

*Caddman is in the business of making a meaningful difference to the efficiencies and competitiveness of Africa's manufacturing, process plant, mining and general engineering design sectors. Our people and technologies provide a catalyst with which our customers can lever real advantage.*

## Why partner with Caddman?

Caddman is ready to assist you by sharing its experience of integrating software applications for engineering information lifecycle management.



Our team of consultants will add extensive knowledge to any project team. They will assist with the review of an existing environment, make recommendations with regards to the project workflow and manage the deployment of enterprise solutions.

We have an extensive team of full time dedicated employees to deliver a high level service to our customers.

All our customers receive a complimentary value add CD with thousands of symbols, parts, patches, URL's and other tools to get you productive as soon as possible.

All our customers can participate in our user-groups and interact with hundreds of other users.

We have the ability to integrate design into the rest of your business for real competitive gain.

Our staff have extensive experience in the plant layout, control and instrumentation and manufacturing industries.

Caddman has stood the test of time delivering thousands of solutions over more than 15 years, with a combined in-house technical experience of 200 plus man-years.

Caddman manages a current CRM database with over 3000 customer contacts that it has built over the years in the defined segments below.

The **Manufacturing Solutions** Business Unit currently serves the following market segments:

- Automotive components
- Cranes
- Hydraulic machines & components
- Materials handling equipment
- Mining equipment
- Packaging machines & components
- Pumps
- Sheetmetal designers
- Special purpose machinery & equipment
- Specialized automotive & vehicles
- Telecommunications
- Electro-Mechanical equipment & electrical circuitry for the above segments

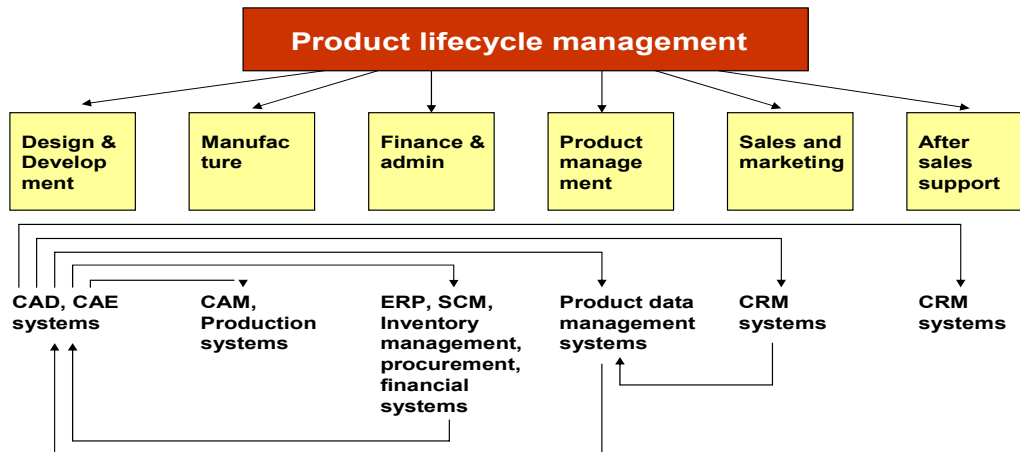


The **Plant Solutions** Business Unit serves the following market segments:

- Process & Power Plants in the:
  - Petrochemical
  - Food & beverage
  - Pulp & paper industries
- Platinum, Aluminium, Gold & Diamond Mines
- EPC's (Engineering Procurement & Construction)

## Integrating and managing your engineering product's entire lifecycle

### Optimising product life cycle management (PLM)



Caddman has recognised the need for customers to manage their engineering information throughout the various phases of their product's lifecycle—or plant's facility in the case of process plants and mining companies.

Market factors such as global competitiveness, dispersed workforces and increasing productivity pressure has created a need to work smarter through managing your product's entire lifecycle—ranging from design to manufacture through to sales and after-sales support. Various available technologies offer solutions that attempt to manage the large volume of information generated during the creation of a product or facility, but don't necessarily succeed due to islands of information that still exist within the entire process. The key is to maximize information reuse, with emphasis on the quality and correctness of the information stored. It has become apparent that the management of manufacturing and process information is of such a complex nature that digital design models is an absolute necessity to capture key information and manage the relationship between the various processes of the entire lifecycle.

According to independent research conducted a few months ago, the largest points of pain for companies in the engineering industry is:

- Having to reduce time to market, lowering total product cost and responding quickly to changing customer requirements in a product development environment
- Battling with CAD file compatibility both through inter-vendor and 2D/3D compatibility in a software-related project

The only way in which engineering companies will be able to overcome their points of pain is to recognize the importance of a solution that will manage the various islands of

information pertaining to a product's entire lifecycle—and putting such a strategy in place that will benefit the company as a whole.

