

Swissbau 2024

Professional Certification

Ausbildung für die Zukunft des Bauwesens

Mark Baldwin - 17 Januar 2024

HSLU Hochschule
Luzern



BAUEN DIGITAL SCHWEIZ
BÂTIR DIGITAL SUISSE
COSTRUZIONE DIGITALE SVIZZERA
CONSTRUIR DIGITAL SVIZRA

Home of



Vorstellungen



Prof. Mark Baldwin

Vorstand, **Bauen digital Schweiz**
Leiter, **buildingSMART** Professional Certification
Co-Studiengangleiter Digital Construction
Hochschule Luzern



Tätigkeiten

- Experte, CEN / TC442
- Experte, ISO / TC59 SC13
- Mitglied, European Council on Computing in Construction, Education Committee

Der europäische Bausektor



Jährlicher Umsatz

**1.3
Billion €**



Anzahl der Mitarbeiter

**18
Million**

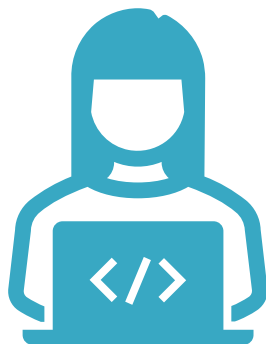


**Einsparungspotenzial
durch Digitalisierung**

**130
Milliarde €**

Quelle: EU BIM Handbook

Herausforderungen für die Baubranche

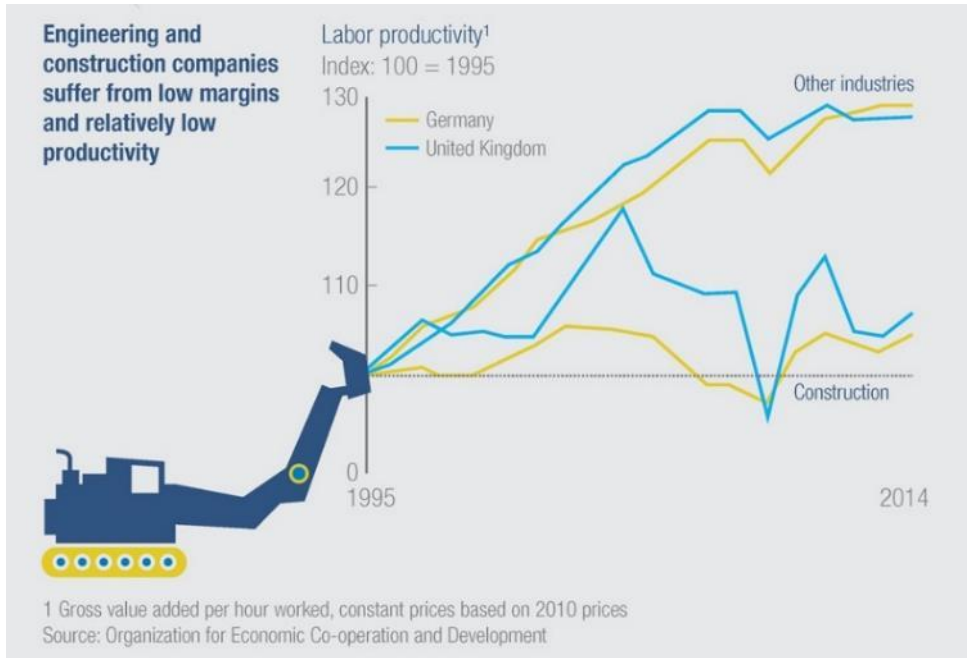


Steigende Komplexität

Nachhaltigkeit

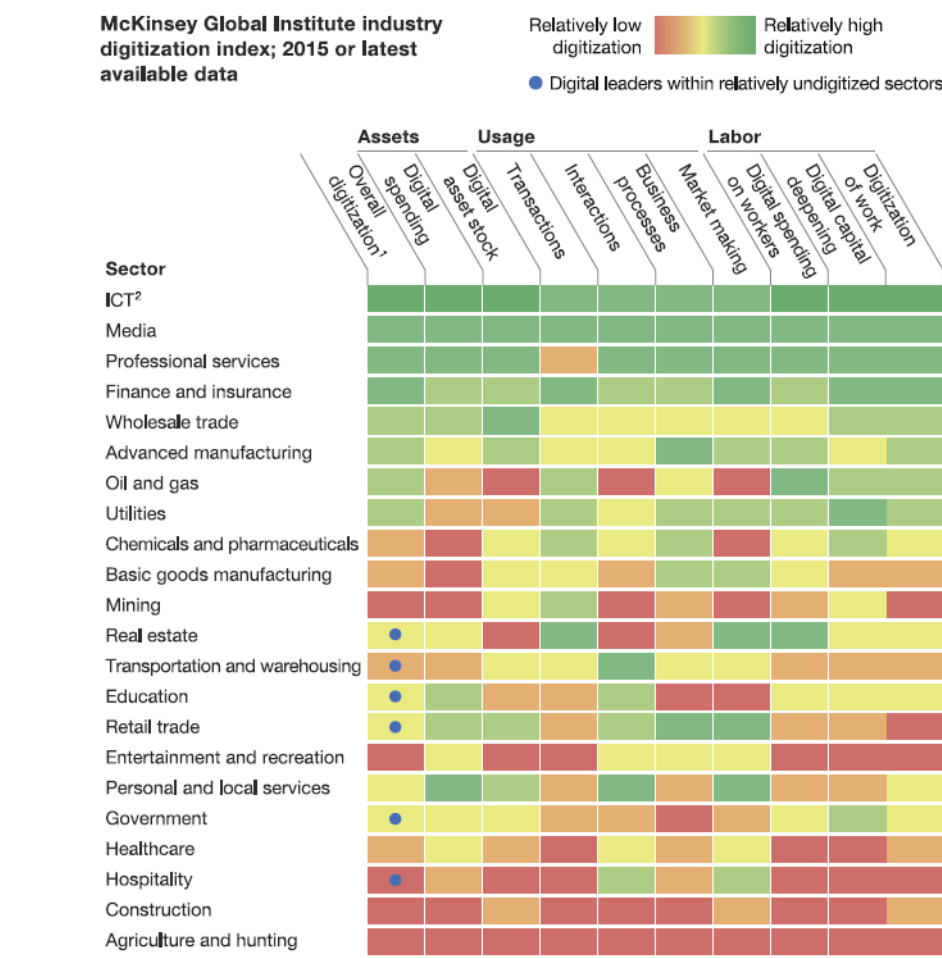
Fehlende Digitalisierung

Fachkräftemangel



