

## **CUSTOM CAD SOFTWARE SOLUTION**

Re-Life's Custom Software Group has been set up to undertake customization and automation projects for users of the company's CAD/CAM software. The primary focus of Re-Life has been working with clients to automate repetitive processes reducing time and costs throughout the customer's design and manufacturing process.

CAD/CAM systems are designed to provide the user with a great deal of flexibility enabling the user to design and manufacture a wide variety of different products. However some processes may not require this flexibility and automating the process would reduce the time and cost of production. Automation can also enable the software to be used by occasional users or even without human intervention rather than by dedicated CAD/CAM operators, which in turn can lead to increased quality and consistency.

Many organizations provide custom software solutions to automate specific processes, however the knowledge and experience of modeling, machining, inspection & reverse engineering that Re-Life have built up by supporting customers globally enables us to understand your needs better.

Re-Life develop custom software using our existing products as a foundation. The use of these tried and tested components enables us to deliver high quality solutions, in the minimum time frame, enabling our customers to minimize their long-term operational costs.

## **COMPUTER AIDED DESIGN**

Technological advancements in the field of computers have allowed the skilful application of many computer-based tools that assist engineers and architects in their design activities. Design is an integral part of every product, therefore, the time it takes to come out with accurate design solutions is crucial.

### **Capabilities of modern CAD systems include:**

- ❑ Reusing design components
- ❑ Easy design versioning and modification
- ❑ Automatic generation of standard design components
- ❑ Design verification against specifications and rules
- ❑ Design Simulation without building a physical prototype
- ❑ Automated assembly design of parts
- ❑ Engineering documentation output
- ❑ Design Output to manufacturing facilities
- ❑ Direct Output to Rapid Prototyping or Rapid Manufacture Machines for industrial prototypes.

## COMPUTER AIDED DRAFTING

Combining a degree of artistic ability, and a bit of practical knowledge in mathematics, Computer Aided Drafting allows you to turn the abstract into the tangible. Technology has matured to such an extent that the mechanics of the architectural and engineering drafting has been largely automated and accelerated.

When first put into practice, Computer Aided Drafting produced drawings similar to hand-drafted drawings. CAD implementations have evolved dramatically since then. These days, CAD ventures into more "intellectual" areas of engineer's expertise.. With every required arsenal necessary to meet all your drafting needs, Re-Life ensures that your concepts turn into reality.

We work directly with your engineering/architectural team in accordance with your company's standards in order to ensure uniformity in all drawings.

Our in-house industry standards are such that the end product is as professional as possible.

### Our services include:

- ❑ Electrical Drafting Services
- ❑ Mechanical Drafting Services
- ❑ Electronic Drafting Services
- ❑ Architectural Drafting Services
- ❑ Structural Drafting Services

### Mechanical Drafting

Complex buildings and fast track schedules being the norm, coordination is essential. Professionals with us work with multi-discipline skills enabling us to coordinate all trades. Depending on your budget, we have different approaches that can be taken to satisfy you project requirements.

Every manufacturing process consists of graphic drawings, which describe its physical characteristics completely and accurately. They communicate the engineer's ideas to the worker, and ultimately, make a product. Our personnel will transform the ideas, rough sketches, the specifications and instructions from your engineers and scientists into detailed working drawings.

Our staff have expertise in a variety of projects which includes

- ❑ Mechanical Fabrication
- ❑ Heating, Ventilating and Air Conditioning (HVAC)
- ❑ Plumbing
- ❑ Pressure Vessel Fabrication
- ❑ Diagram of P & I
- ❑ All type of Heat Exchangers

- ❑ 2D -Drawings of Mechanical Parts
- ❑ Mechanical Component Drawings
- ❑ Installation Drawings of Mechanical Products

#### Mechanical Fabrication

Precisely scaled and dimensional mechanical component fabrication drawings as well as product installation drawings and mechanical equipment layouts are our forte.

