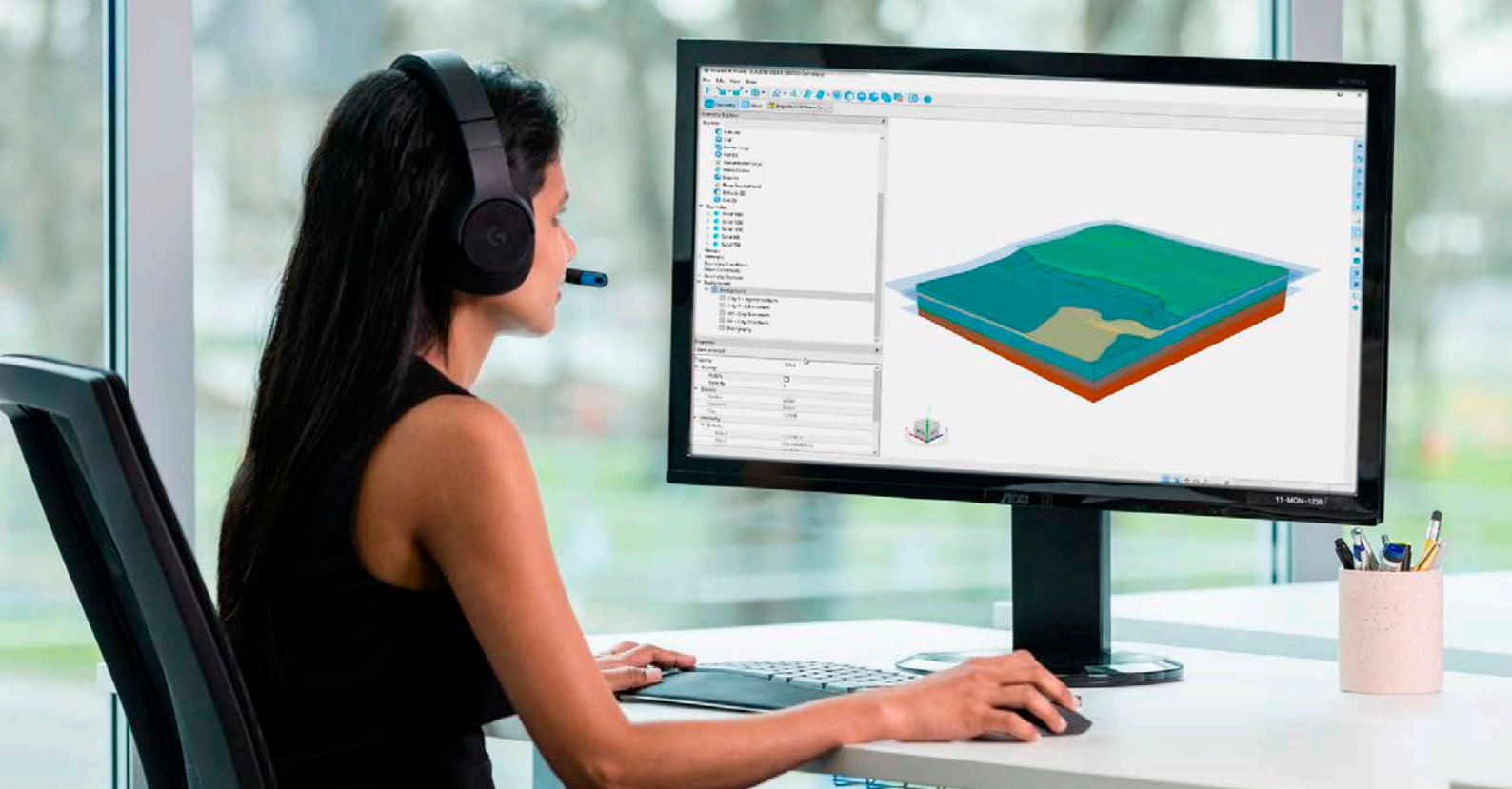




BUILD3D

3D Geotechnical Geometry Design



BUILD3D is a revolutionary software tool for constructing 3D analysis-ready geometries.

Its powerful feature-based design allows for quick construction of 3D geotechnical models with complex topography or geology, sweeping tunnels or rivers, and 3D geometry from CAD files.



Seamless Integration

BUILD3D includes the ability to import surface meshes directly from a Leapfrog geological model through Central connectivity. Surface geometry created in CAD software can also be imported as background surface meshes to simplify geometry creation. BUILD3D supports the import of multiple 2D cross-sections from Leapfrog through Central, or through CAD source files.



Feature-Based Design

BUILD3D is a feature-based geometry creation tool that allows modifications of a model at any point in the Design History. Changes are quickly and automatically cascaded through the entire model geometry, providing huge time-savings.