<https://www.mckinsey.com/business-functions/operations/our-insights/imagining-constructions-digital-future-infographic>

*Die Erstellung und der Betrieb von Gebäuden sind für etwa **1/3 des gesamten CO2-Ausstosses und Materialverbrauchs** verantwortlich.*



<https://journeyapps.com/blog/which-industries-most-digital-why/>

Planer/Modellierer BIM, Digitalisiertes Bauen (w/m/d)

Sersa Group Management
Zürich, ZH

- Die Sersa ist eines der führenden Bahntechnikunternehmen Europas und zählt zur Rhomberg Sersa Rail Group.
- Zur Verstärkung unseres Teams suchen wir Sie als.

5 days ago • [Save job](#) • more...

BIM Manager (m/w) 80-100%

intermediäre
Zürich, ZH

- Für ein international tätiges Beratungsunternehmen für den Bau- und Immobiliensektor suchen wir eine ambitionierte und engagierte Persönlichkeit als BIM Manager...

7 days ago • [Save job](#) • more...

buildingSMART Professional Certification

OUR GOAL

SUPPORT THE ENHANCEMENT OF SKILLS
KNOWLEDGE
EXPERTISE OF INDUSTRY PROFESSIONALS



Standardisiert und auf Standards basierend



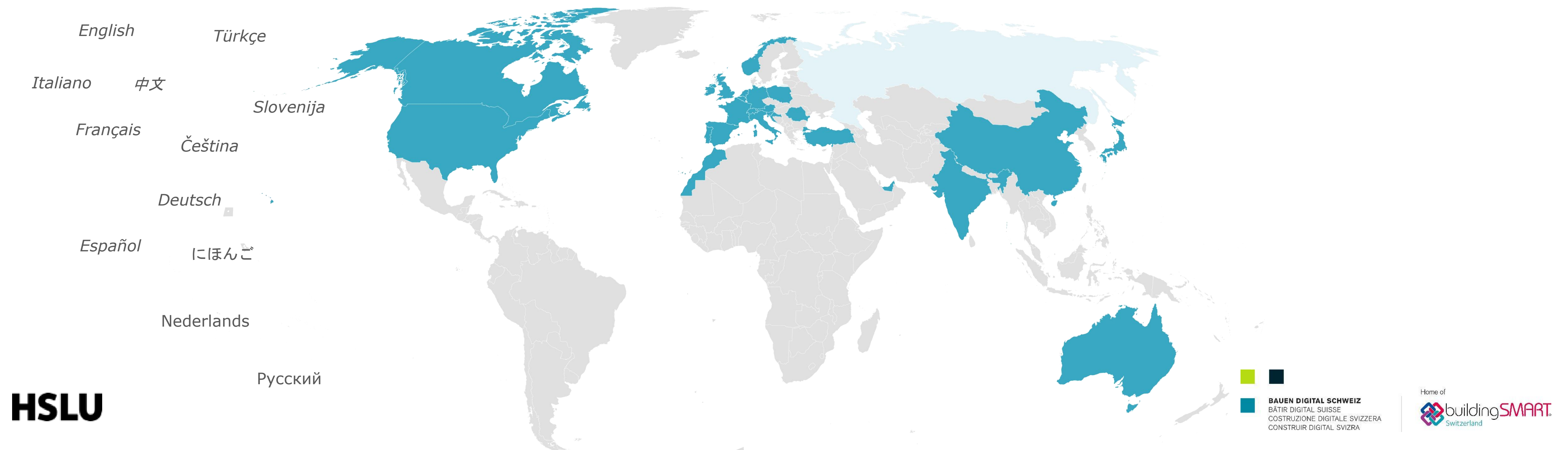
Profesional Certification - Globale Umsetzung

