DIGITAL TWIN

pSeven USER CONFERENCE 2023

Bruno Trebucq 2023 October

CGI BUSINESS CONSULTING

Digital Twin: What & Why ?

What ?

A holistic set of **multiple & consistent synchronized Virtual views** of the **Physical System** (Processes, Services) to represent its **"real" behaviors (real data)**

Why ?

Along its **whole life cycle**, enabling to understand, **optimize, predict and drive Solution Performance & Operations** across its usages, **real data –based,** acquired from on **each instance of physical system**

- ✓ Digital Twin exists **as soon as the Physical system is built & alive** with its **own operational data** (*real-time and historical)*
- ✓ Digital Twin has **strong foundations** into **System Engineering** and **MBSE** along its **whole life cycle**
- ✗ Digital Twin do **not belong to a given function or organization** but is **transverse** to enterprise value chain
- ✗ Digital Twin is **not a unique tool** but a **world of unique**, **consistent and continuous models and data**

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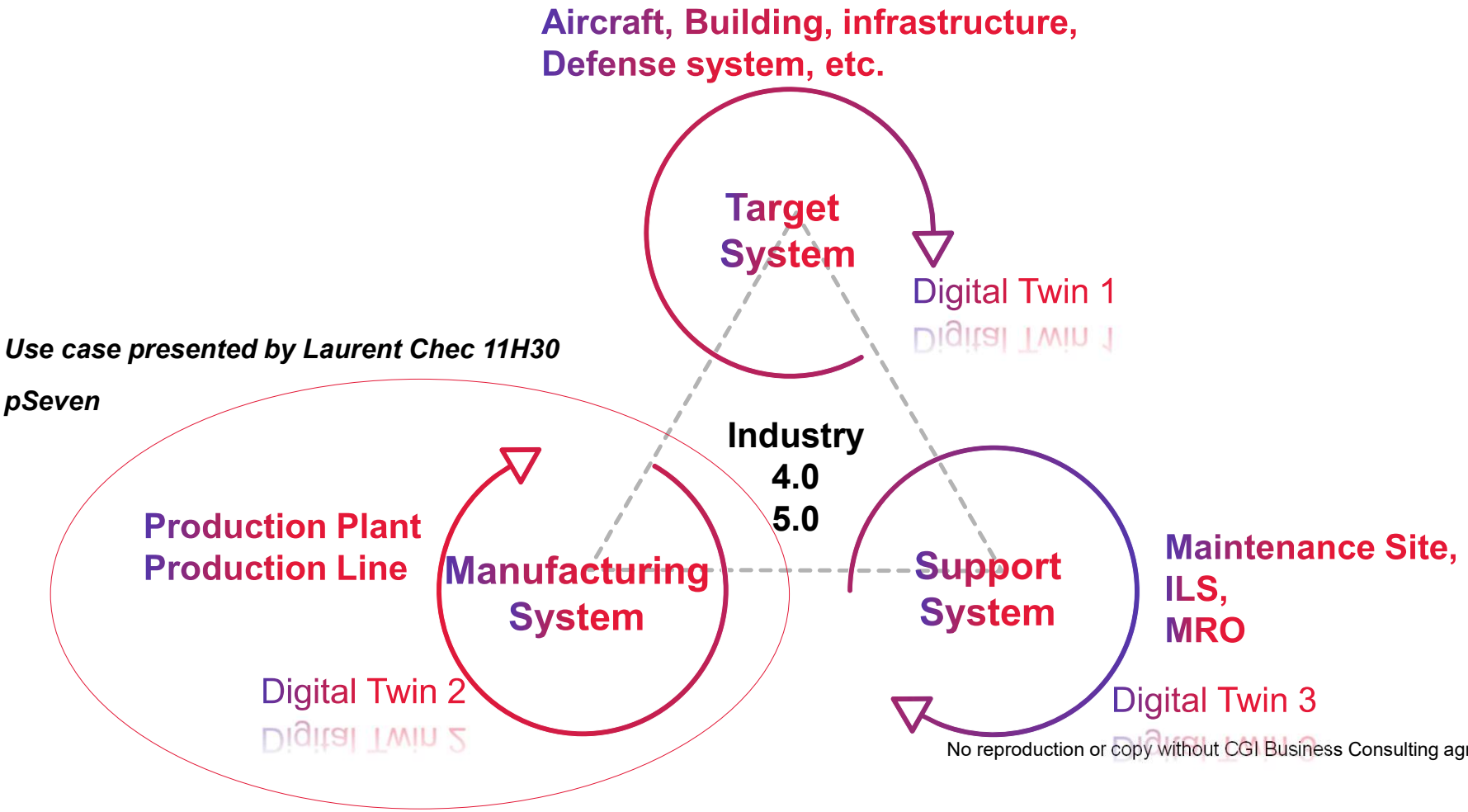
3 main types of Systems with their own DIGITAL TWIN



