Digital Twins

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theNetworking Channel

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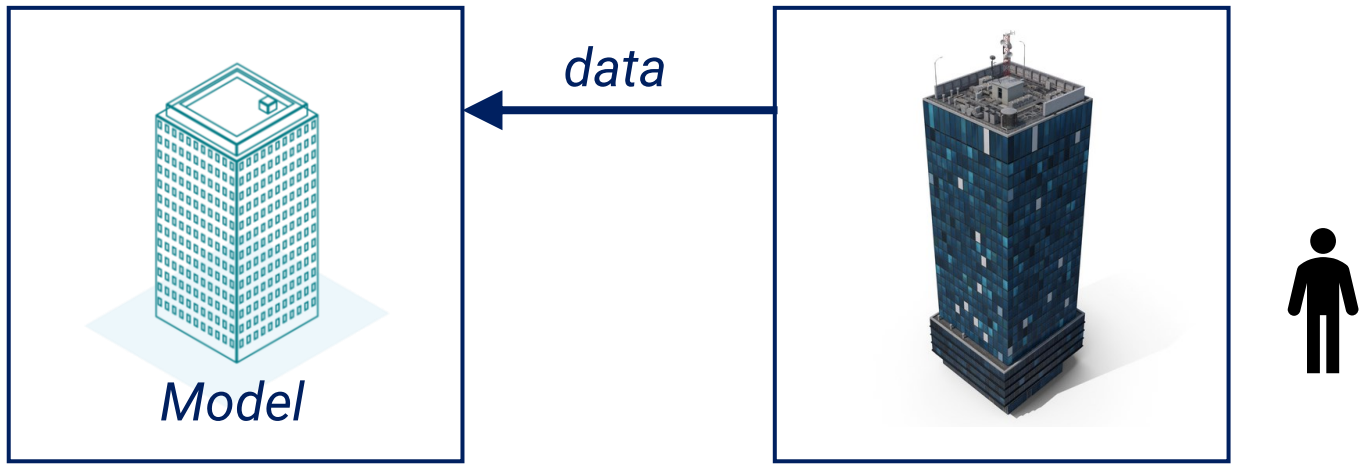
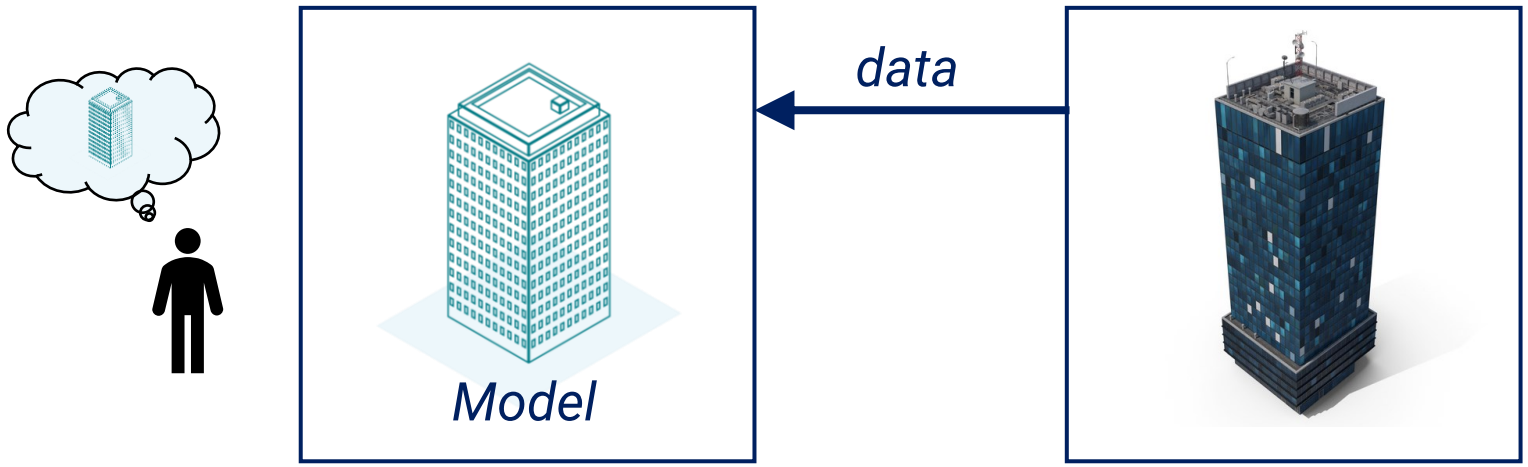
Sustainable Systems and Methods

