



Autodesk University Round Table Summary

SESSION TITLE	Civil 3D corridors for railroads. Vault as a component of BIM: Actual Experience.
SESSION ID	CV5762-R-P
SPEAKER	Darius Simkunas
COMPANY	JSC Kelprojektas

MAIN DISCUSSION POINTS

- The advantages of Civil 3D in railway engineering.
- The potential of Civil 3D subassemblies using VB.NET and its comparison with the potential of the Subassembly Composer.
- Railway 3D modelling in Civil 3D for two, three or more tracks.
- Management of big railway projects; peculiarities of 3D modelling; distribution of tasks.
- The advantages of railway project management in Autodesk Vault as compared to Data Shortcuts.
- Vault is an important BIM component in a railway project and a link enhancing the cooperation between a BIM expert and a Project Manager without the specific knowledge.

KEY TAKE-AWAYS

- The participants of the round table session were introduced to the advantages of Civil 3D in railway engineering. A table of comparison with other products was presented. The key advantage is efficient collaboration with other participants of the project, and smooth BIM modelling in a team.
- The participants of the round table session were introduced to the potential of Civil 3D structure creation using VB.NET. The discussion included the comparison of the potential of VB.NET and the Subassembly Composer. The conclusion was drawn that currently the Subassembly Composer also enables the creation of required railway structures. The Subassembly Composer is most suitable for engineers without programming expertise.
- The participants of the round table session were introduced to the concept of creating multi-track railways applied at Kelprojektas. Joining of several railway tracks using offsets and height targets was discussed in more detail. The participants of the session approved the presented concept. This practice is applied in many companies.



Autodesk University Round Table Summary

- The participants of the session were introduced to the concept of model management and work distribution in big projects at Kelprojektas. The essence of the concept is breaking down the model into separate files and ensuring teamwork through Data Shortcuts. This good practice is used in many companies.
- The participants of the session were introduced to the key advantages of working in Vault as compared to the Data Shortcuts share folder:
 - The entire project in a single place;
 - Ability to work effectively in a team with remote subdivisions;
 - Open files are stored on local disks making the work with files faster than on the network;
 - Ability to work with files off-line;
 - Ability to go back several versions;
 - Ability to see where the file is used and by whom.
- The participants of the session were interested in the following questions:
 - What system of naming files and Civil 3D elements (alignments, surfaces, profiles, etc.) is used? What measures are taken to ensure the right naming?
 - Kelprojektas has technical documentation which includes detailed description of the naming system. Vault search engine can filter documents that do not comply with the standards, which helps shape the habits of employees.
 - The participants were introduced to the new Vault functionality, the Data Standard, enabling the creation of new files according to pre-set standards.
 - What strategy applies to the archiving of projects?
 - Vault accumulates file versions and revisions. Vault can record the life cycle stages of a file or a folder. Document/catalogue life cycle has an archiving option. Moving the file into the Archive stage cleans the intermediate file versions and leaves only the essential ones. The project is moved to the Archive stage when the object has been built and commissioned. Vault can store the entire project at the file level. 5 years after the completion of the project, the file can be deleted from the Vault and stored outside the Vault. Vault can create a full system backup. The copies can be stored on a tape and even the oldest projects can be restored if necessary. A separate Vault can be used for archive projects so old projects can be deleted from the current Vault environment.
- The participants of the session were introduced to the concept of how Vault enhances the cooperation between a BIM modeller and a Project Manager without the specific knowledge at Kelprojektas. The concept is based on automatic DWF generation during 3D modelling. Thus, the Project Manager can use the Vault client to view alignments, profiles and cross-sections of the model, to track the progress of the project, to control the process of 3D modelling, and to write notes and comments. The Project Manager can see the percentage of completion of the file, the life cycle stage of the file, and by whom and when the file has been uploaded. The BIM modeller can focus on his/her model and be sure that all the information reaches the Project Manager and all solutions are coordinated in a timely fashion.
- The participants of the session were interested in the issues of using Vault in collaboration with external partners.



Autodesk University Round Table Summary

- Kelprojektas uses a Buzzsaw Cloud Server for this purpose. Vault automatically synchronises information to Buzzsaw and vice versa. External partners store information on Buzzsaw by simply uploading or using synchronisation tools.
- The participants of the session also wished to know the potential of programming.
 - Kelprojektas uses the API quite widely, and session CV5768-P_Vault covers the potential of this method in greater detail including examples. Autodesk has a lot of information on-line about the potential of programming with real examples.

SUGGESTED FOLLOW-UP

- All Autodesk products can generate PDF files, which would be highly desirable in the Vault too. The participants believe that this should be included in the basic functionality. DWF files are not enough.
- Helpful link: <http://justonesandzeros.typepad.com>