Civil and Building BIM Coordination for Real

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Key learning objectives

At the end of this class, you will be able to:

- Detect clashes between utility information and building information
- Manually manipulate site coordinates between Civil 3D, Revit, and Navisworks
- Coordinate multi-structure sites effectively using the Revit and Navisworks environment
- Describe technical aspects of the Building Information Modelling (BIM) workflows that are possible in Autodesk® Infrastructure Design Suite
This lecture is aimed at an **intermediate level** software user.

- **Autodesk Revit**: Basic knowledge of Revit is beneficial
- **AutoCAD Civil 3D**: Basic knowledge of AutoCAD is required
- **Autodesk Navisworks**: No prior experience needed

We realise there are few Civil, Revit *and* Navisworks experts
What are we hoping to get?

- **Site Plan**
  - Accurate site map showing building locations
  - Coordinate readouts

- **Building Model**
  - Building documentation and setting out

- **3D Topographical Surface**
  - For layout of utilities

- **Federated BIM**
  - For clash avoidance work
Software used

- **Autodesk Map and Civil 3D**
  - Use of GIS data to create accurate map
  - Coordinate extraction
  - Survey model
- **Autodesk Revit**
  - Site coordination including masses of local buildings
- **Autodesk Navisworks Manage**
  - Clash avoidance
- **Autodesk 360 Glue**
  - Collaboration in the Autodesk cloud!

…. and a bit more….
Workflow used

1. Creation of the map
2. Creation of the survey
3. Creation of site coordination model
4. Set up shared coordinate systems
5. Send it to the Cloud
6. Clash Avoidance
7. Federate the Model
Our site....
Green or Brownfield Site
Autodesk Map
Creating the map from GIS data
Mapping data and geographic information from Ordnance Survey

Order OS OpenData here

Please note that the file sizes for selected products, shown in brackets under the 'coverage' column, refer to downloaded files only.

All files for download are supplied as .zip archives.

For more information about any of these products, please see our products page.

If you are new to our data, our getting started information explains the different formats and how to work with them.


Do you want to gain a greater understanding of how to use OS OpenData? If so, sign up to one of our free masterclasses taking place at various locations throughout Great Britain during November.

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<tr>
<th>Product</th>
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<tr>
<td>MiniScale®</td>
<td>Great Britain [304 Mb]</td>
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Data type: Raster
Supply format: TIFF-LZW
Autodesk Map Tip! Clipping a large map
The live bit....
Autodesk Civil 3D / Revit / Navisworks
What can we do with this?
Federated BIM Handover / Data Extraction

Coordinated Construction Staking Out

Design Checks and Audits

Coordination in the Cloud

Coordinated Civil and Building docs

Coordinated BIM

AUTODESK UNIVERSITY 2013
Autodesk Point Layout Staking out in the field
Back to the Field
Autodesk 360 Glue
Collaboration in the Cloud
Finally, a few tips and tricks......
Successful workflow tips and tricks

1. Install the Autodesk Civil 3D Object Enablers

   **In Autodesk Revit**
   2. Ensure that Navisworks Switchback is enabled
   3. Don't let Revit save the position back to the DWG
   4. Ensure Level and Coordinate markers are set to Survey Point in Revit

   **In Autodesk Navisworks**
   5. Check it is set to Shared Coordinates for input
   6. Check the file reader units are set correctly
Summary

1. Creation of the map
2. Creation of the survey
3. Creation of site coordination model
4. Set up shared coordinate systems
5. Send it to the Cloud
6. Clash Avoidance
7. Federate the Model