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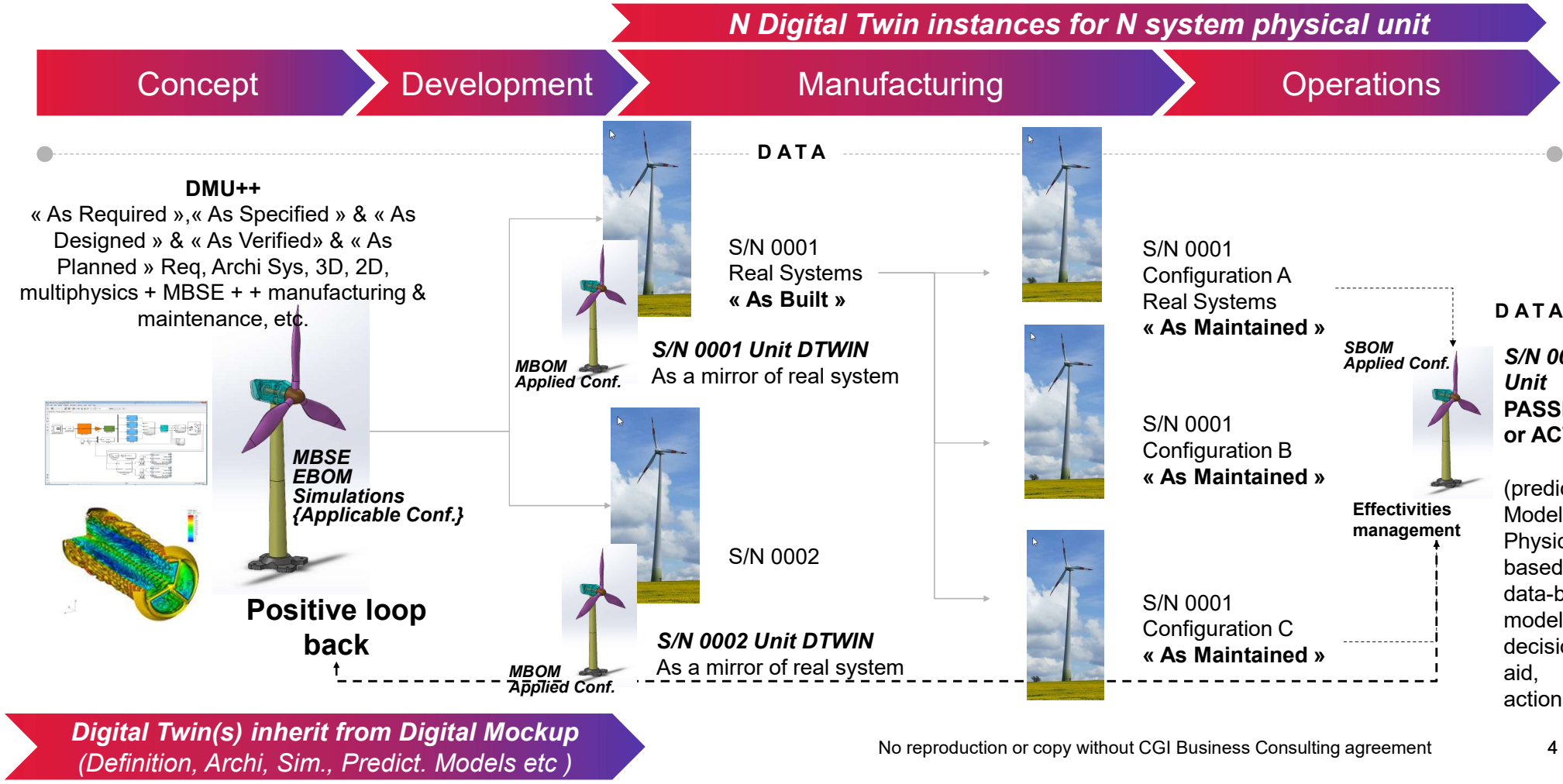
What is a Digital Twin?