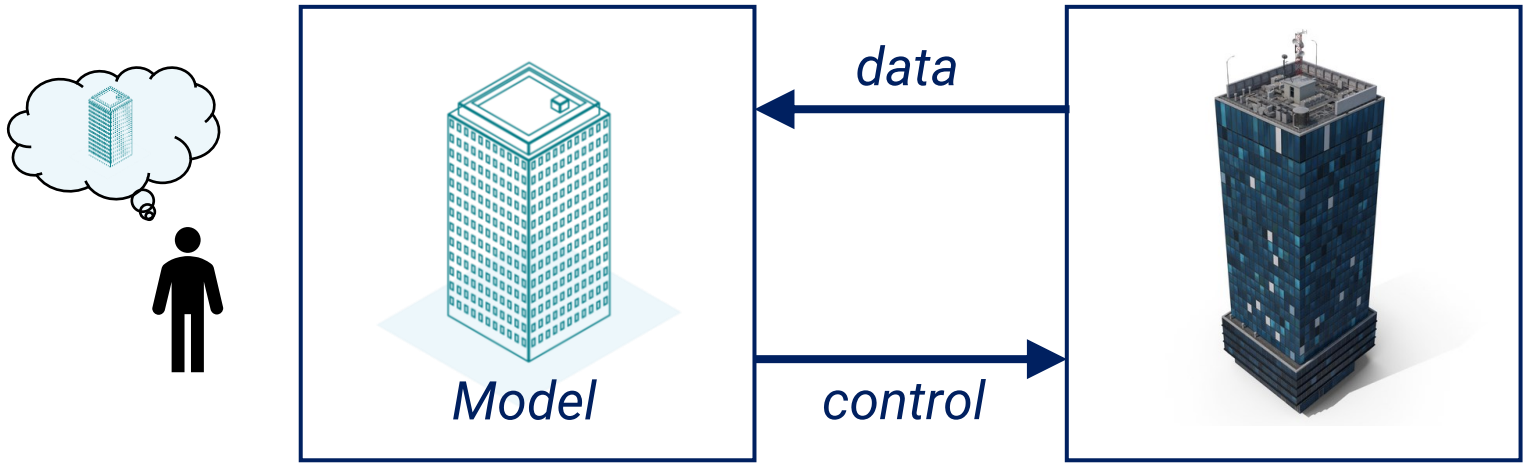
Digital twinning



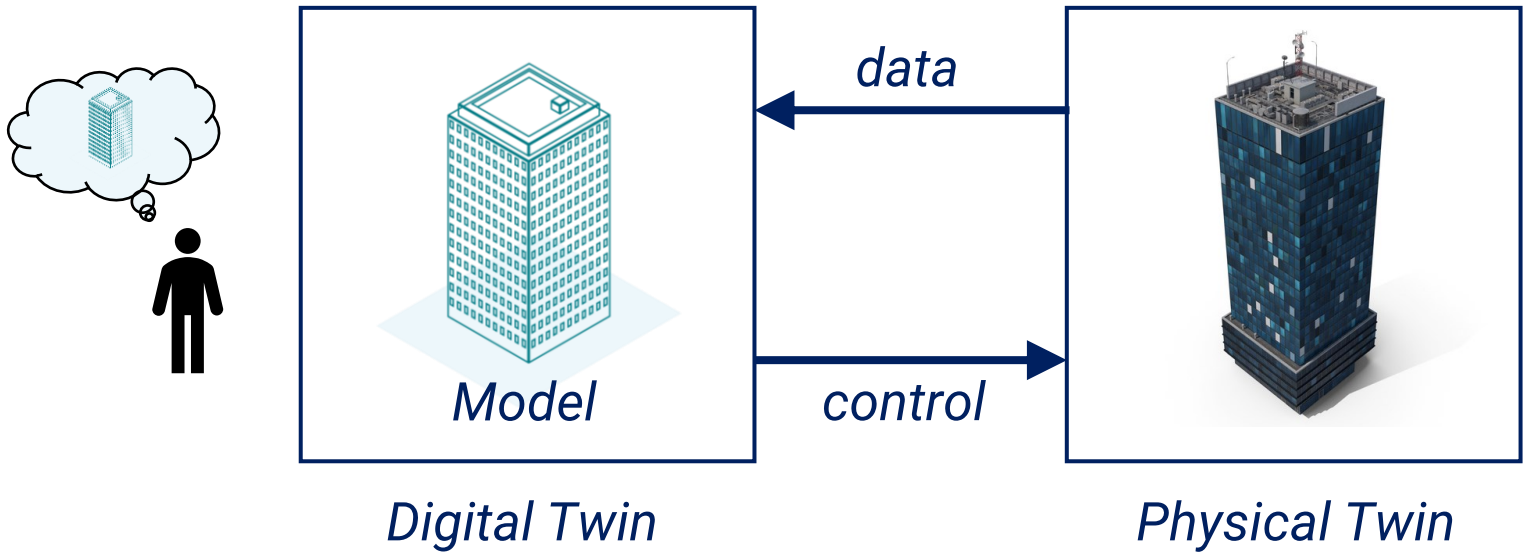
Digital twinning



