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JNI5 – Digital Twins for Assessing, Managing, and Improving the R3 of Critical Systems

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JN15 – Digital Twins for Assessing, Managing, and Improving the R³ of Critical Systems

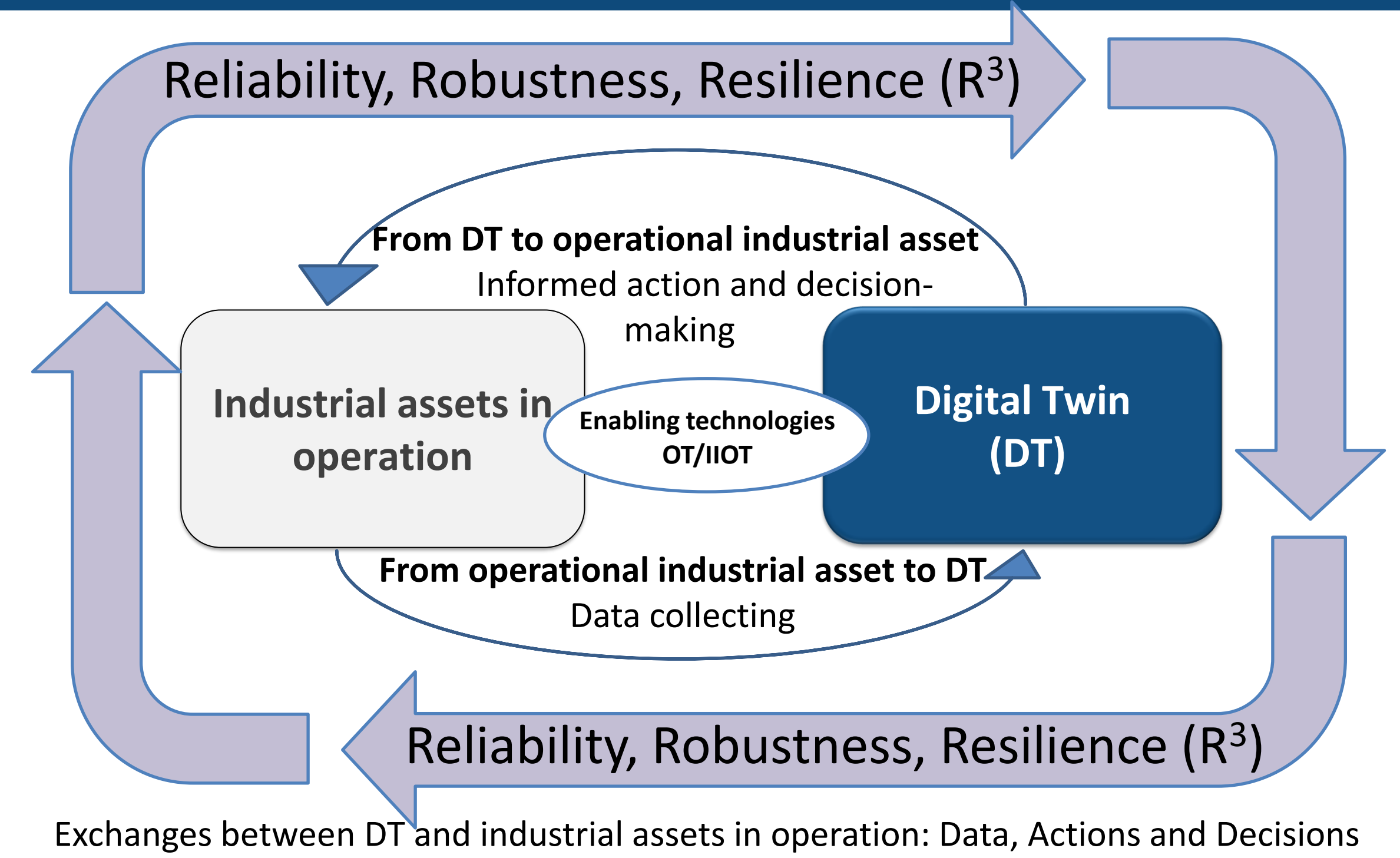
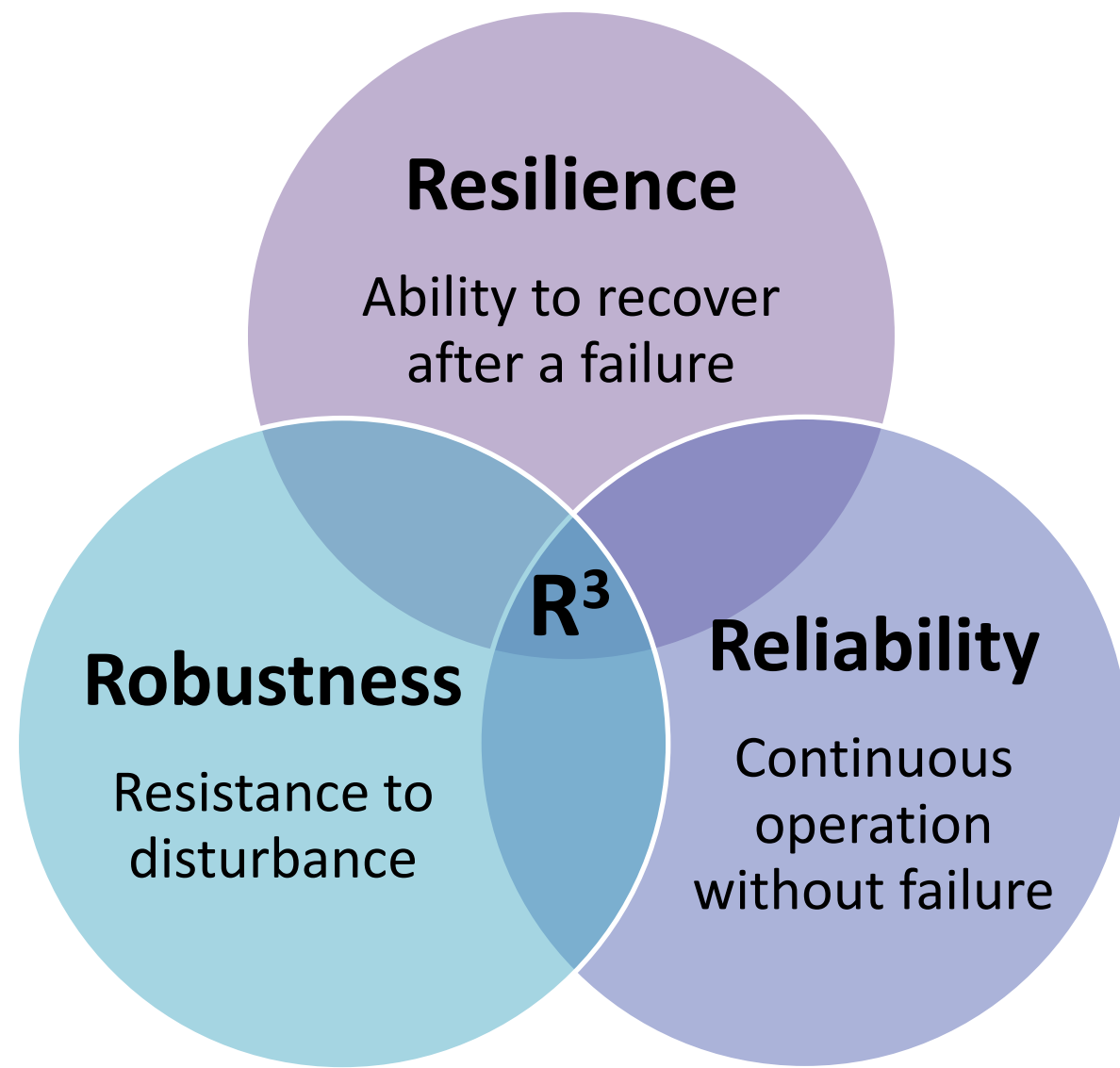
Dynamic Uncertainty Management in Digital Twin Engineering for Enhancing the Robustness and Resilience of Industrial Systems