Digital Twin(s) inherit from Digital Mockup
(Definition, Archi, Sim., Predict. Models etc)

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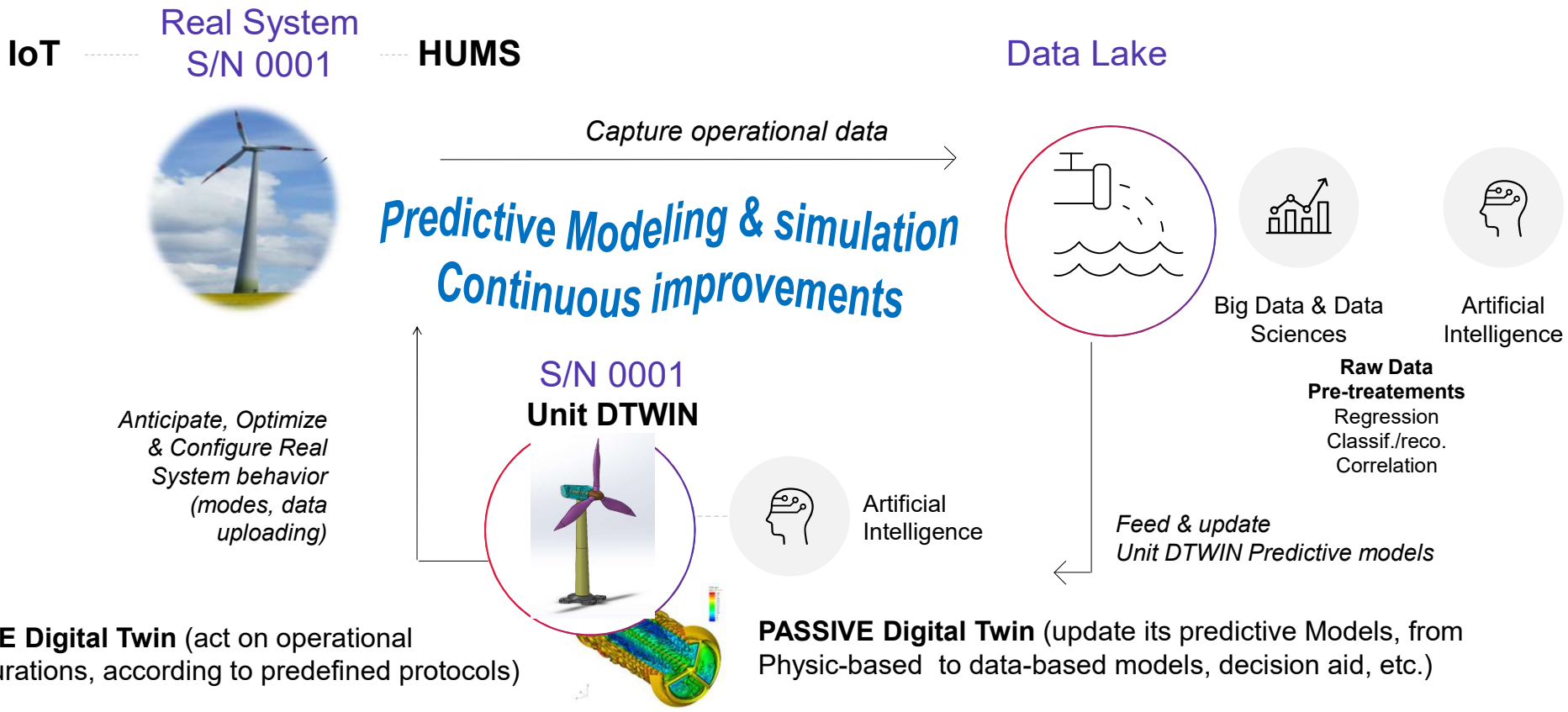

ACTIVE Digital Twin (act on operational configurations, according to predefined protocols)

PASSIVE Digital Twin (update its predictive Models, from Physic-based to data-based models, decision aid, etc.)