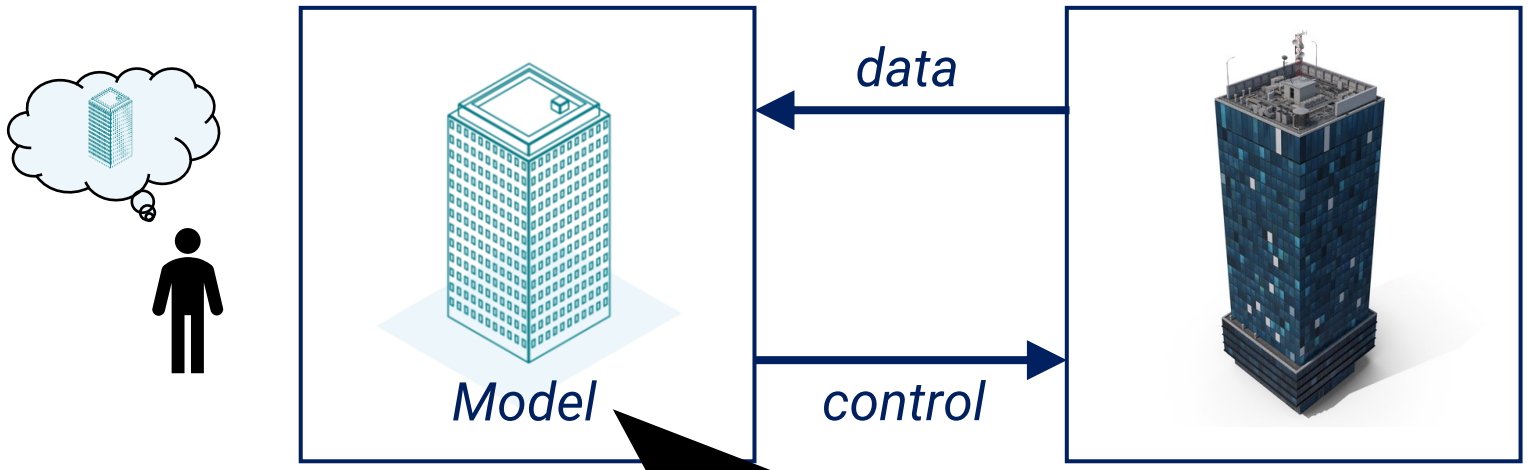
Digital twinning

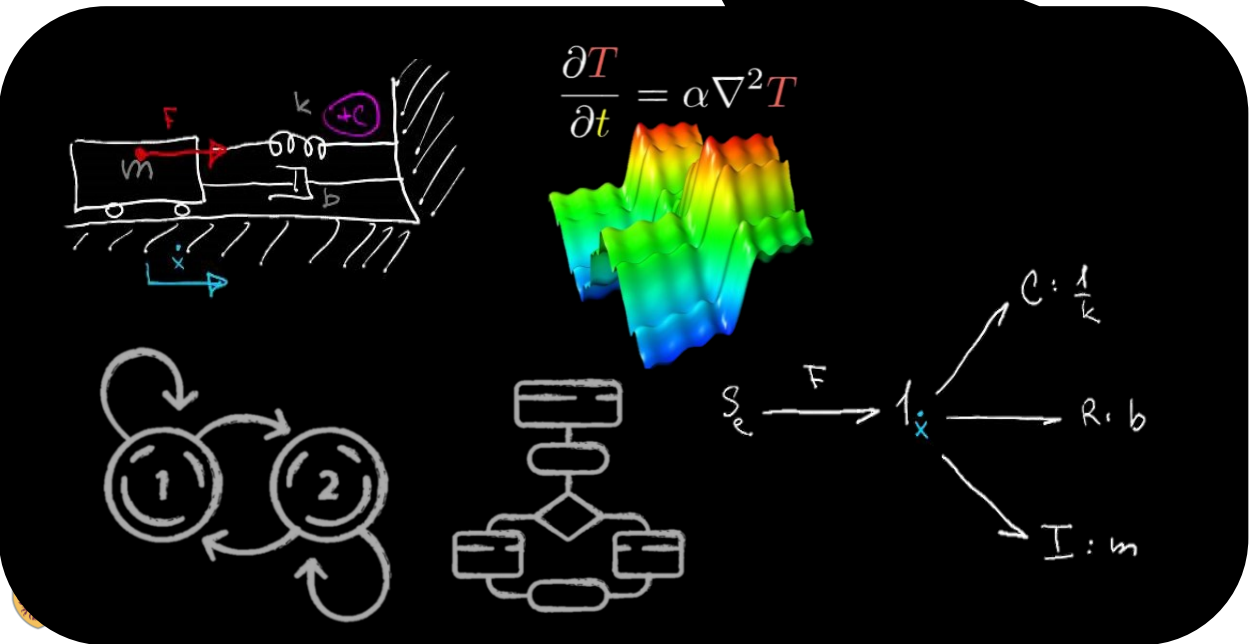


Digital twinning

