![ABES logo - Advanced Bridge Engineering Systems]

Product Information Sheet
ABES geoCon

ABES Engineering Software
Research and Development

ABES geoCon is a software product supporting short-line match-casting of concrete bridge segments.

ABES geoCon provides the following general functions:

- ❖ Provision of setting-out data for match-casting of bridge segments;
- ❖ Processing of survey data of newly cast segments;
- ❖ Determination of casting errors in match-cast segments;
- ❖ Automated correction of casting errors in sub-sequent;
- ❖ Record keeping of survey and casting data for quality assurance purposes.
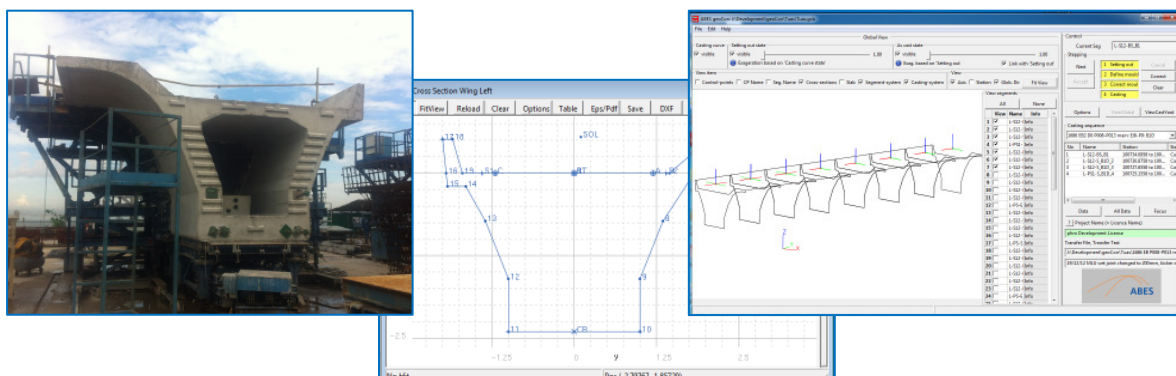

ABES geoCon can be customised to accommodate data from all common survey systems.

- ❖ Measurement tape;
- ❖ Analogue theodolite;
- ❖ Levelling instrument with offset measurement;
- ❖ Total station assigned to single casting cell;
- ❖ Total station covering multiple cells.

ABES geoCon can be used to simulate pre-casting of horizontal, inclined and vertical components.

- ❖ Bridge girder segments in horizontal match-casting cells;
- ❖ Sub-structure segments for piers and pylons in horizontal or vertical match-casting systems.

ABES IT
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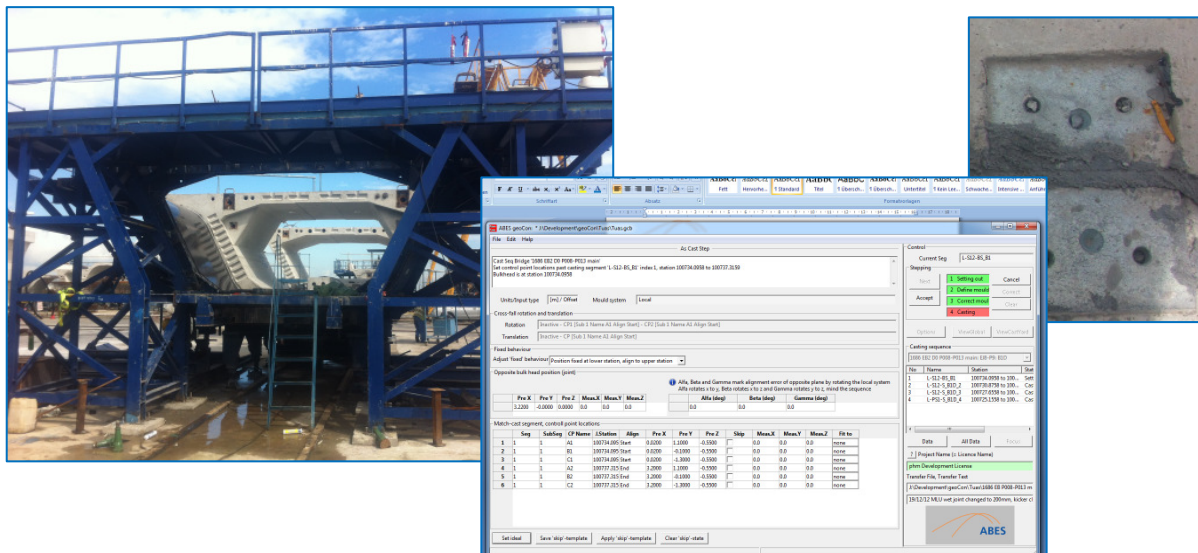Research and Development

ABES geoCon uses a novel error compensation algorithm providing superior accuracy and flexibility.

- ❖ Unlimited number of control points per segment;
- ❖ Individual control point placement for each segment;
- ❖ Unrestricted positioning of control points anywhere on cross-section;
- ❖ Optional smearing of error correction over several segments;
- ❖ Bulk head and casting cell movement fully considered;
- ❖ Cross-section can be offset to the road alignment;
- ❖ Variable cross-fall within segments.

ABES geoCon provides optional functions to record and manage project-specific casting yard layouts.

- ❖ Unlimited number of casting cells within casting yard;
- ❖ Unlimited number of survey stations;
- ❖ Control points on casting cells and bulkheads to facilitate control survey;
- ❖ Book-keeping of which segments are cast in which cells at what time;
- ❖ Management of unlimited number of casting sequences within one single project file.

ABES geoCon 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 of every casting step;
- ❖ Many tools for plausibility checks;

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ABES geoCon allows for full flexibility in the use of various coordinate systems and units for data input and output alike.

- ❖ 3D bridge project coordinates;
- ❖ Casting yard coordinates;
- ❖ Local casting cell coordinates;
- ❖ Survey data can be entered in absolute coordinates, or optionally in offsets to the setting-out data.

ABES geoCon generates several automated reports pertaining to practical casting yard requirements.

- ❖ Specific setting-out sheets for every segment;
- ❖ Casting reports for every segment including setting-out geometry, as-cast geometry and casting error report;
- ❖ Log file of every recorded action in the course of a project.

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 of setting-out and as-cast data;
- ❖ Text files.

ABES geoCon licensing is flexible and project-specific. License fees depend on project size and duration

ABES geoCon has been applied successfully in numerous projects.

ABES is capable of providing extensive services including but not limited to software customisation, training, application support; and also practical support with setting up and performing geometry control on-site and remotely.