Powerful Operations

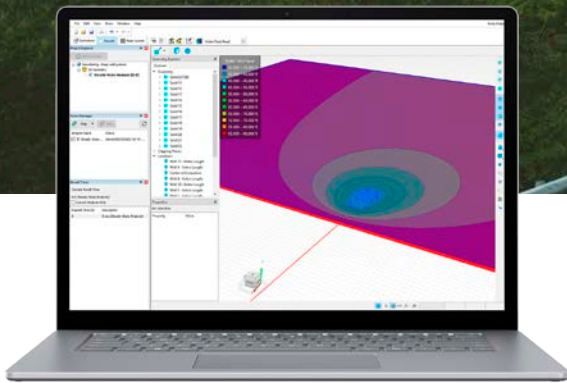
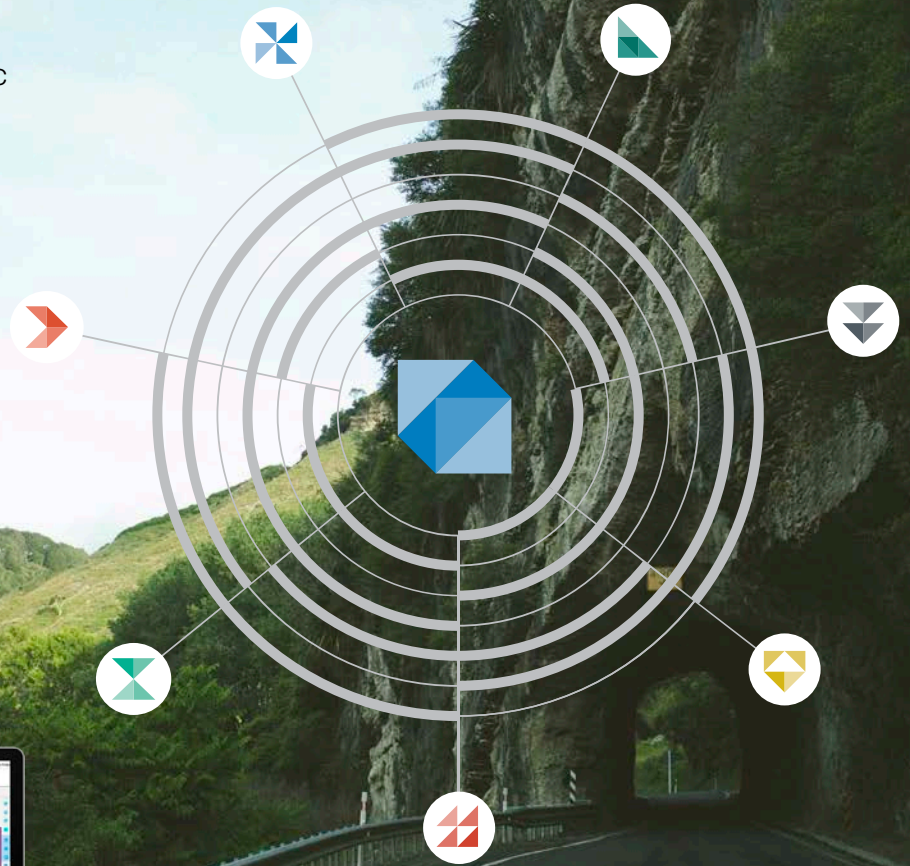
A suite of powerful Boolean operations are available in BUILD3D, including: intersect, cut, merge, and imprint. These operations provide the necessary tools for creating 3D geometries from scratch or modifying geometries imported from STEP files.



Clean Mesh Generation

Generate the finite element mesh throughout your 3D domain with the click of a button. BUILD3D automatically produces a clean mesh, removing the need to spend hours on manual mesh adjustments and material and boundary condition assignments.

BUILD3D creates complex geometric models that can be used with all GeoStudio 3D analysis products



BUILD3D provides the tools to create any geometry

Dams and Levees

Import complex surface topography or stratigraphic boundaries from Leapfrog geological models or CAD files and use the imported surface meshes to generate regions.

Roads, bridges, and embankments

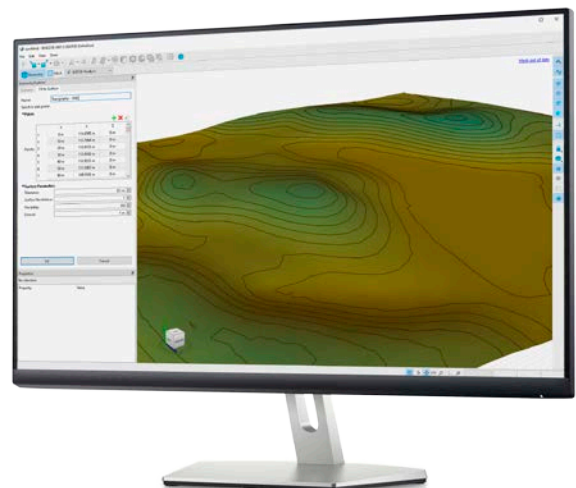
Use BUILD3D's plane and sketch features to generate road and embankment geometries, or import these from CAD files. Sweep a road and embankment cross-section along a defined path.

Open pit mines

Import pit shell surfaces from CAD files or geological formations from Leapfrog projects through Central.

Underground excavations

Use the Sweep tool to generate a body representing a tunnel cutting through soil or rock regions. Use the cut operations to remove material from the tunnel. Include multiple geometries in a single project file representing tunnel construction over time.



BUILD3D comprehensive feature set

- Feature-based geometry creation
- NURBS-based geometry for greater flexibility and precision
- Import 2D analyses with materials and boundary conditions
- Import bodies (STEP/STP, IGES), profiles (STP, IGES) or background mesh (STL, DWG/DXF)
- Import surface meshes representing geological contacts from Leapfrog geological models through Central interoperability
- Intuitive sketch tools including sketch, plane, sweep, extrude
- Easy Boolean operations: intersect, cut, merge and imprint
- Materials, boundary conditions, and mesh constraints applied to geometry objects
- Clean mesh generation with tetrahedral or hexahedral mesh
- Large file support
- Powerful results visualisation including isosurfaces and contours
- Export surface mesh, body or results from selected nodes or isosurfaces
- Import multiple geotechnical 2D cross-sections in a single click from Leapfrog through Seequent Central, or via CAD software

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