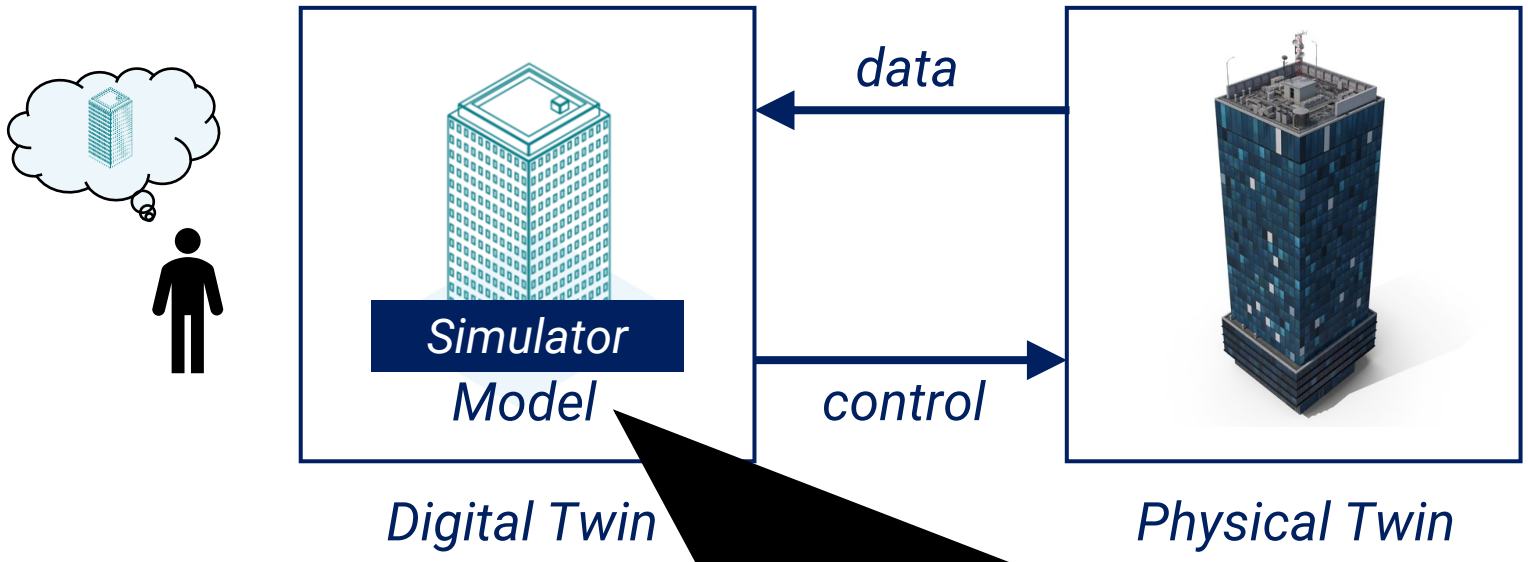


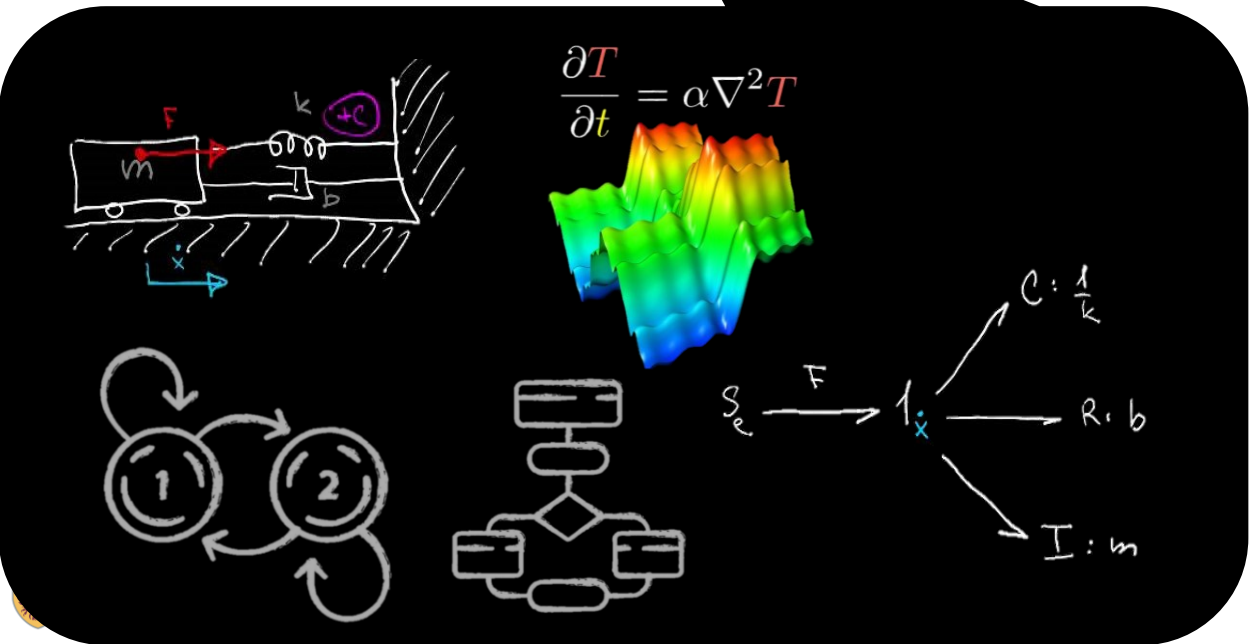
Digital twinning

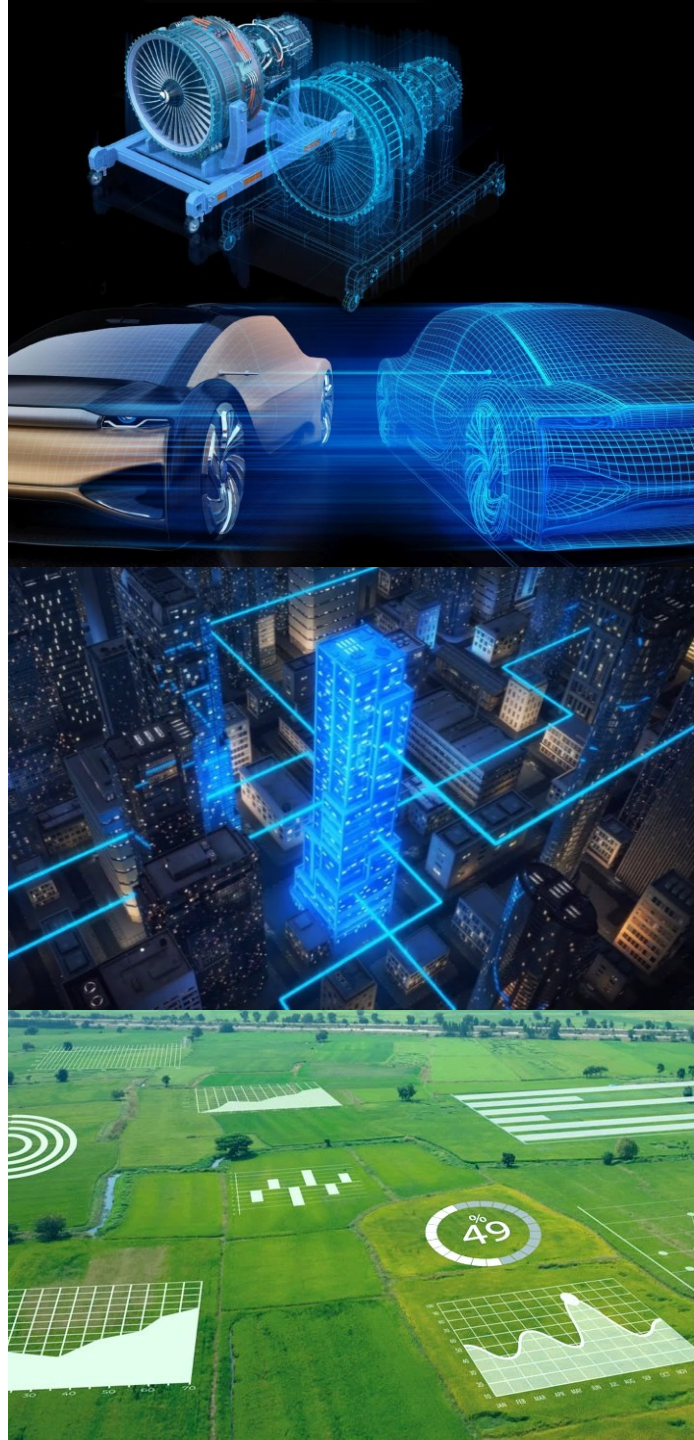