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Context and objectives

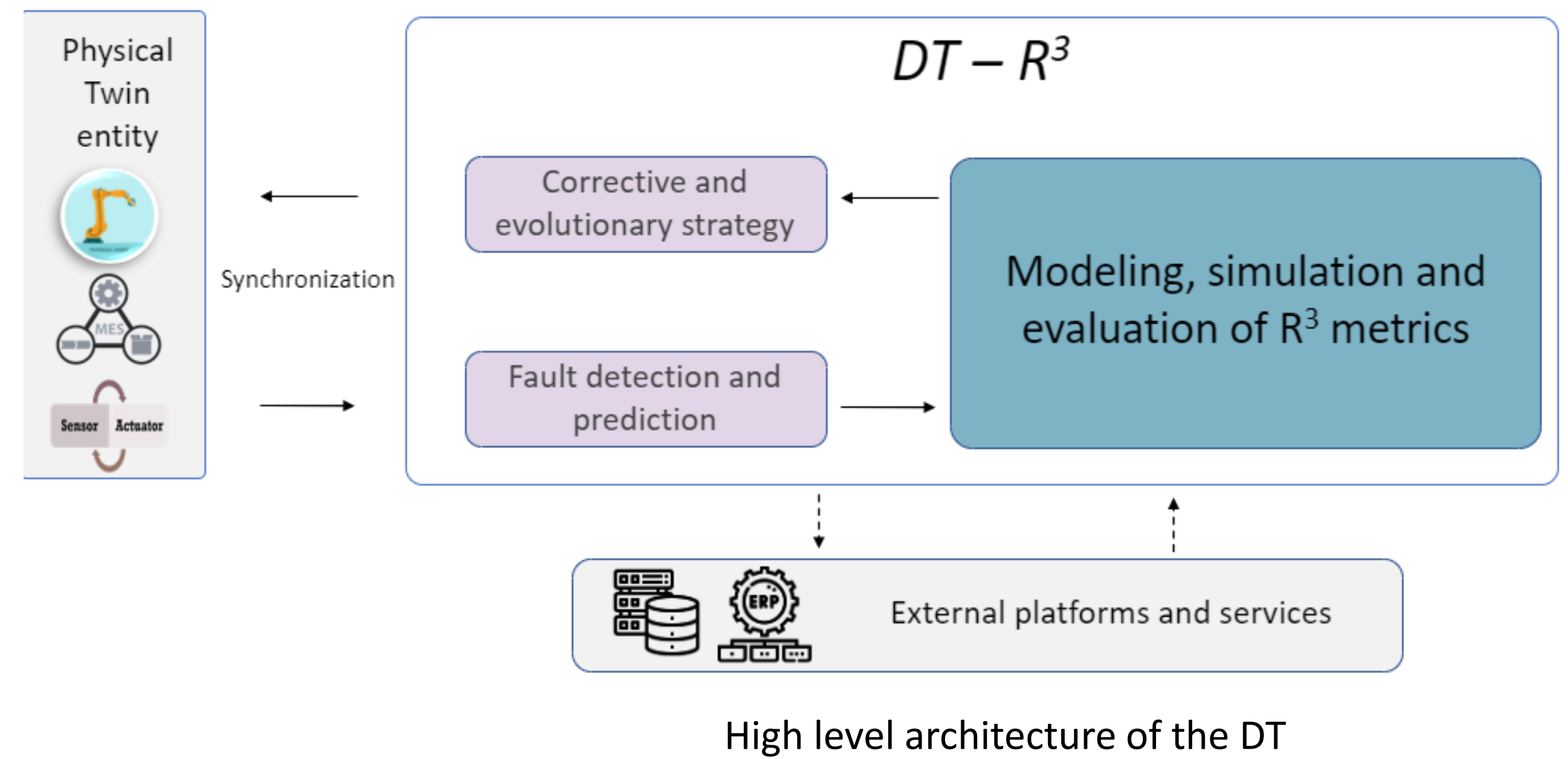
Improving the R³: Reliability, Robustness and Resilience of Critical Systems.