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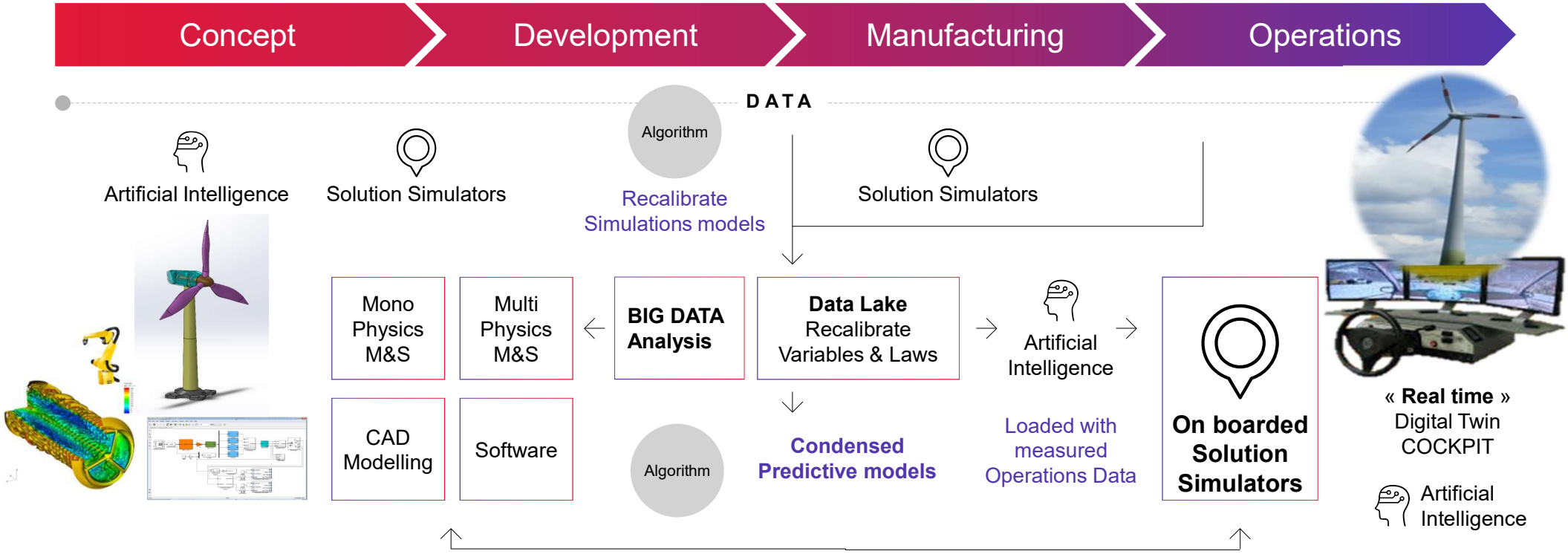
Our Vision for real operational digital twin



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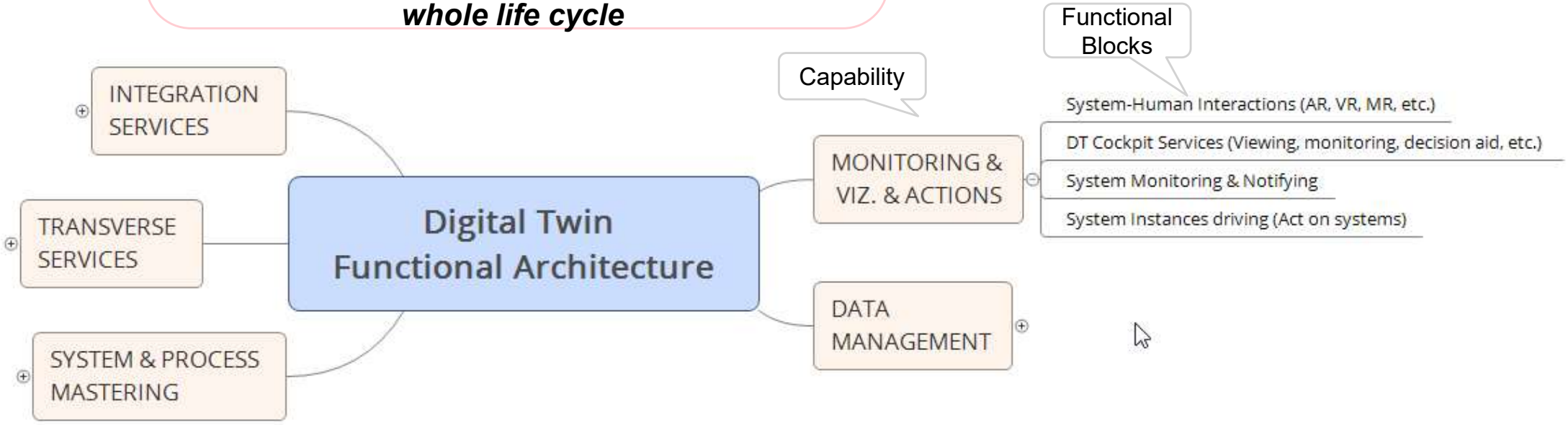
Digital Twin Architecture: 5 Capabilities & 40 Functional Blocks

All the Functional Blocks covering the Digital Twin scope across System – Process – Services whole life cycle



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Thank you

“Knowledge helps one know of a problem or situation and how it came to happen.

Intelligence, on the other hand, helps an individual to design ways to deal with that situation or solve the problem at hand”

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