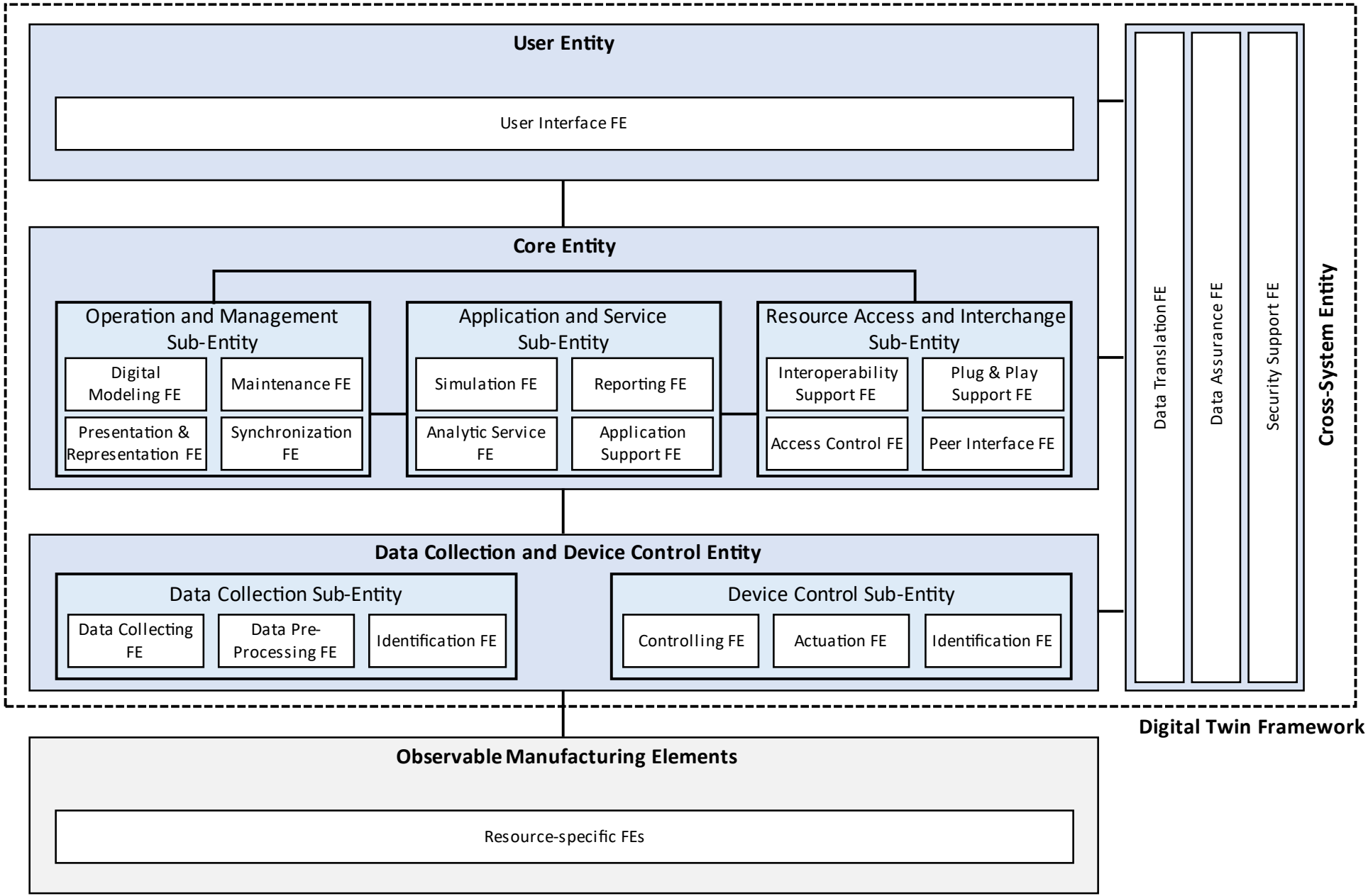
Digital twinning





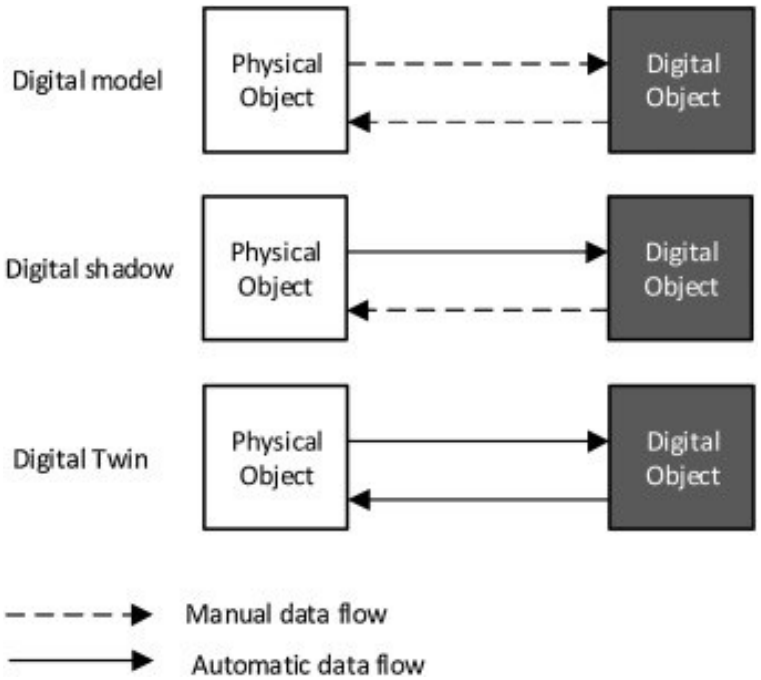