Exchanges between DT and industrial assets in operation: Data, Actions and Decisions

Challenges

- Define R³ metrics for analysis and evaluation.
- Develop R³ KPIs.
- Identify the causes of deviations/degradations.
- Integrate the propagation of events/failures.
- Simulate disruptive/hostile events.
- Manage interoperability, uncertainty and risk.
- Implement DT-R³ for specific use cases.



High level architecture of the DT

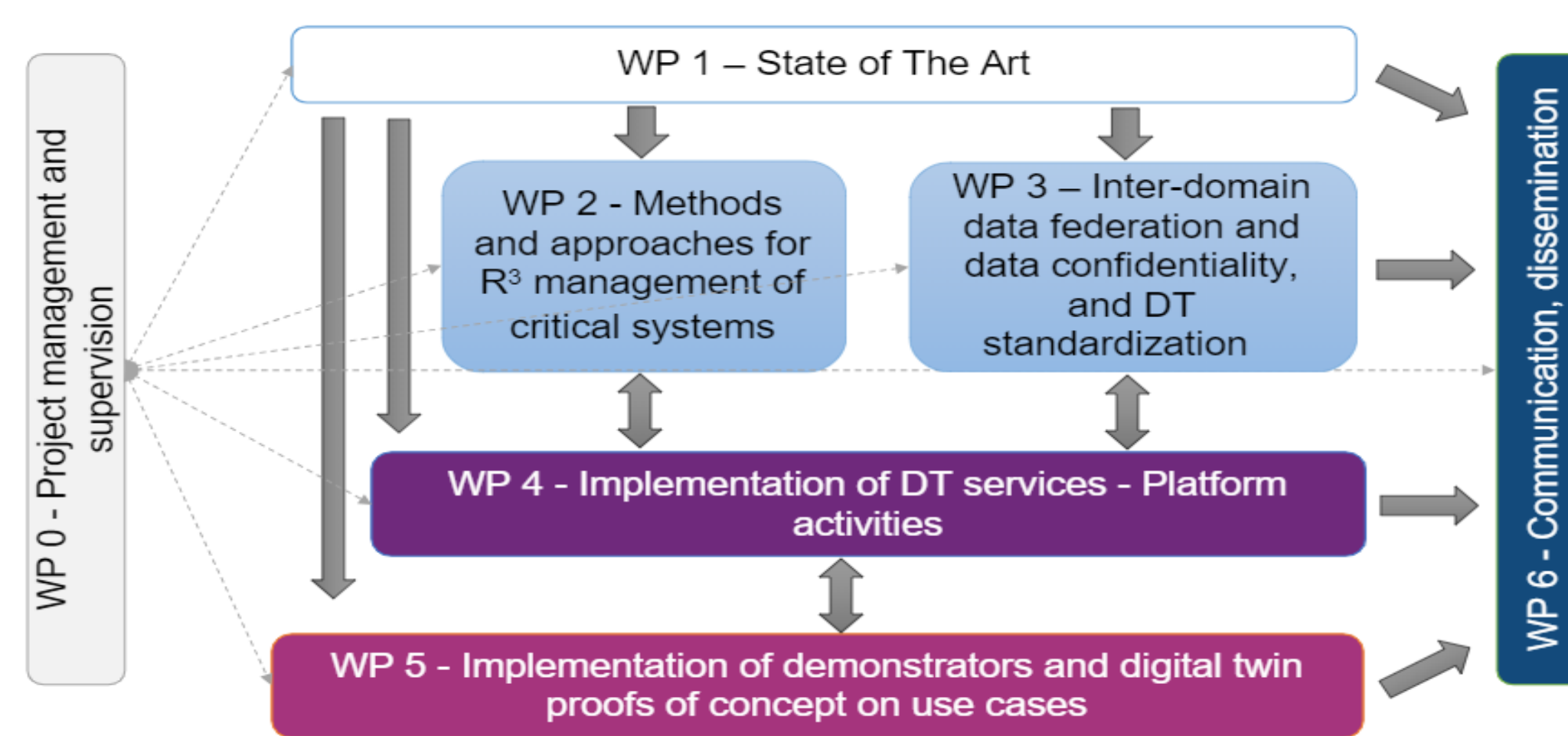
Project Details, Work Packages and Use Cases

