



*Customer  
Spotlight*



*Specialists in  
Engineering Software*

## ***CRB Inc. Selects Plant-4D***

Clark, Richardson, & Biskup Consulting Engineers, Inc (CRB) is a mechanical, electrical, process, and instrumentation engineering firm which specializes in the pharmaceutical, bio-technology, and fine chemical industries. They have offices in Kansas City, MO; St. Louis, MO; Raleigh, NC; Philadelphia, PA; Lincoln, NE; Minneapolis, MN; and San Diego, CA.

CRB was founded and continues to this day to be based on client satisfaction and technical excellence. According to Doyle Clark, "CRB is continuously working to improve our deliverable production processes. Our goal is to constantly improve the efficiency and effectiveness of those processes". CRB decided in 1997 to find the best way to provide higher quality, faster deliverables, and provide the owner with documentation that can be used during construction, commissioning, validation, operations, and maintenance of the plant.

### **CAD Selection**

CRB researched for the best software available which would meet the following requirements:

Use a database for all information.

- Ability to provide AutoCAD or Microstation drawing files.
- Input data once, and utilize where needed.
- Make it possible for personnel to work easily between offices on the same project.
- User friendly and easy to administrate.

CRB investigated over 10 complete software packages. The conclusion was very clear and unanimous; "Plant4D" by CEA Technology, was the only software which provided the capability of meeting all of the requirements and would be the foundation CRB could grow upon. Training users typically is only a few days, and within 2 to 3 weeks a person can be up to full production speed. Administration of the package can be done in-house with few people and it is not necessary to go to CEA Technology for customizing.

### **Plant4D Software**

Plant4D, by CEA Technology is a 100% database driven program. The program is unique and modern in the sense that there are almost no limitations to what can be done with the package. It is a completely open system. The database engine can be Microsoft Access, Microsoft SQL Server, or Oracle. You can make the database design customized to what is required for the project. The design of the database can even be changed during the project.

The CAD drawing program can be AUTOCAD or Microstation. The program only uses the CAD software as a viewer and graphical input tool to the database. There are no drawings, because everything is stored in the database. This allows for drawings to be changed or even created in the database, and

then displayed in the CAD package of choice. If a drawing is saved while in the CAD package, a native file is created for that particular CAD package. The best thing is people can work in the CAD package or version, they prefer to use, or have licenses available at the same time on the same project. Since there are no drawings there is no translation required between platforms.

As for the client, they can get the CAD file with their specific drafting standards, regardless of which CAD package the consulting engineer uses. If the client has a symbol change during the project or the plants lifetime, it is a simple change in the graphical component database, and all projects will be updated. The next time a drawing is opened, the change has been made, and a CAD technician did not have to do anything. Being able to manipulate drawings directly from the database has huge time and inconsistencies savings.

The main program modules available for Plant-4D are:

- P&ID 3D
- Modeling (Piping)
- Isogen (Isometrics)
- Instrumentation & Controls, Electrical
- Virtual Reality Walkthru
- Clash Interference Detection

There are component databases for:

- ANSI piping
- Copper piping
- Hygienic piping
- Plastic piping
- Cast Iron piping
- Compression Fitted piping
- Lined piping
- Victaulic piping
- HVAC
- Equipment
- Steel Shapes

### **Project Execution**

CRB starts with an equipment list and specific datasheets early in a conceptual phase or study phase of a project. As the project continues, CRB moves to the P&ID's without any loss of information, and does complete P&ID's. Then from the data, equipment lists, valve lists, specialty lists, specifications, equipment and component datasheets, and pipe line lists can be generated by a simple push of the button. Since all data is dynamic, any changes to the P&ID drawing, the database, or in one of the lists, automatically is shown as the same. Data integrity is inherent. Information from P&ID, is used in the 3D model. Spool (isometric) drawings, are developed from the Plant4D model using Alias Isogen. The design team members, client staff, and maintenance staff can use the virtual reality walkthrough package to review the facility design and layout. The 3D model uses the same database as the P&ID, so once data is input it can be displayed in the 3D model. Data can even be viewed and changed while in the virtual reality walkthrough.

After using for almost 2 years, CRB still believes Plant4D is the best software available.