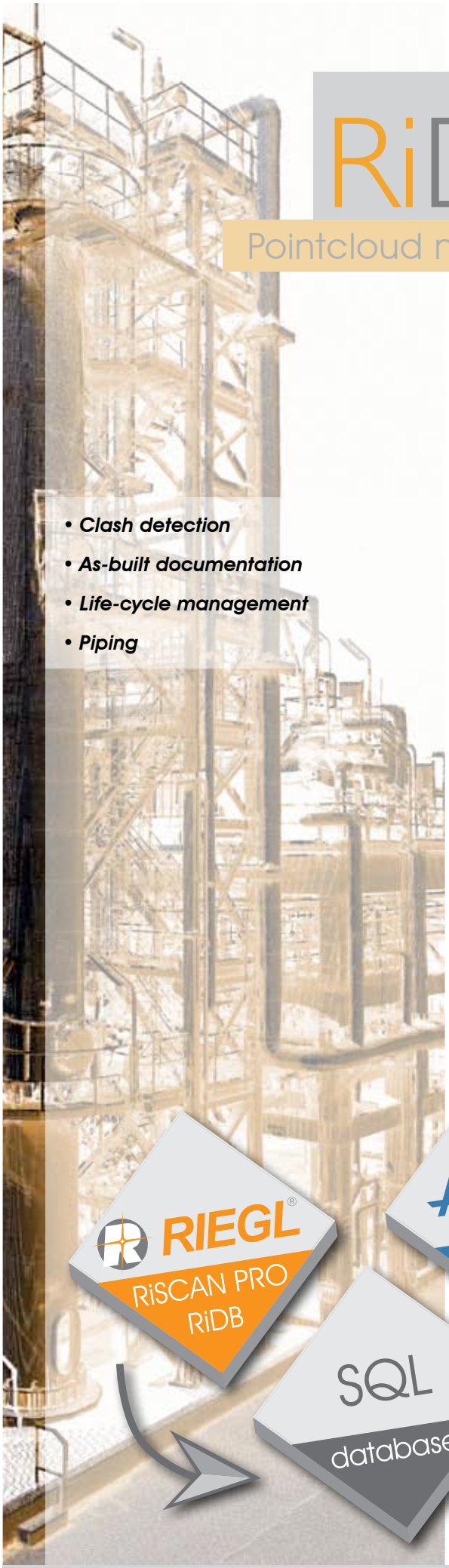
RiDB for AVEVA PDMS

Pointcloud modeling in AVEVA PDMS Environment



- *Clash detection*
- *As-built documentation*
- *Life-cycle management*
- *Piping*

The *RIEGL* scan database RiDB is a software package for a database driven workflow to provide *RIEGL* pointclouds in AVEVA's PDMS software. In today's lifecycle management of processing facilities, pointclouds have taken over a valuable role for as-built information, which can be used for modeling, clash detection and various other tasks. To increase efficiency in the scan to model process, *RIEGL* provides a Plugin for AVEVA PDMS to directly connect the RiDB to the PDMS user interface. The pointclouds can be loaded straight into the active Viewport of PDMS, to be used with any existing 3D model of the facility, or to act as a modeling reference.

The software package consists of three components. A database connector provides export functions from the RiSCAN PRO viewport to the *RIEGL* database RiDB. The RiDB is the central pointcloud storage built upon a SQL database system and comes with a management tool for setup and maintenance. A Plugin for AVEVA PDMS completes the workflow and connects to the database to establish a direct access to the pointclouds in RiDB. Automatically derived cubes provide a testing geometry for rapid clash detection.

- ***AVEVA Laser Model Interface (LMI) required***
- ***Pointclouds stored in SQL database***
- ***Direct export of pointcloud from RiSCAN PRO to the database***
- ***Remote Access of database***

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LASER MEASUREMENT SYSTEMS

RiDB

Fig. 1 RIEGL Database Manager

The *RIEGL* scan database is built upon an SQL database. The current setup uses the freely available PostgreSQL database installation, which is released under the liberal open source PostgreSQL license. For further information regarding licensing options, downloads and support, please see http://www.postgresql.org/about/licence/ .

For setup and maintenance RiDB comes with a database management tool, which provides functions to create and setup new data-bases and control user accounts. Pointclouds can be imported, exported and renamed or deleted.

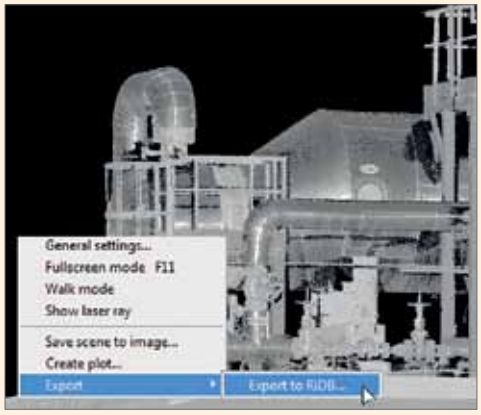

Fig. 2 RiSCAN PRO export to RiDB

In RiSCAN PRO a pointcloud is loaded into the viewport. An area of interest can be defined with the selection tools of RiSCAN PRO and the selected points will be exported to the *RIEGL* scan database. The points can be stored either in the project or global coordinate system, with amplitude, reflectance or true colour coding. The user can create named „Scansites" which each pointcloud can be assigned to. This makes it easy to identify the pointclouds for loading in PDMS. During the export to the RiDB, the pointcloud is sorted into a fixed size (25cm) cube structure, which acts as a reference for clash detection in the AVEVA software.

Plugin for AVEVA PDMS

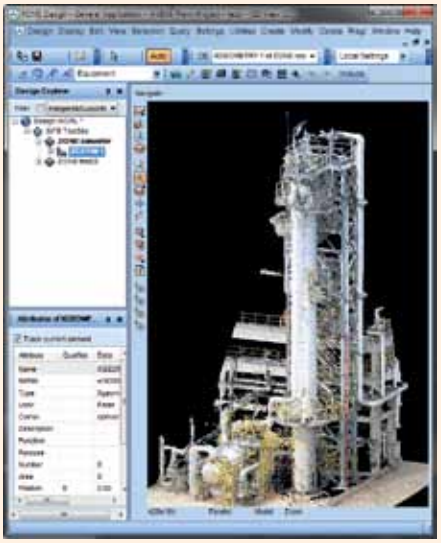

Fig. 3 RIEGL scan data in AVEVA PDMS

The Plugin resides in the main menu of PDMS. It connects to RiDB and retrieves a list of available Scansites. The user can select a pointcloud by its name and load it into the viewport with a single mouse click. The data can be displayed using amplitude, reflectance or true colour. This visual representation of the pointcloud can be changed at any time throughout the modelling process. Multiple pointclouds can be loaded and unloaded in the viewport. The automatically derived cube cells are retrieved in the background while loading the pointcloud, so that the data can be used for clash detection immediately. No further processing is required.

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System Requirements

RiSCAN PRO Version XXX, PostgreSQL database version 9.1 or above, AVEVA PDMS 12.0 SP6 or above with Laser Model Interface

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