Launch September 2024
Durations 4 Years

Partners



Project activities



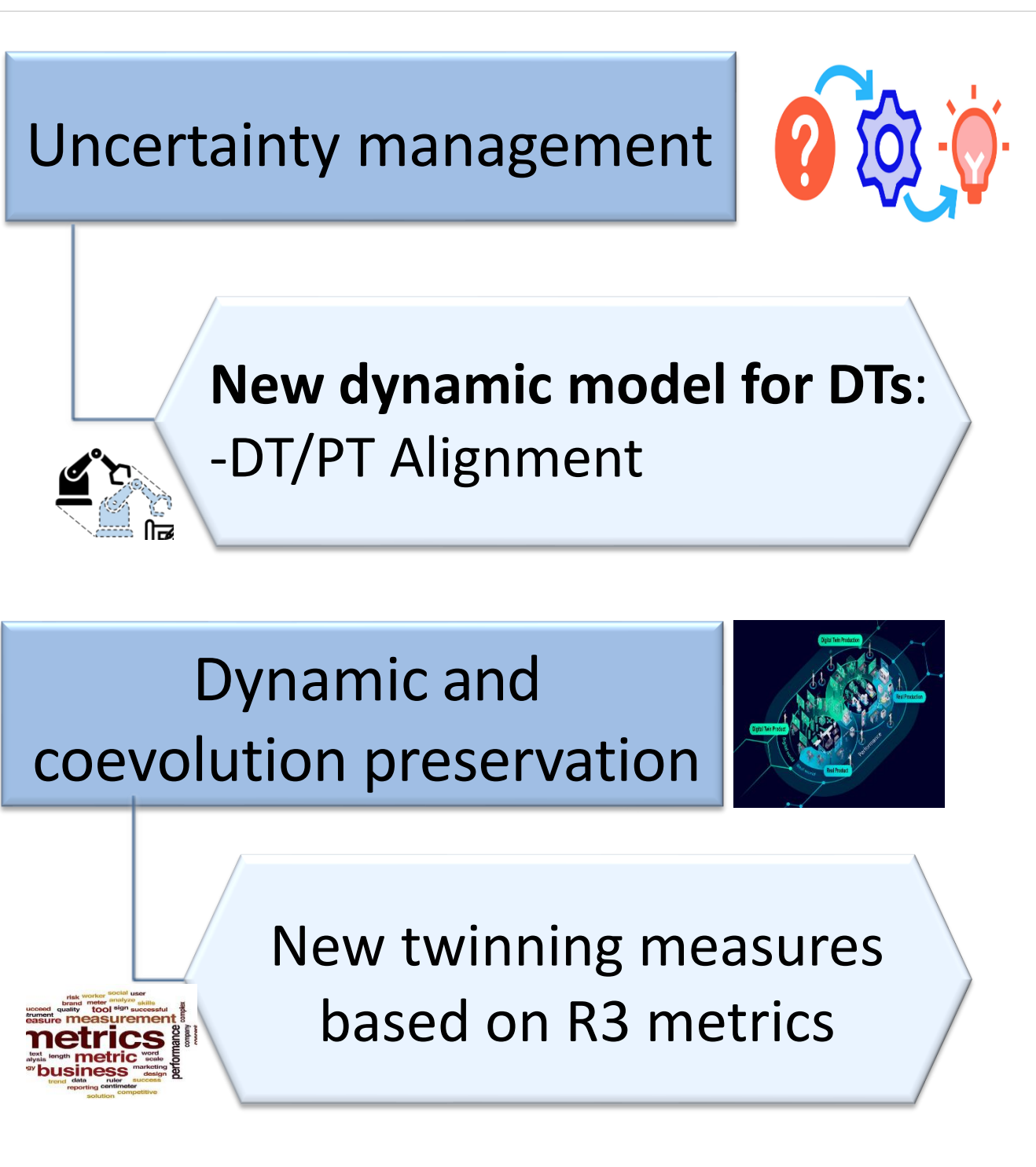
Use cases