25 Länder

180+ Schulungsanbieter

18'000+ Zertifizierte Personen

12 languages



Professional Certification in der Schweiz

27 Schulungsanbieter

über 3'000 zertifizierte Personen



4 Stufen



1. Entry

2. Foundation

3.
Management

4.
Practitioner

Professional Certification – *NEW and improved!*



Certificates and Badges - for individuals

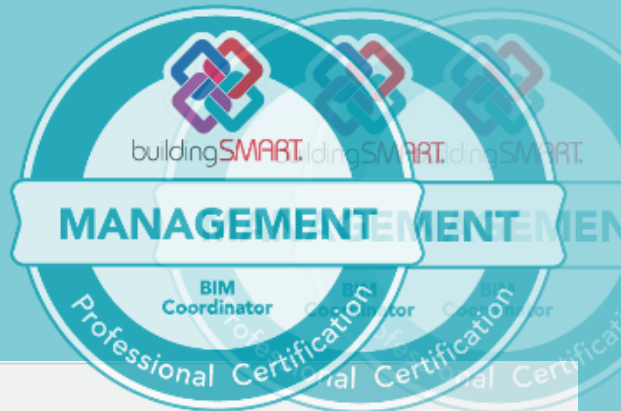
1. Entry



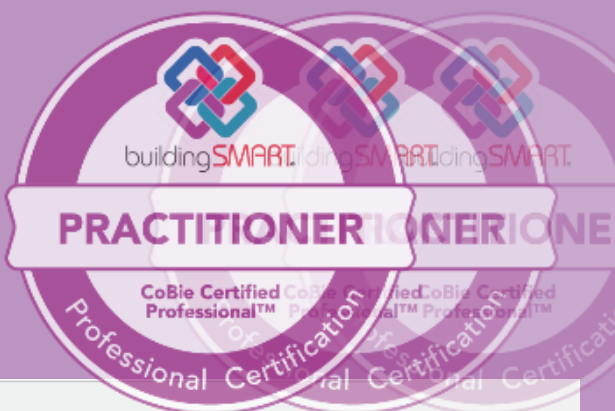
2. Foundation



3A. Management



3B. Practitioner



Certificate and Badge - for Training Providers



CERTIFICATE OF REGISTRATION

Professional Certification Foundation Basic

Registration: xxxxxxxxx

It is hereby confirmed that:

GRAPHISOFT SE

with their course:

BIM Manager Program

meets the requirements to deliver training in accordance with the buildingSMART International Professional Certification - Foundation Basic Exam.

The training provider is entitled to offer courses and issue certificates to successful course participants under the brand of "buildingSMART Professional Certification - Foundation". This entitlement is granted for 24 months from the day of signing and is documented by the listing of the training provider in the buildingSMART International registry on the Professional Certification website.

Date and Location: 09th February 2022, England

Richard Petrie,
Chief Executive
buildingSMART International



Program



Entry Level – bSI self-learning resources and free exam



1. Entry

Entry Level – bSI self-learning resources and free exam



Knowledge sharing with buildingSMART

“OpenBIM collaboration and sharing knowledge is a core principle at buildingSMART....”

We have prepared a set of knowledge videos and articles for the openBIM community globally.

