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Why many digital twins fail

Many projects provide data, but few support decision-making.
What is the reason for this?

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Data alone does not constitute a digital twin.

Many projects focus on:

- **Sensory**
- **Dashboards**
- **Data storage**

But data only shows the current state.

A true digital twin helps to prepare decisions and identify risks early on.

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Without simulation, there is no way to see into the future.

Data shows what happened. Simulation shows what could happen.

This allows you to check, for example:

- **new production concepts**
- **Material flows**
- **Capacities**
- **bottlenecks**

before changes are implemented.

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Emulation tests the controller before commissioning.

Through emulation, the real control software communicates directly with the virtual model. This allows for testing:

- **SPS-Programme**
- **Material flows**
- **Plant logics**
- **states of emergency**

without real investment and without production risk.

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Virtual commissioning reduces risks

Controls and processes can be tested before production starts.

This allows:

- **Detect errors earlier**
- **Reduce start-up times**
- **Avoid production downtime**

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The benefit must be clearly defined.

Successful projects don't start with technology. They start with questions like:

- **Where do bottlenecks occur?**
- **How can the ramp-up be secured?**
- **Which option is more economical?**
- **How can downtime be reduced?**

The use case determines the digital twin, not the other way around.

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Only the combination creates added value

The greatest benefit comes from the combination of:

- **Real-time data**
- **Simulation**
- **Emulation**
- **Virtual commissioning**
- **AI**

In this way, a digital representation becomes a tool for informed decisions.

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The digital twin becomes a decision-making system

Modern digital twins do more than just show what's happening. They help to...

- **assess future developments**
- **Securing control systems**
- **Preparing for commissioning**
- **Continuously improving processes**

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