Engineering content is characterized by its volume, complexity, multitude of formats and the large number of changes that occur through various stages—and by various parties involved, throughout the lifecycle. Even with the wide use of IT solutions, the barriers between the processes and departments are challenging.

Creating a centrally managed environment with consistent, correct and complete information is critical to the success of managing engineering information in a product's lifecycle.

Caddman have identified a number of solutions available to assist customers in their product lifecycle management strategies and have invested in the global training of resources to allow world-class consulting and implementation of such technology for South African businesses. We believe that we have the knowledge, skills and ability to transform our customers businesses to productive, profitable companies that respond quickly to changing conditions.

Caddman is currently involved in approximately five projects where product lifecycle management solutions will be implemented over the next 12—18 months.

\* The above information is based on research conducted by Sage Research, Inc and a white paper authored by Dr Hollings from Bentley Systems.

## General Design Applications

### AutoCAD®

Make efficiency a daily part of the job with AutoCAD® software. The drafting, detailing, and conceptual design leader is showing the way once again. AutoCAD propels day-to-day drafting forward with features that increase speed and accuracy while saving time. Annotation scaling and layer properties per viewport minimize workarounds, while text and table enhancements and multiple leaders help deliver an unmatched level of aesthetic precision and professionalism. Always innovative, the existing AutoCAD tools for conceptual design and visualization work with a new toolset to deliver virtually instant productivity, making efficiency a daily part of the job.

### AutoCAD LT®

Streamline your day-to-day tasks with AutoCAD LT® software, the world's number-one-selling 2D drafting and detailing product. For design professionals who require full DWG native file format compatibility without 3D capabilities or advanced customization, AutoCAD LT makes daily work simpler because it's designed with the drafter in mind.

### MicroStation

MicroStation is a single, comprehensive platform for design and engineering projects and is the foundation of the Generation of software from Bentley. MicroStation capabilities is best suited for 3D modeling, data versatility, workgroup productivity and application development.

### Bentley PowerDraft

Bentley PowerDraft offers project teams fast, efficient deployment and implementation of a powerful 2D design and production drafting solution for projects in all disciplines.

## Manufacturing Design Applications

### AutoCAD® Mechanical

AutoCAD® Mechanical software is a purpose-built 2D design and drafting application that offers significant productivity gains over basic AutoCAD® software. It provides tools for automating design tasks and standards-based libraries of parts, accelerating the mechanical design process and saving hours of design time.

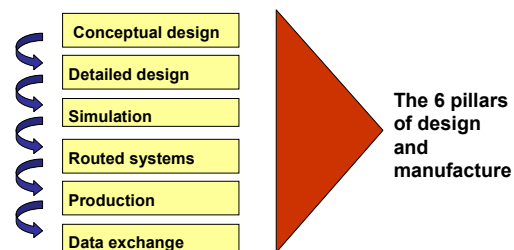
### Autodesk® Inventor™

The Autodesk® Inventor™ product line is the best choice for AutoCAD® software users, delivering 3D power while preserving your 2D designs through true DWG™ compatibility. Inventor products provide a comprehensive set of tools for 3D design and documentation, creating routed systems, validating designs, and data management, as well as AutoCAD® Mechanical for 2D drawing and detailing.

### Autodesk® Inventor™ Professional

Start with the world's #1 selling 3D mechanical design software, Autodesk® Inventor™. Add specialized functionality for cable and wire harness, tubing and piping, dynamic simulation and FEA. Not only is it a powerful 3D tool, but it's also the best way to connect design teams with manufacturing engineers. Because it can integrate your existing 2D designs into your 3D design environment, it offers a risk-free path to specialized 3D design.

#### Optimising engineering design & manufacture



## Electrical Design Applications

### AutoCAD® Electrical

AutoCAD® Electrical software is part of the AutoCAD® family of products and is built specifically to create and modify electrical controls designs. Built-in reporting tools help eliminate errors and provide accurate information to manufacturing, allowing more time for design and engineering. AutoCAD Electrical — the logical choice for electrical controls design.

### Autodesk add-on products:

Caddman has a variety of outsource partners, should you be interested in add-on applications please enquire with your Account Manager.

## Manufacturing Design Applications continue ...

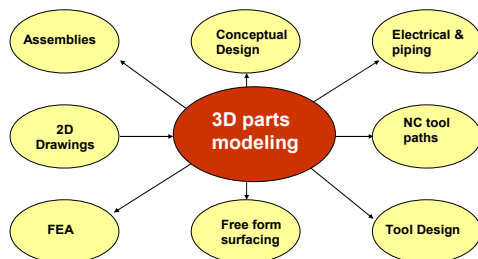
### Autodesk Vault

Autodesk Vault manages all your engineering files, regardless of file type. You can use Autodesk Vault to manage Autodesk Inventor, AutoCAD, FEA, CAM, Microsoft Word, Microsoft Excel, or any other file used in the design process.

