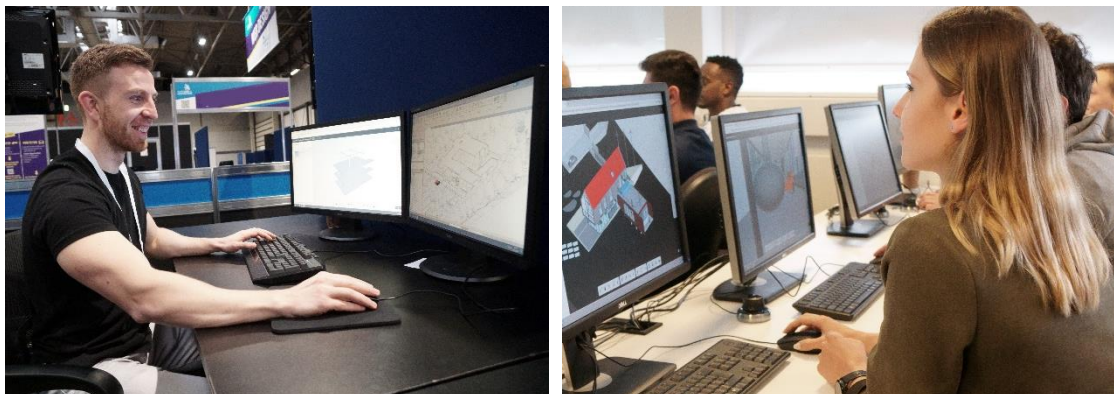


Seeking Germany's Best Emerging Talent in Digital Construction

Are you ready to measure your skills against other professionals in your field? Do you want to meet incredible people and learn new things?

If so, the **State Championship in Digital Construction (Skill 58 - BIM)** in **North Rhine-Westphalia**, happening during the **Open Campus Week "Open minds meet open campus"** at **RWTH Aachen University on September 16 and 17, 2024**, is perfect for you.

Show what you can do and join in!



What is this about?

This event gathers the best professionals from the AEC industry at the North Rhine-Westphalia State Championship in the skill Digital Construction under WorldSkills Germany.

The top qualifiers will advance to the German Championship in Digital Construction and have a chance to join the German National Team for professions. You'll prepare with leading experts for the European or World Professional Championships and have the opportunity to represent Germany in your skill.

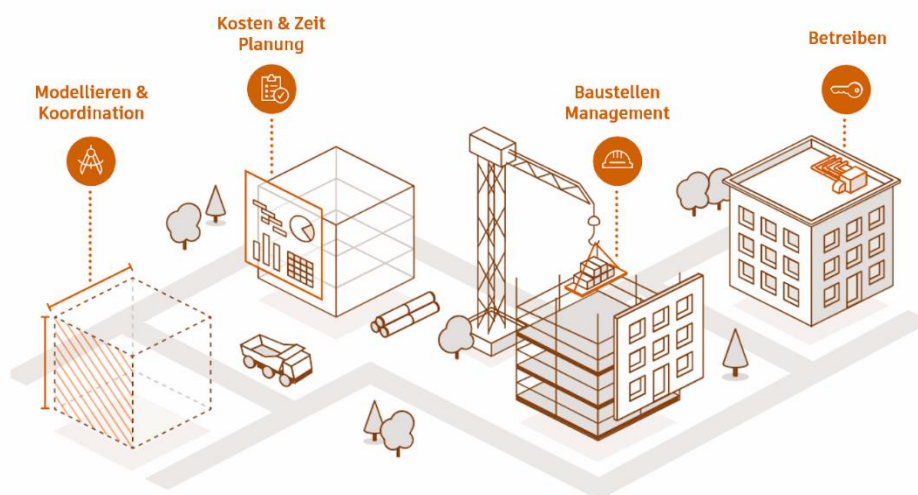
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What do you need to do?

Participants must complete tasks similar to those in training examinations within 6 hours on a competition day—but much more exciting and experiential.

General Task Description:

- Interpretation of a client contract in the form of Client Information Requirements (AIA) and BIM Execution Plan (BEP).
- Model organization, modeling, and plan output.
- Model coordination.
- Integration and organization of changes.
- Model-based cost and time management.
- Digital site management.