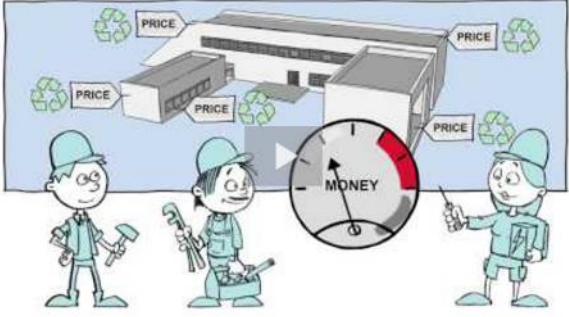
What is openBIM
...COMING SOON

BIM vs openBIM
...COMING SOON

openBIM benefits
...COMING SOON



Open data format
...COMING SOON



emo Int / Demo Exam (2022) / Preview

✓

Demo Exam (2022)

QuizSettingsQuestionsResultsQuestion bankMore

Back

Question 1

Not yet answered

Marked out of 1.00

Flag question

Edit question

Time left 0:04:18

According to ISO19650-1 increasing collaboration benefit is derived as you ascend the:

☐

 a. standards, implementation, deployment and use case layers.

☐

 b. standards, technology, information and business layers.

☐

 c. standards, implementations, deployment and business layers.

☐

 d. standards, technology, use case and implementation layers.

Next page

Start Presentation ...

Jump to...

Delete Certificate (hidden) ...

Quiz navigation

Module 1

1

Module 2

2

Module 3

3

Module 4

4

Module 5

5

Finish attempt ...

Start a new preview

Professional Certification – *Foundation Levels*



1. Entry

2. Foundation

Foundation Level – approved course and bSI exam

What do you learn?

The Foundation learning outcome framework (LOF) is one of the core components of the Professional Certification Program.

It contains 5 main learning modules based on international standards.

An additional 6th leaning module (national content) may be available in your region. Please check with your local Chapter for more information.

Foundation Learning Outcomes

01

Understand the definition, key terminologies and benefits of Building Information Modelling (BIM)

- 1.1 Define the drivers that have led to BIM
- 1.2 Define BIM
- 1.3 Identify and Define key BIM terminology
- 1.4 Know the information management maturity stage, according to ISO 19650-1
- 1.5 Define what constitutes an Information Model

02

Recognise the advantages of BIM compared to traditional project delivery

- 2.1 Know why collaborative and new ways of working are required
- 2.2 Identify the effects of poor information management on projects
- 2.3 Identify the processes and standards developed to mitigate poor information
- 2.4 Identify the benefits of BIM for design and construction professionals
- 2.5 Identify the benefits of BIM for facility owners and operators

03

Understand project information management, with BIM, according to the ISO 19650 series

- 3.1 Understand why appointing parties need to clearly define their requirements
- 3.2 Understand the content and value of a BIM Execution Plan (BEP)
- 3.3 Know why consistent information exchanges are required
- 3.4 Identify the key elements and benefits of using a Common Data Environment (CDE)
- 3.5 Know why clearly defined information management roles are required
- 3.6 Know why assessing potential supply chain members before appointment is required

04

Recognise the need for open and interoperable solutions

- 4.1 Know what buildingSMART is and what it represents
- 4.2 Define openBIM® and its benefits compared to using proprietary solutions
- 4.3 Know what IFC is and its benefits
- 4.4 Know what MVDs are and their benefits
- 4.5 Know what IDMs are and their benefits
- 4.6 Know what the bSDD is and its benefits
- 4.7 Know what BCF is and its benefits

05

Understand the terms and measures of BIM capability within an organisation

- 5.1 Understand the potential benefits for a company in adopting BIM
- 5.2 Understand the factors that define an organisation's level of BIM Maturity
- 5.3 Know why BIM adoption needs to align to organisational goals
- 5.4 Identify the benefits and challenges to BIM adoption
- 5.5 Know what the data security implications are for adopting BIM

Demo Int / Demo Exam (2022) / Preview

Demo Exam (2022)

Quiz

Settings

Questions

Results

Question bank

More ▾

Back

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☐ c. standards, implementations, deployment and business layers.

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Time left 0:04:18

Next page

Start Presentation ...

Jump to...

Delete Certificate (hidden) ▶▶

Quiz navigation

Module 1

1

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2

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3

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4

Module 5

5


Finish attempt ...

Start a new preview

Professional Certification – *Management Level*



Management Level Curricula



Management Level

The Management level covers essential knowledge and skills for every **project manager**, supply chain or client representative, using openBIM® to design, deliver, and operate projects. This prepares project teams to specify requirements, manage and execute projects, leverage new technologies, and processes, gaining value from the new objectives they support.


This level offers educational content and qualifications for knowledge-based learning based on ISO- 19650. It's a step up from the Foundation level, but not as advanced as the Practitioner level that requires in depth technical knowledge.

This level is useful for project managers and teammates who want to improve their skills and understand how open standards impact project management.

