ABES
Advanced Bridge Engineering Systems

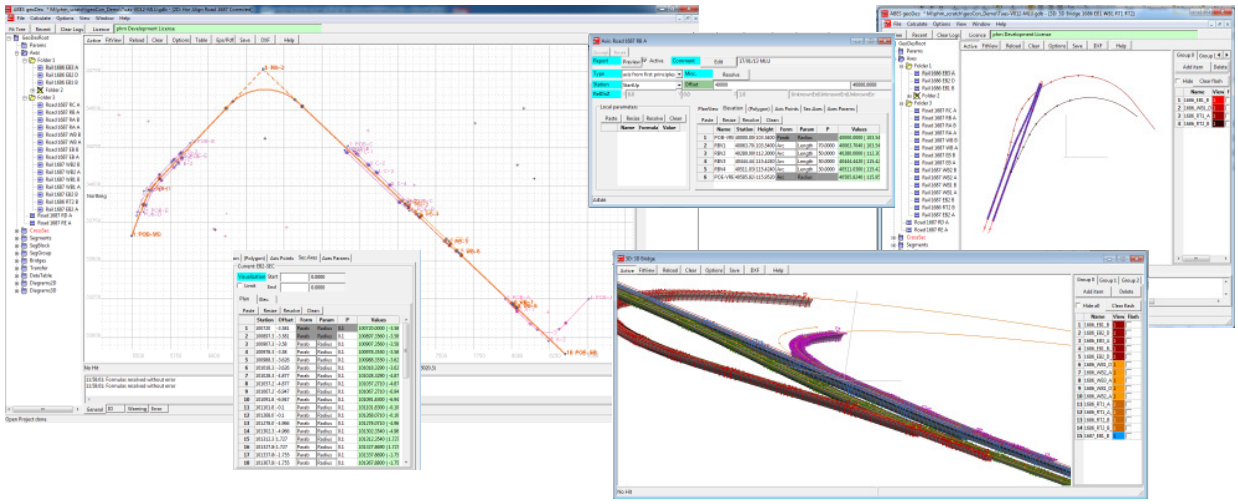
Product Information Sheet
ABES geoDes

ABES Engineering Software
Research and Development

ABES geoDes is a software product enabling detailed geometric modelling of segmental bridges.

ABES geoDes provides the following general functions:

- Bridge girder modelling based on road or railway alignments;
- Flexible sub-structure modelling;
- Extensive library of segments with specific properties including pre-cast and cast in-situ segments; but also expansion joints, closure pours etc.;
- Detailed segmentation of bridge deck, piers and pylons;
- Multiple structures per project file.



ABES geoDes includes a full suite of functions to define or re-produce road and railway alignments.

- Unlimited number of road alignments can be combined within one model;
- Alignments can consist of straights, clothoid (or spiral) curves and arcs in plan view;
- Straight lines, arcs and parabolic curves in elevation;
- Secondary alignments at variable horizontal and vertical offsets;
- Flexible input options available to define sub-structure.

ABES geoDes allows for parametric cross-sections with variable measurements which adapt along road alignment.

- Simple definition of haunched girders, stepped plates or diaphragms etc.;
- Variable measurements defined by tables, or mathematical formulas;
- Unlimited number of cross-sections to be combined within one model;
- Cross-sections consist of unlimited number of outline polygons;
- Each point on cross-section can be assigned additional properties for reporting purposes, or to serve as control points for geometry control.

ABES IT
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ABES geoDes manages typical segment groups (e.g. typical spans or cantilevers) to facilitate data input for long and repetitive structures.

ABES geoDes calculates the 3D geometry of each segment individually, following the general rules established by the user.

- Various segment types including match-cast segments, pier segments, cast-insitu segments etc. Detailed property definition depending on segment type;
- Combination of pre-cast and insitu segments possible without limitation;
- Each segment placed on 3D road alignment in a secant or tangential position;
- Segment joint locations perpendicular or at an angle to alignment;
- Unlimited number and free positioning of geometry control points within each segment.

ABES geoDes calculates the detailed 3D geometry of each segment on a bridge individually, following the modelling rules established by the user.

ABES geoDes is driven by a modern graphical user interface.

- Data input table-driven and fully compatible with spreadsheet programs including cut-and-paste functionality to and from Excel;
- Instant 3D and 2D Graphical visualisation;
- Many tools for plausibility checks;

ABES geoCon output is available in numerous data formats.

- Automated reports in .pdf format;
- Spreadsheet-compatible tables with filters for data selection;
- CAD-compatible .dxf files;
- Text files;
- .png and .eps graphic files.