### Autodesk® Productstream™

Autodesk® Productstream™ delivers the manufacturing markets best practices to your design teams by providing a wizard-based approach to setup, rich out-of-the-box tools to solve everyday problems, and a preconfigured release and change management workflow. Autodesk Productstream does this all while avoiding the complications and expense traditionally associated with other product data management systems.

#### Engineering associativity



### Autodesk Streamline®

Autodesk Streamline® on-demand project management service helps you handle the process of collaborating with partners outside your organization, providing a single online location for storing, managing, and controlling project documents. With its intuitive interface, your extended team can work productively with customers and suppliers outside your firewall to get designs approved in less time.

## Plant Design Applications

### Bentley Instrumentation & Wiring

Bentley Instrumentation & Wiring provides an intuitive, graphical environment coupled with an integrated relational database for defining instrumentation, electrical and field bus data. An integrated report writer allows you to create and maintain instrument, cable, card and motor lists, along with other essential project specific reports. The CAD-independent drawing generation engine produces loop drawings, wiring diagrams, termination drawings, motor schematics and single line diagrams in a range of formats, including DWG, DXF, XLS, VSD and VML.

### Bentley P&ID

Using AutoCAD with an external relational database environment, Bentley's AutoPLANT P&ID creates intelligent plant schematics. With it, engineers can learn more about their plant design in a fraction of the time required to study hundreds of layout drawings or 3D models.

### Bentley Structural

Bentley AutoPLANT Structural Modeler allows you to quickly generate accurate 3D steel models in an AutoCAD-based environment. Using the extensive toolset, engineers and designers can model virtually any steel arrangement for any type of construction. AutoPLANT Structural Modeler is delivered complete with many shapes and standards so you can begin designing immediately.

### Bentley Piping

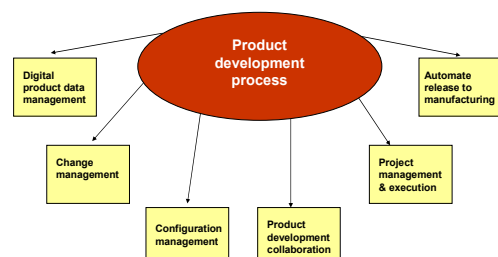
Bentley Piping is an object-based 3D piping design and modeling application for either MicroStation or AutoCAD users. It is built on powerful object-oriented technology, yet it is easy to use and customize. With it, you can interactively route and place piping components in a 3D environment. Piping can be used to generate orthographic and isometric drawings and report quantities from the 3D model.

### ProjectWise

Bentley ProjectWise provides managed access to AEC and geospatial content within the workgroup, across a distributed organization, or among collaborative organizations. By working within the Bentley ProjectWise managed environment, AEC and geospatial professionals can streamline their project work and improve the efficiency of their operations. It effectively manages the complex relationships between shared design and map files, the information they contain, and any associated content. Users can effectively manage change during project work and in their operations.

Caddman offer a range of services to allow customers to focus on their core business and assist them with tools to become more productive in their working environment.

#### Optimising the product development process



## Caddman Design Applications

### C-Cut

C-Cut is a tool that allows you to design your assemblies using your standard inventory items with the click of a button inside Autodesk Inventor®. Functionality includes the ability to capture and modify standard inventory items once and to assemble using a dialog box. The parts in the assembly automatically then include the stock code number, material specification, description and any other specified field in the Bill of Materials.

### C-Mass

C-Mass is a tool used inside of Autodesk Inventor® that will examine the parts list and use the QTY and MASS to calculate the sub mass of the row. C-Mass then adds up the sub mass and writes it to the custom property in the drawing sheet. The drawing title block then has a link to this field that will update the Total-mass.



### C-Scale

C-Scale is a tool used inside of Autodesk Inventor® to examine the views and calculate the scales of the views. C-Scale then writes it to the custom property in the drawing sheet. The drawing title block then has a link to this field that will update the Scale fields.

### C-Mine

C-Mine is a tool designed to search for specific information in MicroStation or AutoCAD® drawings with ease. The application will scan any folders on a local or network drive that have been registered in the application for any MicroStation or AutoCAD® drawings and build an index database of all text and attributes found. The user can then do a search for specific words or parts of words and the application will return a list of drawings that contain the search criteria.