Prerequisites: Professional Certification - Foundation training

Exam format: online, 25-30 multiple choice questions


COBie



This exam is for individuals who wish to have the basic knowledge and understanding of COBie.

MORE


Appointing Party



Coming soon

Notify me


Appointed Party



Coming soon

Notify me


Energy Performance



Coming soon

Notify me

Infrastructure



Coming soon

Notify me

Find my Training Provider

Register to our exam platform and do the free demo

Management Level – approved course and bSI exam

What do you learn?

The Foundation learning outcome framemwork (LOF) is one of the core components of the Professional Certification Program.

It contains 5 main learning modules based on international standards.

An additional 6th leaning module (national content) may be available in your region. Please check with your local Chapter for more information.

Describe the basis for COBie requirements.

- F-1.1 Locate the document containing the COBie standard.
- F-1.2 Identify the current version number of the COBie standard.
- F-1.3 Locate the underlying ISO standard upon which COBie is based.
- F-1.4 Describe the file formats allowed for COBie information delivery.
- F-1.5 Describe the parties who contribute to the delivery of COBie data.
- F-1.6 Explain COBie data elements contributed by each party.

Describe why COBie is needed.

- F-2.1 Describe Facility Owner benefit(s).
- F-2.2 Describe Facility Manager benefit(s).
- F-2.3 Describe Contractors benefits(s).
- F-2.4 Describe Subcontractors benefit(s).
- F-2.5 Describe Designer and Consultant benefit(s).

Explain what is included in COBie.

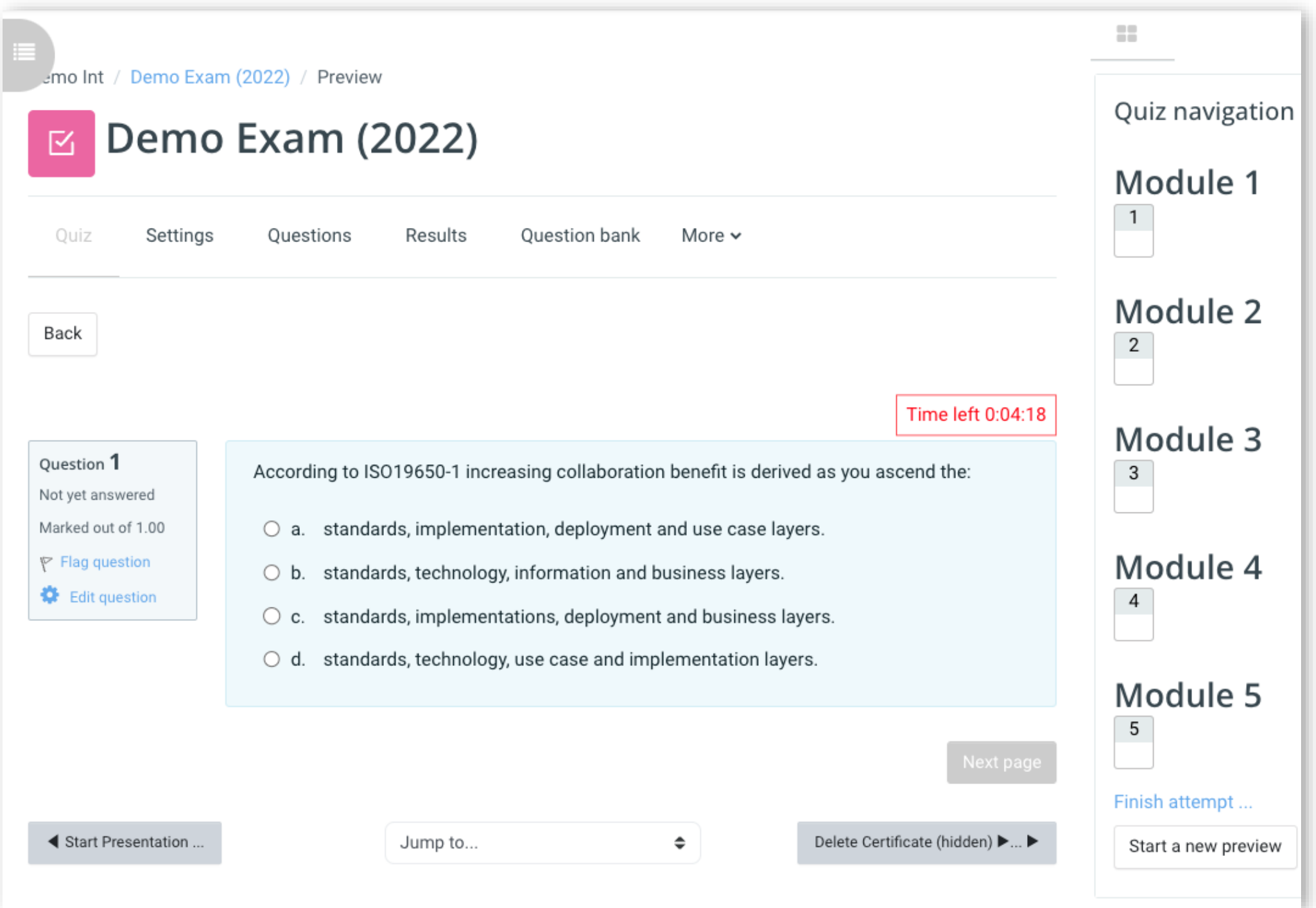
- F-3.1 Explain project types for which COBie deliverable is relevant.
- F-3.2 Identify facility elements that may not be included in COBie.
- F-3.3 Identify facility elements that may be included in COBie.
- F-3.4 Explain the method used to adapt the list of elements.
- F-3.5 Explain the role of classification with a COBie data set.
- F-3.6 Locate the default classification contained within the COBie standard.