We have a variety of services that include:

- ❑ Mechanical Component Fabrication Drawings ( scaled and dimensioned to specifications)
- ❑ Drawings of Casting, Machining, Welding and Assembly for the Machine Shop
- ❑ Mechanical Schematics, Sections and Detailing
- ❑ Mechanical Submittal packages
- ❑ Parts lists
- ❑ Bill-of-materials

#### Architectural Drafting

With years of experience behind us, and a proficient, professional team, Re-Life can provide you drafting services for Architectural CAD drawing. In these days as clients demand innovative customization, we provide comprehensive services, combining creativity with the latest Computer Aided Drafting(CAD) technology.

Re-Life provides architectural drafting for

- ❑ Complete set of Working/ Construction drawings of Residential And Commercial construction—Floor Plans, Wall Sections, Elevations, Roof Framing And Foundation Plans
- ❑ Raster to Vector conversion
- ❑ Landscape, and Architectural Construction Projects
- ❑ Interior Planning
- ❑ Development of Working Architectural Drawings from conceptual sketches and blueprints
- ❑ Detailing of Interiors - Reflected Ceiling, Power and Communications, Plumbing, HVAC etc.
- ❑ CAD Conversion Services/ As built drawings

#### Structural Drafting

Our experienced and professionally staffed teams are proficient with any kind of structure including steel, concrete or wood structures.

We offer services which include

- ❑ Structure Analysis With Standard Software Packages
- ❑ Foundation Plan Drawings
- ❑ Drawings for Shallow, Raft and Pile foundations
- ❑ RCC Joint And Slab Details
- ❑ RCC and Steel plan and Machine foundation details
- ❑ Shallow, Raft and Pile foundation drawings

- ❑ Water Retaining Structure Drawings With Necessary Reinforcement Detailing That Satisfy Code Requirements
- ❑ Chimney Foundations Drawings With Base Plate, Shoe Plate, And Foundation Bolt Details
- ❑ Longitudinal And Cross Sections Of Beams And Columns
- ❑ Welded, Riveted or Bolted Steel Connection details
- ❑ Roof Truss and Joint details

### 3D MODELLING

In today's world of fast solutions, the use of the computer as a visualization tool puts us on a new frontier. 3D Modeling is the answer to all your doubts of how your concepts would look like. It is in fact three dimensional simulation showing realistic views of your concept from different angles. The time taken for design review and approval of a project is considerably shortened as you can participate interactively and study the numerous design iterations we prepare for you within a short time frame.

- ❑ Mechanical Modeling
- ❑ Architectural Modeling

### Arch-Civil

The next time you want to design a building, contact us- we have years of accumulated knowledge and experience at our fingertips. With the 3D visualization technology, we are able to provide you 2D & 3D CADD services for architectural engineering design works, including custom design homes as well as mapping and similar such drafting needs.

Situations when Computer Aided Modeling comes in as useful include when results are otherwise hard to attain or when real-life experiments are too hazardous, and even when it is not lucrative to build many trials, e.g. of a large object such as an aircraft being redesigned.

The benefit over the traditional physical models is the ability of the viewer to enter the model and view it from the inside, since the digital models are generally built at full scale.

Constant interaction is rewarding as you can participate in "brainstorming" sessions with our designers and design decisions are visualized immediately and different factors can be tested accurately.

Our service includes:

- ❑ 3D Modeling Of Building
- ❑ Internal & External Fixtures
- ❑ Fixture Assemblies Like Kitchen, Bathroom, Bed Room, Living Room Fixtures
- ❑ Interior Decorative 3D Models Like Applying Material, Rendering

### Mechanical

3D computer modeling is an important stage and a prerequisite to a correctly rendered image. 3D digital models can be changed at any time during the design process at a minimal cost, and they can be interactive.