## Caddman Services

Caddman offer a range of services to allow customers to focus on their core business and assist them with tools to become more productive in their working environment.

### Draughting, design outsource and consulting services

The primary goal of outsourcing is to enable an organisation to focus on its core business, reduce costs, enhance competitiveness and to gain access to specialised resources and best practice methodologies.

Our outsourcing and consulting services are focussed into four primary areas:

- **Selective Outsourcing** - The contract of skilled resources to create a best-of-breed environment. The provision of high-level technical skills to provide value-add specialist skills.
- **Utility Services** - The primary focus is to manage one's costs, and over time reduce costs without compromising in the delivery of services.
- **Business Enhancement** – Primarily focussed on business productivity improvement aimed at making the management of a drawing office more efficient and more effective.
- **Business Transformation** – A partnership between the organisation and Caddman that is focussed on innovation, efficiency and effectiveness with the use of CAD technology.

### Mechanical Design Services:

- Creation of mechanical drawings from layout to fabrication.
- Mechanical engineering design, draughting services, 3D CAD solid modelling and surface modelling using Autodesk's AutoCAD and Inventor.
- Creating designs quickly, conveniently and cost-effectively to a diverse range of industries both on-site and off-site.
- 3D solid modelling of mechanical components or assemblies. Creation of 2D fabrication and assembly drawings.
- Project resources to the mechanical and engineering industries.
- Development of customized software and libraries.
- Assistance and support with engineering analysis.
- Documentation publication and publishing of 3D models on web sites.
- Offers design and facilities management consulting and implementation services.
- Project management of specific CAD projects and CAD services.



## Caddman Services continue ...

### Process Plant Services:

- Provide clients with professional industrial draughting resources.
- Installation, configuration, standards development and application coaching. Deployment extends to all business operations including business management, project teams and consultants.
- Optimization to help users maximize a single application or a suite of applications including enterprise configurations and advanced techniques education. Recommendations for improvement identified from a review of project workflow.
- Customisation of user-specific functionality of base applications to address specific needs and integration with other business applications.
- Digital conversion services of paper and raster drawings to CAD vector files or to PDF files.
- Raster-to-vector conversion services in 2D and 3D formats. Complete CAD conversion and archiving solutions.
- Specialize in structural, plate, conveyor systems, piping, and miscellaneous steel detailing.
- Automation of piping and instrumentation drawings with Bentley PlantSpace and AutoPLANT for P&IDs, electrical, mechanical, C&I, HVAC etc.
- Engineering information management, project documentation and database resources and solutions.
- Contract draughting and design skills in mechanical, structural, piping, instrumentation and electrical projects.
- As-built records for telecommunications, electrical, control and instrumentation, fire systems and security.
- Project management for the planning, execution, resource allocation, team coordination and communications to ensure a successful project completion. A single point of project accountability.

### Call Centre (Telephonic /Electronic Support)

Caddman provides a comprehensive service comprising of call centre based telephonic and electronic support to our customers. This service is provided free of charge to customers that subscribe to Autodesk's subscription program and Bentley's select agreement.

Call 011-974-3333 or email [support@caddman.co.za](mailto:support@caddman.co.za)

Level 1 support calls are handled by standby Application Engineers. Level 2 support calls are escalated to the Senior Application Engineers and Level 3 support calls are logged with our overseas software partners.

### Software roll out, installation and on-site service

Caddman has both the expertise and manpower to assist an organisation with their new product installations. Caddman provides comprehensive on-site support services.

For any company to achieve a high return on their software investment, we recommend that a Caddman Application Engineer be contracted to assist the Design Office staff on-site for a certain period of time. This will ensure that the implementation of software purchased, runs smoothly in your company from installation and will ensure productivity gains are realised as early as possible.

For companies wishing for a more comprehensive on-site support service with trained engineers, a customer service agreement may be purchased. Customer service contracts include monthly e-mails with support tips, all patches/fixes are pro-actively emailed to users and unlimited e-mail, telephonic and remote support.

### Certified training for employees

Independent studies have revealed that with adequate training your company's success soars from 33% to 98%. Additionally, without training, your staff will most likely become frustrated and seek assistance from other untrained colleagues who will undoubtedly pass on various half-truths as to a solution, creating a snowball effect of inefficiency.

Caddman's Training Centres are committed to provide the highest standards of service. Caddman has been qualified and accredited to present Autodesk and Bentley Plant training, meeting their stringent and exact criteria for accreditation, proving our excellence in providing superior CAD training.

Caddman offer both original training manuals and our own Caddman training notes, written specifically for each individual course, optimizing your maximum learning experience at no extra cost. Each delegate is presented with an internationally recognized certificate on successful completion of the course.

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