Explain how COBie is organized.

- F-4.1 Describe the two hierarchies behind the COBie structure.
- F-4.2 Describe the data sets needed for each hierarchy.
- F-4.4 Describe the data sets used in common.
- F-4.5 Explain each element in all commonly used COBie data sets.
- F-4.6 Explain the allowable data types in a COBie spreadsheet.
- F-4.7 Describe the terminology needed to define a unique COBie object.
- F-4.8 Describe the terminology needed to define relations between COBie objects.

Explain the COBie process.

- F-5.1 Describe how owners may modify allowed COBie objects.
- F-5.2 Describe how owners may specify COBie object properties.
- F-5.3 Describe how owners may specify COBie object classification.
- F-5.4 Describe how owners may specify COBie relations
- F-5.5 Identify COBie data elements provided during design.
- F-5.6 Identify COBie data elements provided during construction.
- F-5.7 Explain the minimum content in COBie deliverables.
- F-5.8 Explain the artifacts included in a complete COBie deliverable.





Practitioner Level

The Practitioner level encompasses a more comprehensive approach and is aligned with ISO 17024 and ISO19650. It corresponds training aimed at a much higher competency threshold, where applicants are challenged to apply their knowledge in a project environment.

This level offers a qualifications that demonstrates your BIM skills and experience, this can make you more desirable to employers, your supply chain and current and potential clients - give you the opportunity to win more work.

COBie Certified Professional TM



This exam is for individuals to demonstrate their technical ability in the understanding, production and monitoring of data delivered in the open-standard COBie format

Exam format: online, 160 questions (2 hs)
Prerequisites: N/A

MORE

openBIM Management



Coming soon

Exam format:
Prerequisites: Professional Certification – Foundation Training

📧 Notify me

openBIM Coordination



Coming soon

Exam format:
Prerequisites: Professional Certification – Foundation Training

📧 Notify me

openBIM Specialism



Coming soon

Exam format:
Prerequisites: Professional Certification – Foundation Training

📧 Notify me

Find my Training Provider

Register to our exam platform and do the free demo Exam



Current Status (Practitioner level)



COBie Certified Professional

1 Registered Training Provider
12 certified individuals



openBIM Management

National launch in Germany & Austria in Q2 2023
International launch in 2024



openBIM Coordination

National launch in Germany & Austria in Q2 2023
International launch in 2024



openBIM Specialism

National launch in Italy in Q2 2023
International launch in 2024

New Program structure

effective from November 2023

1. Entry



2. Foundation





Professional Certification
Foundation



This is to certify that **Tom Cen**
has successfully passed the Professional Certification - Foundation

This certificate attests to the knowledge and comprehension of openBIM fundamentals for the named individual and to the level stated above, according to the buildingSMART International Professional Certification Program.

Date: 11 March 2022


Richard Petrie
Chief Executive
buildingSMART International


Mark Baldwin,
Professional Certification Leader
buildingSMART International


Huw Roberts,
Chief Executive
GRAPHISOFT


Certification Body


Program


Provider

3. Management





Professional Certification
Management



Certificate No:

This is to certify that
has successfully passed the buildingSMART International COBie Certified Professional™ Exam.

This certificate attests to the knowledge and technical understanding of the named individual in the use of the Construction Operation Building information exchange (COBie) standard.

This certificate is awarded as part of the buildingSMART International Professional Certification Program.

Date:


Richard Petrie,
Chief Executive
buildingSMART International


Mark Baldwin,
Professional Certification Leader
buildingSMART International


Bill East,
COBie Certification Program
buildingSMART International


Delivered by

4. Practitioner





Professional Certification
COBie Certified Professional™



Certificate No:

This is to certify that
has successfully passed the buildingSMART International COBie Certified Professional™ Exam.

