



**Fraunhofer**  
ACADEMY

Certification program

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# Mastering Digital Twins

[www.academy.fraunhofer.de/en.html](http://www.academy.fraunhofer.de/en.html)





"Digital twins are the key game changer in digital transformation in order to make lifecycles more efficient and sustainable."

**Dr. Kai Lindow,**

Head of the Virtual Product Creation division,  
Fraunhofer Institute for Production Systems  
and Design Technology IPK



## Digital twins – the key game changer

A digital twin represents reality: Not only can it visualize the geometric appearance and structure of products or systems, it can also replicate their behavior. It can not only visualize the geometric appearance and structure, but also the behavior of products or systems. It merges reality and virtuality, creates transparency within complex engineering and operation processes and is an indispensable tool for the development and operation of cyber physical systems (CPS). Digital twins can assist companies throughout their whole chain of value creation by using digital data for enhanced clarity.

The technology makes it possible to observe, analyze, visualize, simulate, interact and integrate intelligent products and production throughout their lifecycles. Companies need to start learning to customize digital twins to their value creation realities and to design their capabilities accordingly.

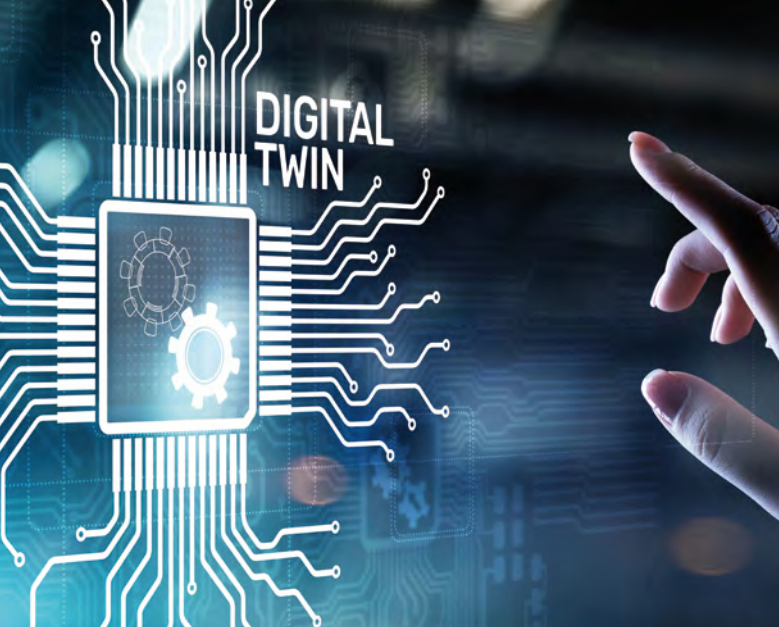
## New ways to drive business value and not lag behind

**Mastering Digital Twins** is designed as a modular online learning program and tailored to meet the training needs of professionals from various disciplines.

It provides in-depth knowledge about all lifecycle phases of digital twins (ideation, design, development, operation and end of life) and a clear understanding of their business potential in different industry scenarios.

### What you will get:

- Application-oriented content compiled by experienced experts from industry and research.
- A holistic perspective on digital twins as a multi-faceted strategic topic rather than focusing solely on technological aspects.



## Program information

- **Format:** Online learning
- **Language:** English
- **Certificate:** Upon successful examination, participants receive a certificate from the Fraunhofer Personnel Certification Authority
- **Time frame:** 10 hours of online coursework

### Bookable learning packages:

	Online coursework	Expert seminar	Certification
Option 1	€ 490		
Option 2		€ 690	
Option 3	€ 1080		
Option 4			€ 690

## You will learn...

- How to master digital twins from concept to technical implementation.
- How digital twins can add real value to your business.
- The potential of digital twins and how to turn them into a business advantage for your company.

## Your added value

- Boost your management or engineering career with comprehensive knowledge of this essential Industry 4.0-tool.
- Support digital transformation in your company with knowledgeable answers to questions on how to realize the potential of a digital twin approach.
- Obtain an internationally valid certification (according to ISO 17024).

Online expert seminar: Talk to our experts in a seminar tailored to your individual needs and questions.

In-house seminars are available on request.

The Mastering Digital Twins certification program is designed and offered by experts from:






We look forward to welcoming you to our program!



For further information, please visit our website.

# Program structure

Choose the certified track that best fits your needs:

	 <b>Certified Digital Twins Business Consultant</b>	 <b>Certified Digital Twins Solutions Architect</b>	 <b>Certified Digital Twins Technical Developer</b>
<b>Basics</b>	Definitions, life cycle of products and digital twins		
	Application examples for digital twins		
	Overview of methodical twin development		
	Overview of technologies for digital twins		
	Overview of capabilities for digital twins		
<b>Strategic knowledge</b>	Added value and different types of digital twins		
	Challenges and requirements when adopting digital twins		
	Methodic development of digital twins		
	Essential support technologies for enabling digital twins		
<b>Specific knowledge</b>	Change management at the organization level	Managing digital twin projects	Engineering IT and APIs
	Competencies and capabilities	Defining digital twin use cases	Clouds and edges
	Designing business models	Detailed consideration of the technologies	Data security and secure architectures
	Digital twins as part of smart products	Digital twin administration	Data analytics and AI
	Managing digital twin projects	IT-systems and architecture	Databases
	Proof and progress methods	Data security and secure architectures	Semantics and ontologies
		Twin modeling and testing	Digital Factory
		Simulation and automation	
		Extended Reality	
		Sustainability and LCA assessment	
<b>Target groups</b>	<ul style="list-style-type: none"> <li>• Business developers</li> <li>• Decision-makers</li> <li>• Consultants</li> </ul>	<ul style="list-style-type: none"> <li>• Operational managers</li> <li>• Team leaders</li> </ul>	<ul style="list-style-type: none"> <li>• Technology specialists</li> </ul>



# Contact

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## Do you have any questions for us?



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## Regarding other professional training courses:



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[www.academy.fraunhofer.de/  
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