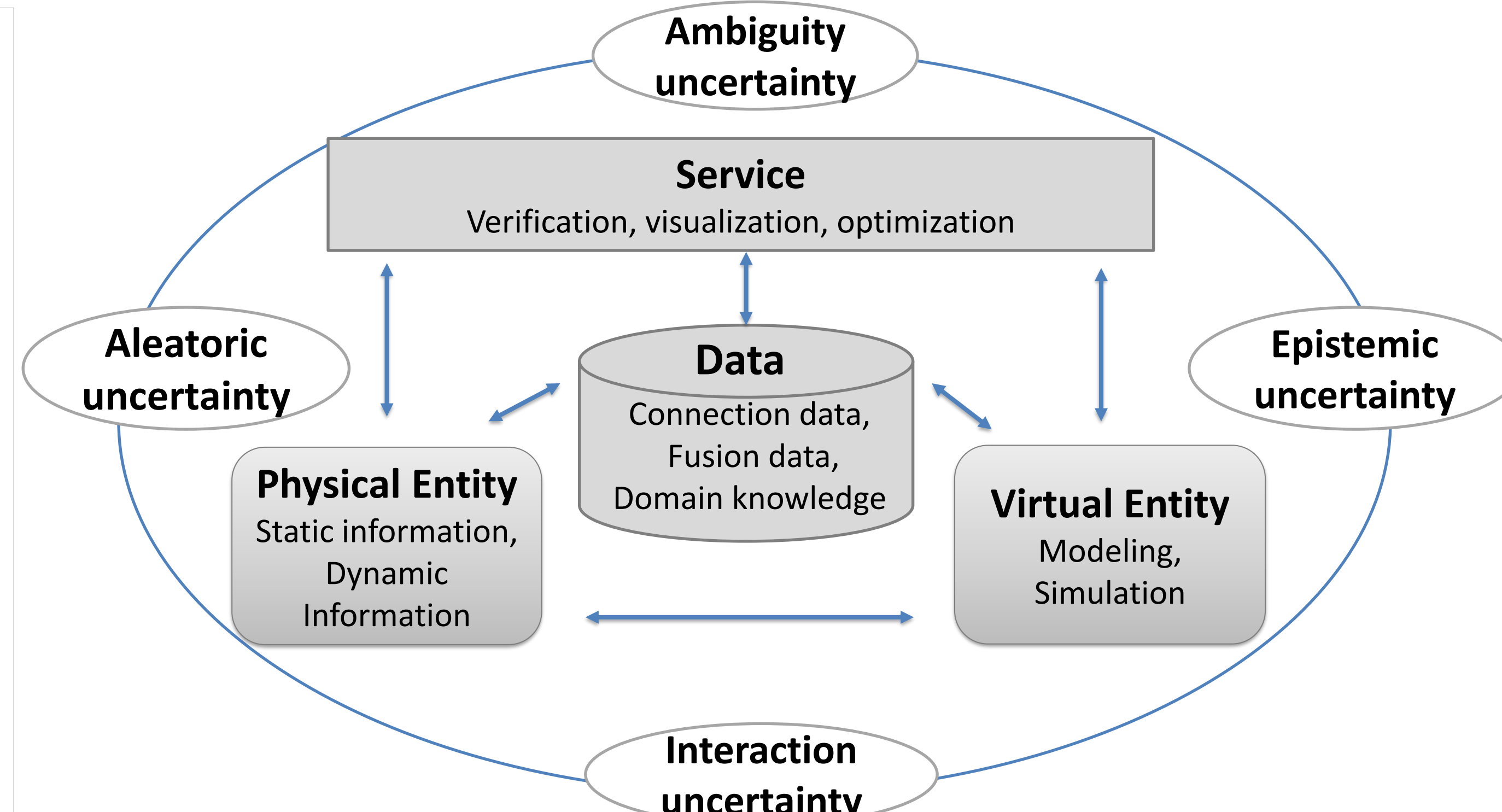
- DT for cyber resilience of critical system.
- DT for aircraft engine lifecycle.