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Date:


Richard Petrie,
Chief Executive
buildingSMART International


Mark Baldwin,
Professional Certification Leader
buildingSMART International


Bill East,
COBie Certification Program
buildingSMART International


Delivered by



CERTIFICATE OF REGISTRATION

Professional Certification
Foundation

Registration: xxxxxxxx

It is hereby confirmed that:

GRAPHISOFT SE

with their course:

BIM Manager Program

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Date and Location: 09th February 2022, England

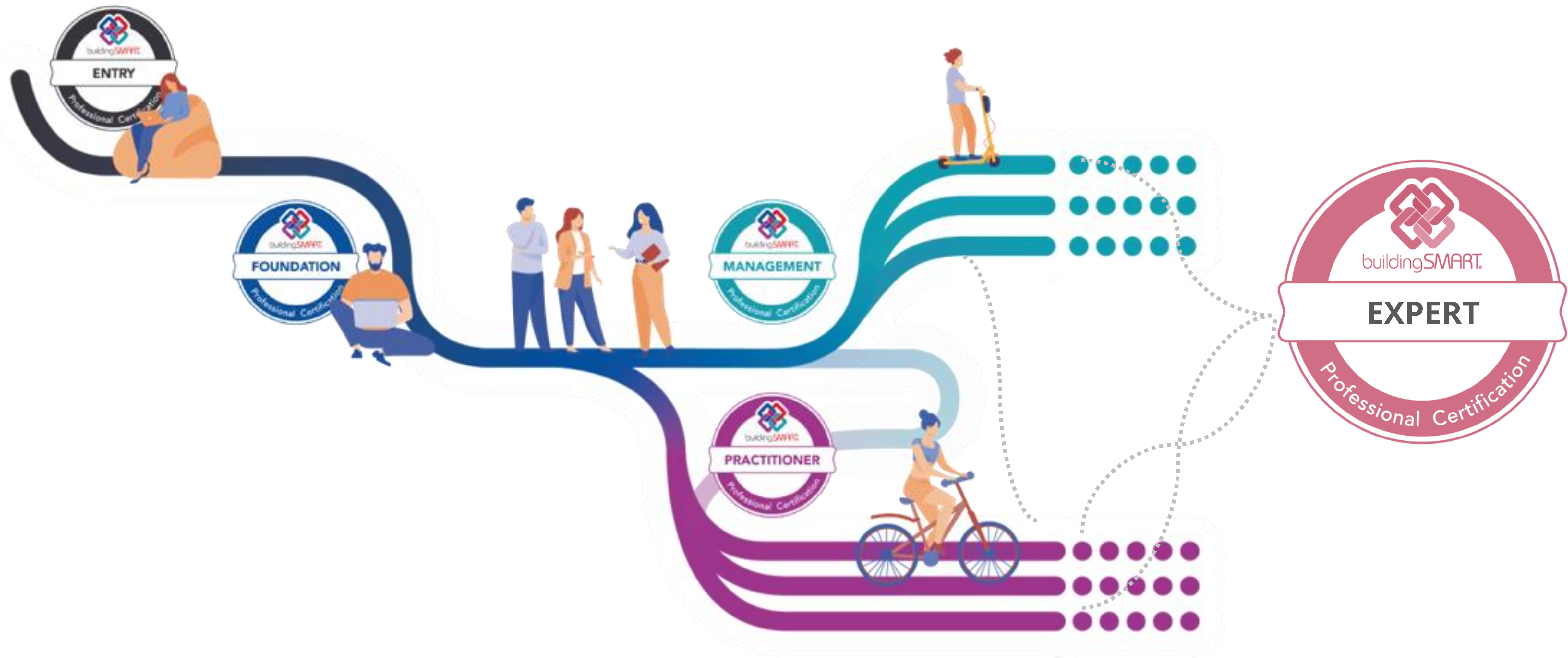
Richard Petrie,
Chief Executive
buildingSMART International