ISO 23247 Reference architecture

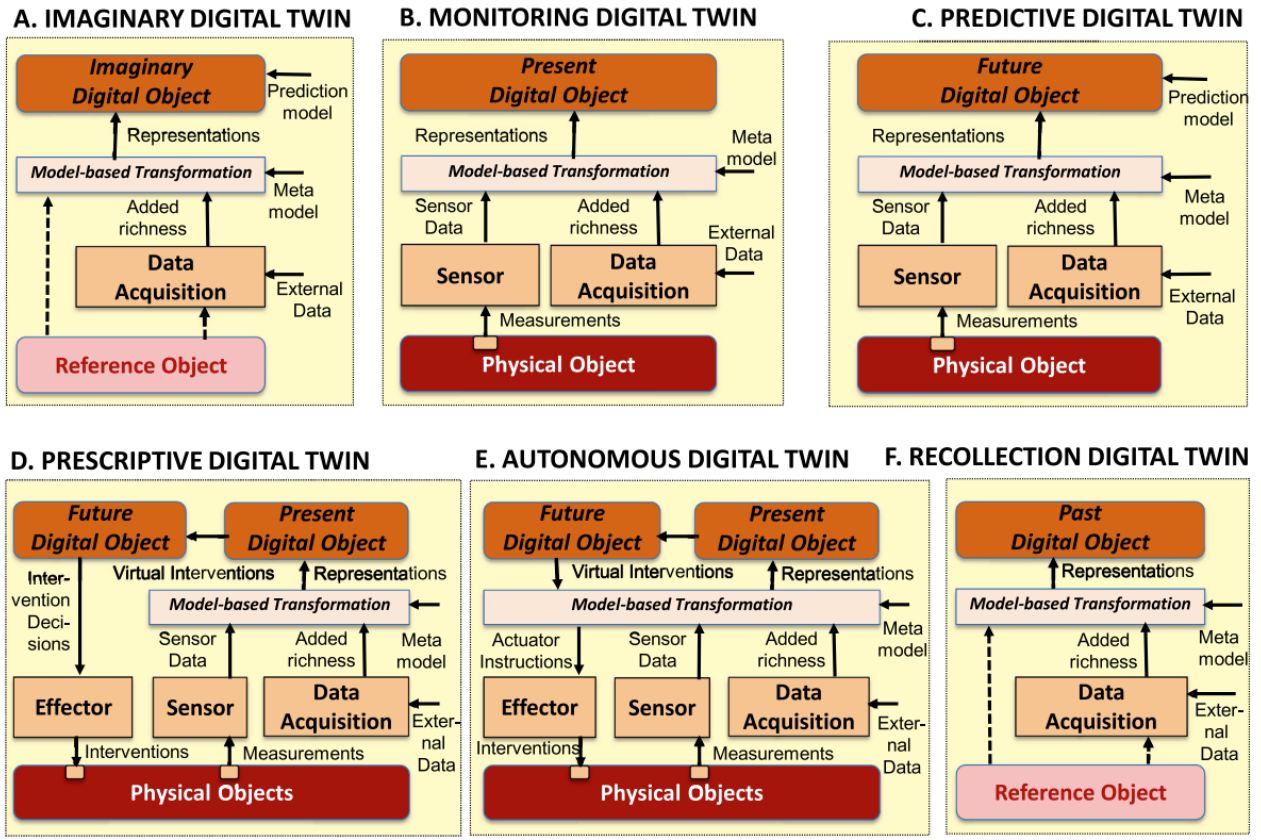


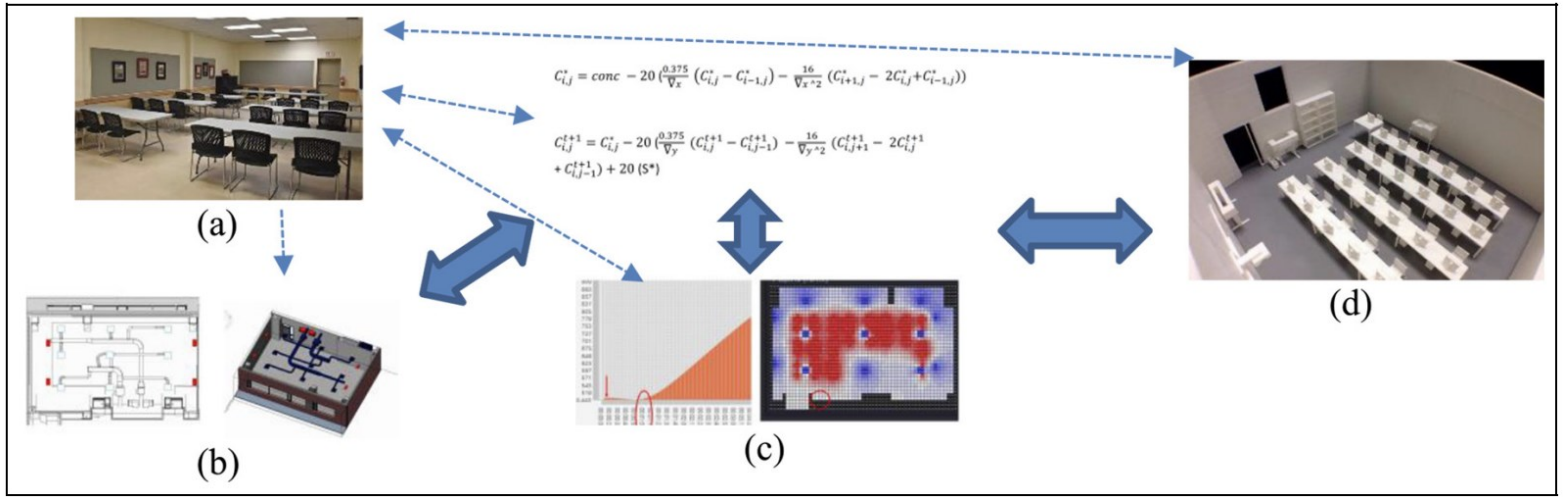
Digital "X"