Is this complicated? What do I need to qualify?

Not at all!

You mainly need to enjoy your profession and be interested in competitive challenge.

You should also have a solid grasp of the skills learned in your profession.

Once you register, we'll provide you with more details about the process and tasks.

Due to organizational reasons, participation is limited to 20, with selection based on personal interviews and the order of registration entries.

Participation Conditions and Required Competencies in Detail:

- Eligible participants include all industrial and craft apprentices, students, or professionals from the AEC industry across various disciplines,
- BIM designers, technical draftspersons, architects, engineers, or technicians born on or after January 1, 2000,
- Excellent practical skills and good professional knowledge,
- Good English language skills,
- Excellent examination results,
- Competence in action and the ability to further develop these skills,
- Education and residency in Germany.

Required Competencies - Necessary Education

- Completion of vocational training in professions involving technical drawing, with further training in "Digital Construction" or "Building Information Modeling" (BIM).
- School education or diploma from a technical secondary institution with a focus on construction and "Digital Construction" or "Building Information Modeling."
- University education with a focus on construction and "Digital Construction" or "Building Information Modeling."

The following competencies are necessary to handle the tasks:

In the "Digital Construction" competition, tools are used to create, coordinate, and manage digital assets for architecture, engineering, and construction (AEC) throughout the entire project lifecycle. This process, defined in the EN ISO 19650 standard series, facilitates collaboration among the AEC disciplines through Building Information Modeling (BIM). The competition is designed to reflect practical skills for improving the process of delivering and operating the built environment.

In developing the required models, participants must create structural and architectural models from Autodesk Revit DACH templates up to 5D application, fully understand the BIM standards of EN ISO 19650-1 and 19650-2, and be able to apply their knowledge and skills in various practical situations.

Comprehensive knowledge of software products is necessary for the implementation of the task:

- Autodesk Revit 2023
- Autodesk Navisworks Manage 2023
- Autodesk Construction Cloud (Autodesk BIM Collaborate Pro, Autodesk Build, Autodesk Takeoff)

Additionally, familiarity with and knowledge of the functions of Autodesk Docs, the common communication and data platform (CDE), are required.



The key professional requirements can be summarized as follows:

Interpretation of a client order:

- Analyze and interpret the client order in terms of Client Information Requirements (CIA / specification) to determine:
 - Content and requirements of the project to be modeled
 - Client objectives
 - Scope of coordination and communication objectives
- Document or supplement the necessary steps in a simple BIM Project Execution Plan (BEP) to explain the implemented steps to meet the requirements from the CIA (client requirements)
- Model within the Common Data Environment (CDE) according to the CIA and BEP requirements with consideration for the entire project lifecycle, while granting the jury full access and decision-making rights for the project and folder structure for the duration of the competition.

Model Organization, Modeling, and Plan Output

- Open a suitable template model from the corresponding directory within the CDE and set it up as a collaborative model.
- Populate the project properties with the following minimum information:
 - Set the project location.
 - Establish the work areas including view organization.
 - Create a structural grid.
 - Develop the model according to the requirements from the AIA or BEP (e.g., parameter extensions).
 - Incorporate external CAD data by referencing.
 - Set up view filters and organize the plans to be issued.
 - Use simple visual programming in Dynamo to support modeling processes.
 - Save the model in the specified folder structure on the CDE.
- Release the BIM project for collaboration and use by other disciplines.
- Create a visualization of the coordination model for marketing purposes (materialization, composition, and lighting), including animations of a model with Enscape.

Model Coordination

- Create a coordination model from multiple specialist models according to requirements from AIA and BEP.
- Ensure the quality of the coordination model through visual initial inspection.
- Conduct Hard-Clash Detections according to BEP.
- Compile all results from the Hard-Clash Detection in the model in CollaboratePro and export the tasks to a BCF file according to BEP, and distribute the resulting tasks on the CDE.
- Save and issue the coordination model according to BEP.
- Locate and identify clashes in a provided coordination model; for each detected “issue”:
 - Create the “issue marker.”
 - Add a note describing the problem.
 - Assign the problem to the BIM coordinator in the project.
 - Name the view according to BEP.