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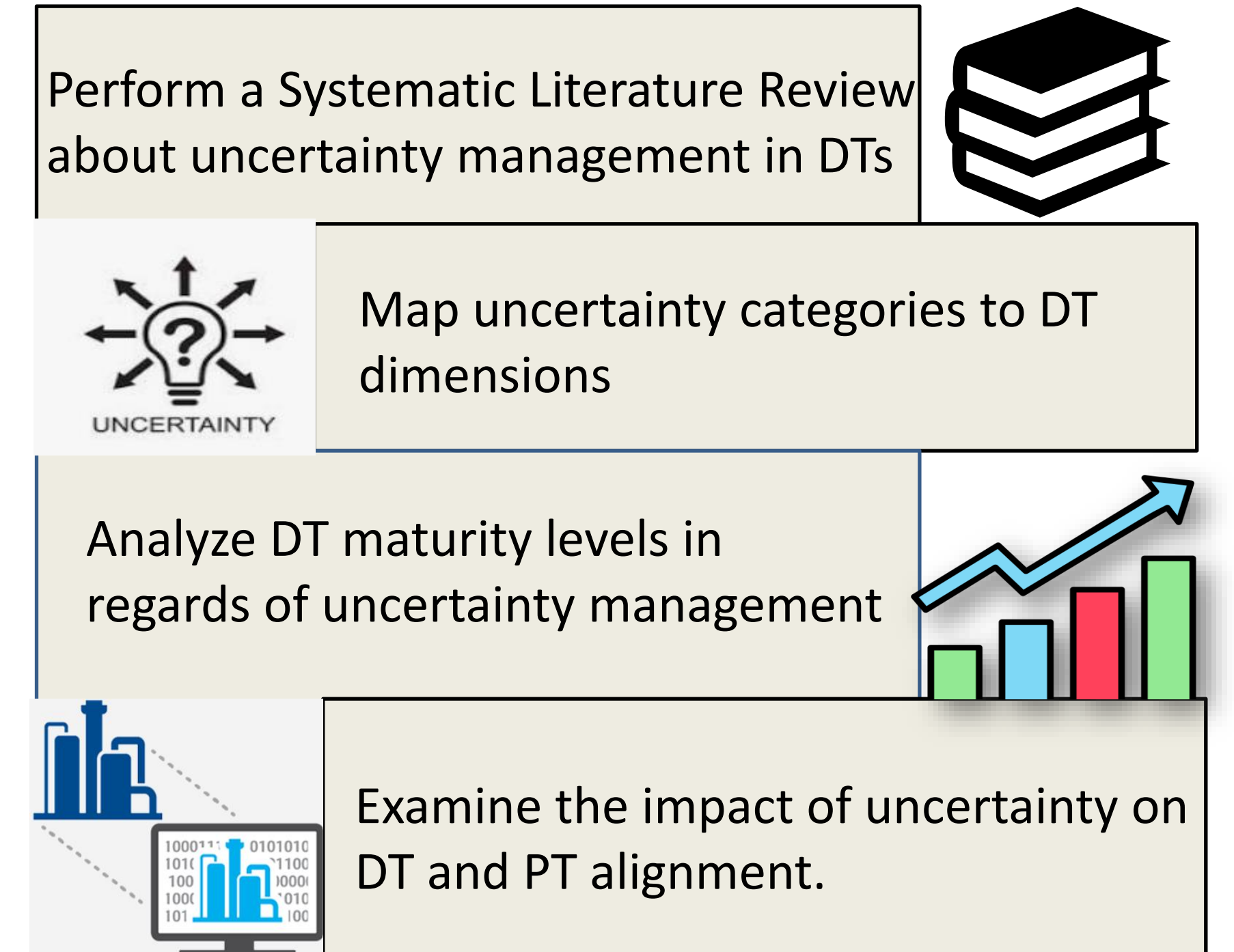
Why ?



What ?



How?



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