Verdouw et al., 2021



Kritzinger et al., 2018





A DEVS-based engine for building digital quadruplets

Daniella Niyonkuru and Gabriel Wainer

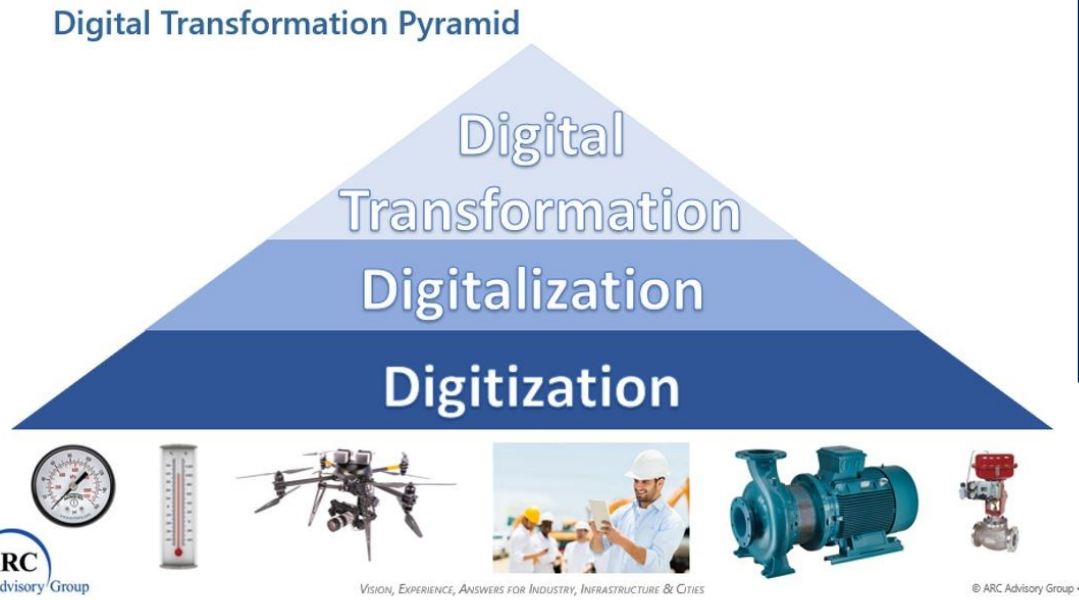
McMaster University

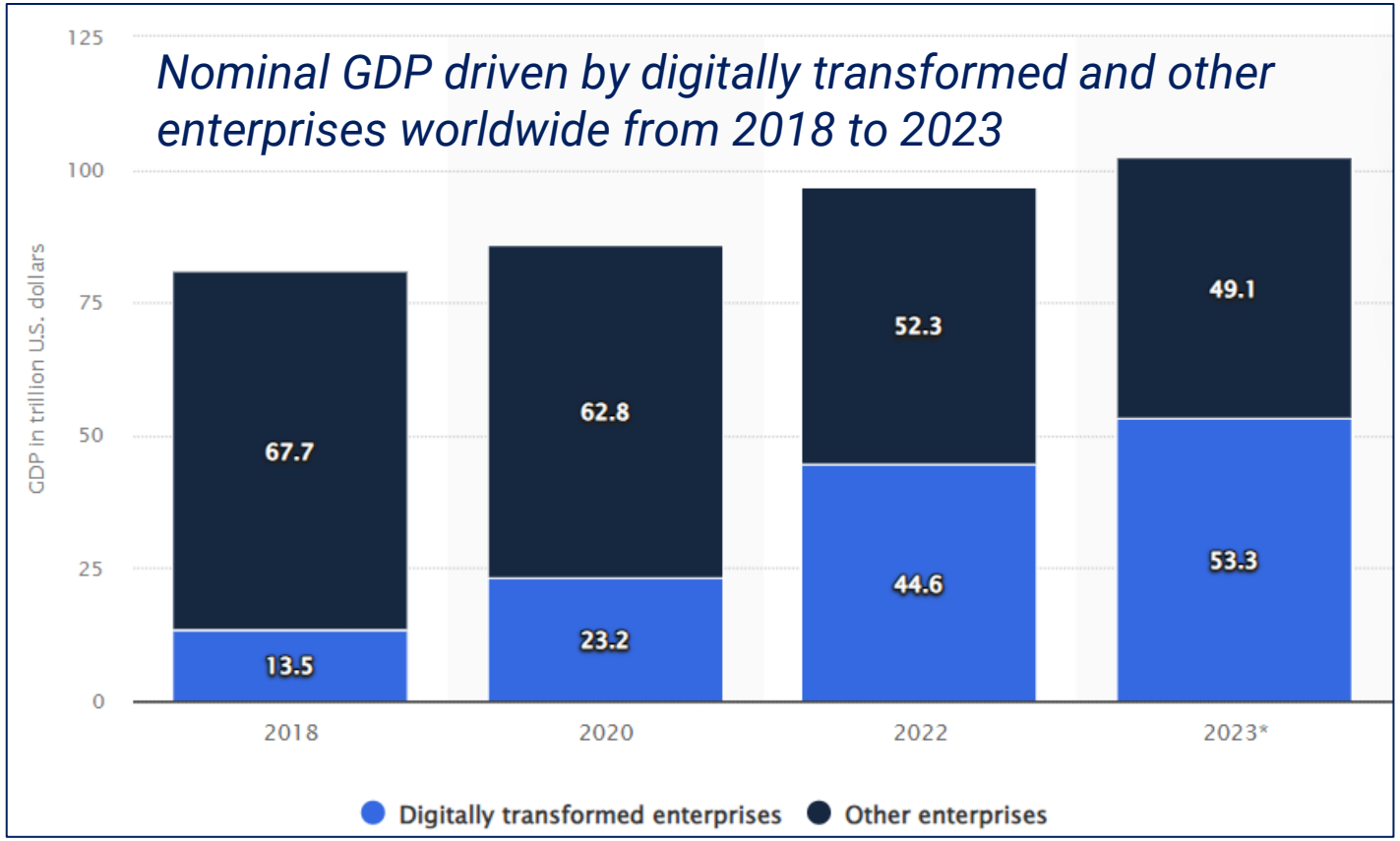
Digitalization and digital transformation