Incorporation of Changes

- Update the coordination model and adapt the specialist models according to specifications.
- Ensure that all required assets have the necessary COBie data.
- Add classification information to the model elements, referencing the requirements from AIA or BEP.
- Output floor plans, sections, and other projections from the adapted coordination model.
- Create, design, and dimension plans.
- Organize digital meetings, including documentation:
 - Create a digital meeting record.
 - Assign tasks to various participants with deadline tracking.

Model-Based Cost and Time Management

- Enrich model contents with cost and time metrics based on predefined values.
- Evaluate model contents and create a cost estimate for specific areas.
- Evaluate model contents and develop a phase plan for specific areas.

Digital Construction Site Management

- Create and edit a digital construction site defect list.
- Document defects via PC or app (photo).
- Assign defects to responsible companies.

Theoretical Knowledge

Theoretical knowledge will not be additionally tested as it is a prerequisite for successful task completion.

Apply by no later than August 20, 2024. Here is the link to the registration form.

For more information, visit <https://www.worldskillsgermany.com/>

Company/Educational Institution Participation

Every educational institution/company that registers a participant must compulsorily provide an instructor/supervisor as an expert.

These experts form the jury at the competition, which evaluates the results daily. All experts are prepared as needed in a separate personal or online meeting as part of an experts' gathering.

Privacy Notice

WorldSkills Germany stores the data you provide solely for the purpose of partnership communication. WorldSkills Germany does not share personal data with third parties. Providing your email address does not automatically subscribe you to the WorldSkills Germany newsletter.

Additional Information on Participation

Costs for the State Competition:

Travel and accommodation costs are borne by the participant or their company/training institution. There is no entry fee per participant for the national preliminary and the federal competition.

The booking and costs of accommodation are covered by the participating individuals/companies.

Information on Participation in WorldSkills and Sending a Participant

The costs for international participation are generally covered by funding measures up to 80%. Only a small self-contribution remains with the company for the participant and expert (e.g., in 2019, approximately EUR 1,200 per person). The sending company should agree to cover this amount for the unique experience and training of its professional.

Furthermore, there are no additional costs for members due to their membership in WorldSkills Germany. For non-members of WorldSkills Germany e.V., an additional levy of EUR 800 is required for the association's activities. Our member companies and volunteers, who are actively involved with significant personal commitment, keep our WorldSkills movement running with great support. You also benefit from this as a non-member.

What actually is WorldSkills?

Many compare WorldSkills competitions to the Olympic Games, but for professions.

It's a unique and unforgettable experience for everyone who has participated:

"WorldSkills expand your horizons and your skills. Through the international trainings in Moscow, Abu Dhabi, and Leipzig, I've met creatives from various countries and have significantly improved my skills. You learn to approach extensive projects with greater precision, intuition, and speed, and to measure your work against international standards. I highly recommend everyone to take advantage of the unique opportunity to participate in WorldSkills."

Jonas Turtschan, WorldSkills Participant Abu Dhabi 2017

"For apprentices and young professionals, participating in competitions at both the national and international levels is an excellent opportunity to demonstrate their skills. Receiving an award at this level is an ideal springboard for anyone wanting to climb the career ladder. And of course, it also reflects well on the companies that employ such outstanding talents."

Theo Zintel, Education Consultant at the Federal Association of Printing and

WorldSkills Germany – this is the initiative supporting national and international professional competitions. The initiative brings together the commitment and ideas of about 80 members, partners, sponsors, companies, associations, and individuals. Founded in 2006, WorldSkills Germany is the nationally and internationally recognized member organization of WorldSkills International and WorldSkills Europe.

WorldSkills International (www.worldskills.org): WorldSkills is the world's largest vocational education event, held every two years. In 2022, it was held for the first time as a Special Edition in 15 nations worldwide. Approximately 1,000 young people from over 50 countries competed in 61 professional disciplines for medals. Germany was represented by 37 competitors in 31 disciplines.

Contact for information about the competition, registration, and tasks:

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