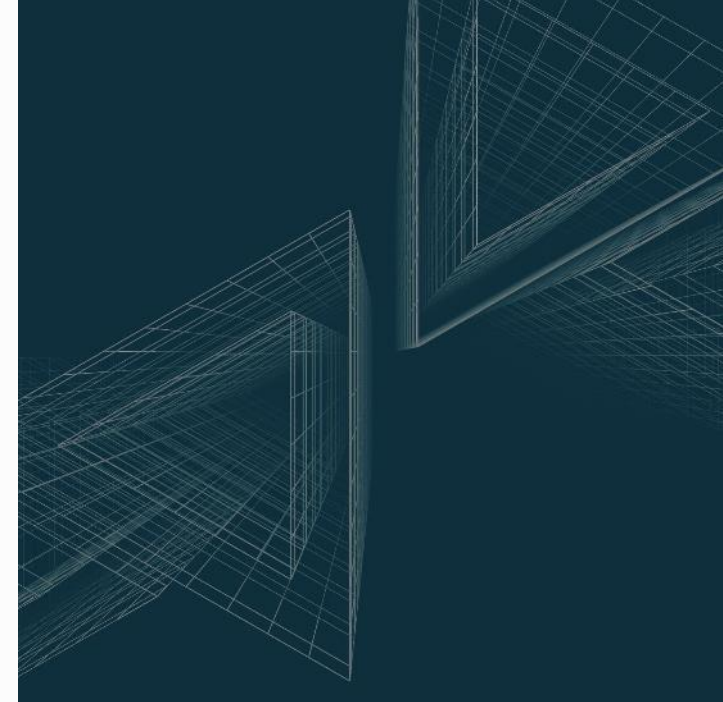
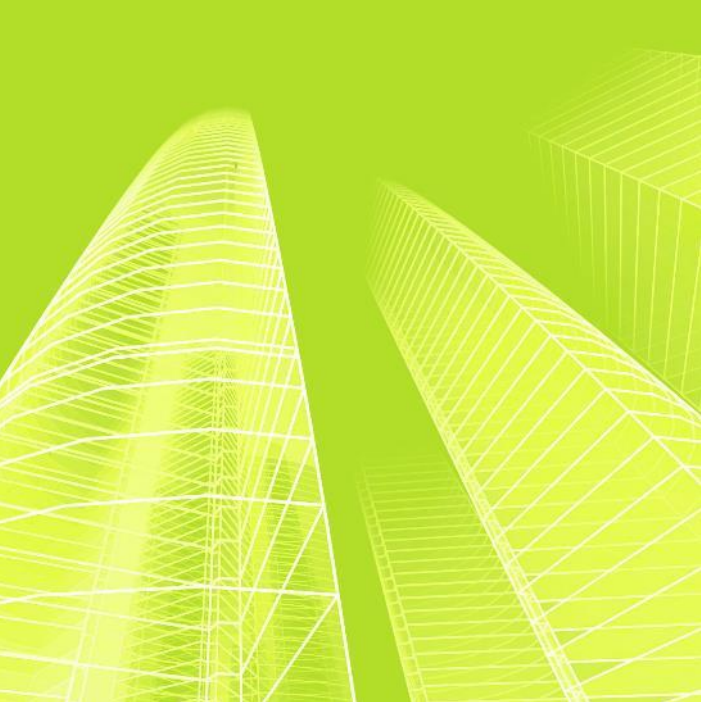


Program



Phase 2: 'Expert' Development



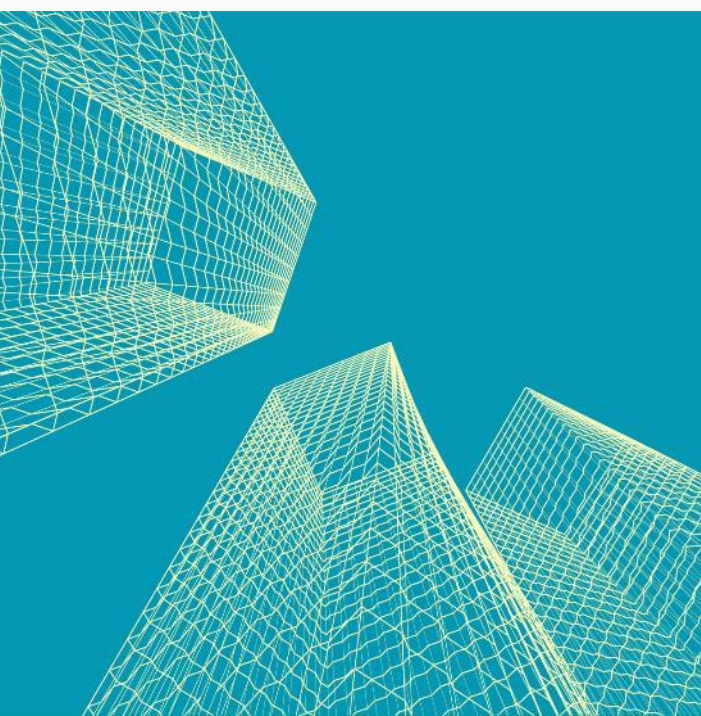


Swissbau 2024

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Mark Baldwin - 17 Januar 2024



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