Industry 4.0 and 5.0

I5.0 complements the existing I4.0 approach by specifically putting research and innovation at the service of the transition to a **sustainable, human-centric** and **resilient European industry**

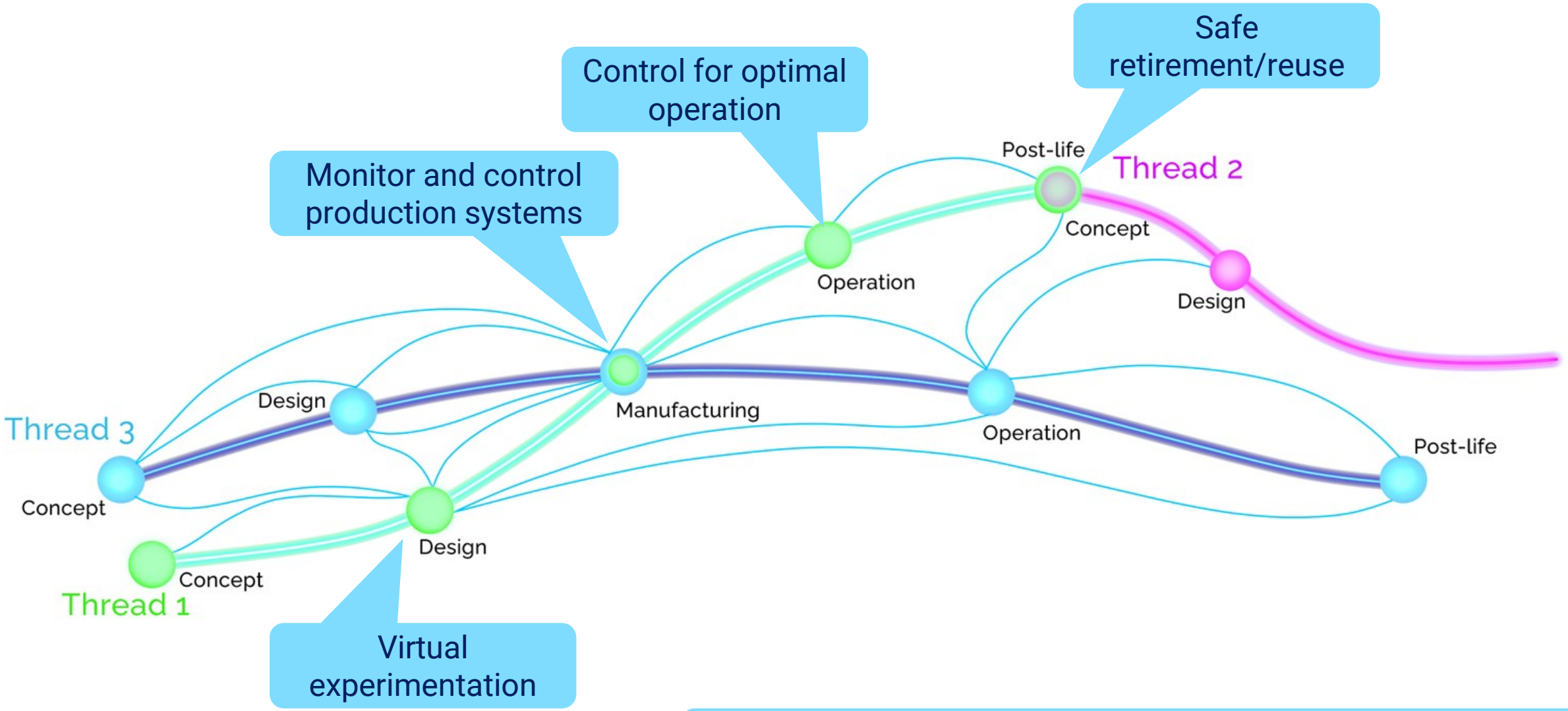
European Commission





https://www.statista.com/statistics/1134766/nominal-gdp-driven-by-digitally-transformed-enterprises/

Digital Twins along the Systems Engineering process



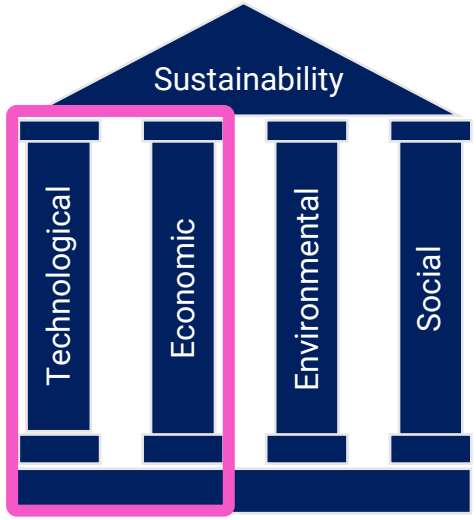
Digital thread ▶ Digital fabric

I. David, D. Bork, and G. Kappel. "Circular Systems Engineering". In: Software and Systems Modeling (2023)

Digital Twins for Sustainable Design

60% of organizations believe Digital Twin technology is critical to improving sustainability efforts.

(CapGemini, 2022)



Systems Engineering

Sustainable Systems and Methods

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https://www.capgemini.com/us-en/news/press-releases/digital-twins-are-a-catalyst-to-fulfilling-organizations-sustainability-agenda/