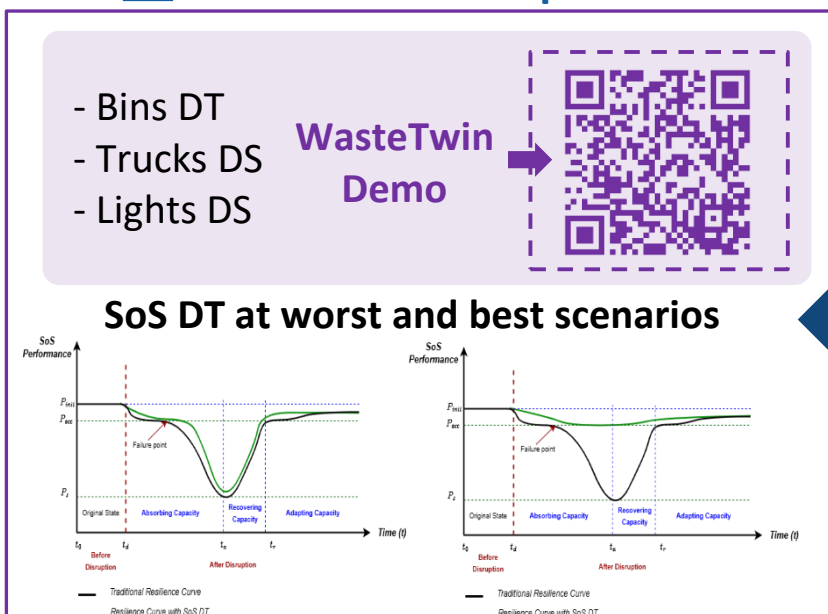
Research Questions

- How can a SoS DT be modeled to reflect the complexity of IoT SoS and support resilience?
- What resilience properties can be effectively enhanced using SoS DTs?
- What are the key scientific and technical barriers to implementing SoS DTs at scale?

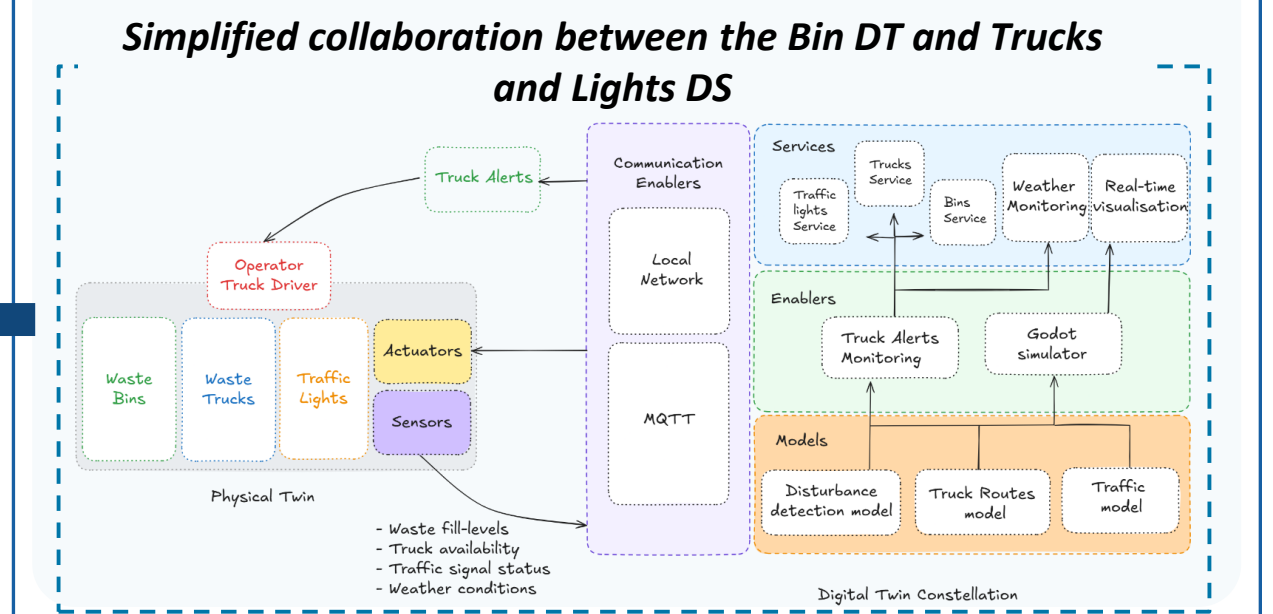
Methodology



Results and Anticipations



General Inner Architecture



Smati, M., Cheutet, V., Danjou, C., & Laval, J. (2025, February). Digital Twin System of Systems: A Layered Architecture Proposal. In *13th International Conference on Model-Based Software and Systems Engineering (MODELSWARD 2025)*.

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