Mechanical CAM is ideal for:

- ❑ Conceptual And Product Design & Development
- ❑ Fabrication Works
- ❑ Forging & Casting Components
- ❑ Plastic Components
- ❑ Automotive Components

Re-Life offer our CAD services in the following areas:

- ❑ 3D solid modeling
- ❑ Sheet metal works
- ❑ Assemblies
- ❑ Drafting

## METHODOLOGY

The method we employ is heads up conversion and thus all final products are to scale and cad perfect with no broken entities. No automatic conversion methods are used by us. Conversion of course can also be selective according to requirements (eg. only text placed on a raster background, only utilities placed on a raster plan, etc.) Layers and blocks used are according to any in house standards present with customers.

First, we find out what your CAD standards and specifications are, and then our human operators drawn your paper or raster files to CAD just like you want them to be. Our project managers review the conversion work done before delivering the files to you to ensure that all your demands are met.

The main features we provide are:

- ❑ Respecting the chain of dimensions; marking the dimensions that do not fit.
- ❑ Distribution of objects in their corresponding layers, based on the understanding of many types of drawings.
- ❑ Respecting geometrical relations such as perpendicularity, parallelism, symmetry etc.
- ❑ Careful control of type of entities used in the drawing.
- ❑ Respecting requested drawing accuracy.
- ❑ Providing the same layout for all drawings.
- ❑ Using the customer's own block library or building a new one.

Creating a new block library includes:

- ❑ Using the customer's paper catalog, if any, or constructing a new catalogue while processing the drawings.

- ❑ A unique name for each symbol following an agreed rule.
- ❑ Natural insertion positioning of blocks for easy of usage.
- ❑ A scheme of standard dimensions (if applicable), to make symbols interchangeable.
- ❑ Use of attributes.
- ❑ Modular structure to minimize the number of symbols (if applicable).
- ❑ Optimal use of entities to keep files size to a minimum.
- ❑ We make your blueprints 100 % CAD exploitable.

You are welcome to try a free sample conversion to help judge our quality & response times.

#### Procedure

Drawings may be sent to us on Paper, Ammonia Prints or Photocopies. We assure quality by the processes we have in place. If any processed drawing is found to be incorrect, we shall redo that drawing without any extra charge.

The process is basically as follows:

- ❑ Scan the drawing
- ❑ Convert into DWG (or other) format
- ❑ Edit the DWG formatted drawing
- ❑ Plot the DWG format drawing on tracing paper
- ❑ Compare this tracing with the original
- ❑ Re-edit the DWG format drawing if any deviations from the original are found

#### Quality Control

Light Table QC: To ensure that all paper maps have been fully converted into a digital format, a plot of the digital file is taken and overlaid on the original on a light table. All errors and missing entities if any, are marked and sent for re-work followed by a screen check.

#### PRICING

Our offshore drafting facility offers a substantial cost difference due to the labor intensive nature of CAD and drafting services. The offshore management has requisite skills to deliver drawings of the best quality in various CAD disciplines. The time gap of 4 to 12 hours between our offshore facility's timings and that of Europe and the United

States effectively ensures the extension of their working to almost 24 hours. Moreover our facility works six days a week and operates on a triple shift basis for 24 hours a day. A significant portion of this cost differential is passed on to the Client.

#### QUOTATION

Every job is estimated accurately based on specific man hour cost and item methods. There is no guess work in our estimation or our performance. Lumpsum quotes can be given after receiving the scope of work.

## SERVICES

Due to our significant knowledge and experience in producing large software products that provide solutions to complex problems in the CAD/CAM field, Re-Life are ideally placed to take on bespoke software projects in this area.

By focusing on the CAD/CAM market we are able to build most solutions on top of our standard products, thus reducing the amount of bespoke development required and hence the cost and time to you. A further advantage of this approach is that the risk to the customer is significantly reduced, as we are able to demonstrate the effectiveness of our standard products to solve the problem manually, while at the same time enabling us to fully assess the customer's requirements. This approach also enables us to minimize the time to market, a vital factor in any project.

Re-Life custom software solutions enable the customer to develop a stable and robust production process. This reduces the reliance on the highly trained individuals that are would normally need to operate 'off the shelf' CAD/CAM software.