

# Zukunft Bau

## Short Report

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### Title

Long title: „Conception and development of a standardized evaluation database for software-based structural analysis according to VDI 6201 for the use of structural analysis and design software in BIM-based process chains“

### Occasion / Initial situation

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So far, there is no uniform and established evaluation method for structural analysis and design software to verify the calculations. At the same time, planning processes are increasingly automated software-supported (keyword "BIM"). The software used for this purpose is now to undergo quality assurance on the basis of evaluation examples. Therefore, a standardized, user-supported, web-based example database is being conceptualized and developed.

### Topic of the research project

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Both software producers and software users can enter suitable evaluation examples into the standardized example database. A distinction must be made between active and passive use of the database:

- Active use of the example database means the posting of examples or the review of already posted examples with the aim of legitimising them by confirming the results and providing reliable solutions to the expert public. In this respect, active users will primarily be the software producers who already have a wide range of examples. However, employees in engineering offices and construction companies who are involved with software applications can also participate in this active process of providing and legitimizing examples.
- Passive use of the example database means the use of the examples for the evaluation of the company's own software solutions in terms of benchmarks. The software users will primarily use this.

The research plan provided the following work packages WP:

WP 1) Inspection and evaluation of the existing example databases of the software producers with regard to the current state of quality assurance of software for structural analysis and design. Use of the findings to formulate the target state for a freely accessible and independent example database.

WP 2) Development of criteria for the establishment and use of an example database standardised according to the specifications of guideline VDI 6201.

WP 3) Development and installation of an alpha test version of the example database and its use by qualified alpha testers from among of the practice partners. The aim is to evaluate the criteria defined in WP2 for setting up and using the example database and to optimise them with regard to user-friendliness.

WP 4) Further development and installation of a beta test version of the example database and its use by beta testers from all practice partners. The aim is also to investigate the mechanisms of uploading, testing and approval of the examples in order to develop a concept for an efficient and at the same time reliable administration of the example database.

WP 5) Cataloguing the requirements criteria for information and communication interfaces between the parties involved, on the one hand the software producers and their developers and on the other hand the software users in a designing and checking function. In this phase, the dialogue with the professional public also takes place at seminars and conferences.

### Conclusion

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In the present research project, a standardized, user-supported, web-based example database was conceptualized and developed, named EvaDAT (Evaluation Example Database), which makes it possible to validate software applications for structural analysis and design and bring them up to a uniform (safety) level. The project participants have also uploaded first examples that fulfil the requirements of guideline VDI 6201 and serve as an initial database. The database is freely available and will be filled continuously in the future. It can be accessed digitally via [www.evadat.de](http://www.evadat.de).

## **Key data**

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Short title: Standardized evaluation database for software-based structural analysis

Researcher / Project lead: Prof. Dr.-Ing. Reinhard Harte / Dr.-Ing. Kirsten Stopp

Total costs: 391.392,90 € (granted 469.041,68 €)

Share of federal subsidy: 182.766,89 € (granted 232.041,68 €)

Project duration: 34 month

## **IMAGES:**

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Image 1: Projektpartner\_EvaDAT.png

Caption: Projektpartner