

Product confusion!

Hot off the CD-burners is a new range of products called *WiselImage V* from Consistent Software www.csoft.no. This range of products is a step-up from the previous versions called *Spotlight* and *AutolImage*. Wait, we seem to remember that these products were sold worldwide by another company?

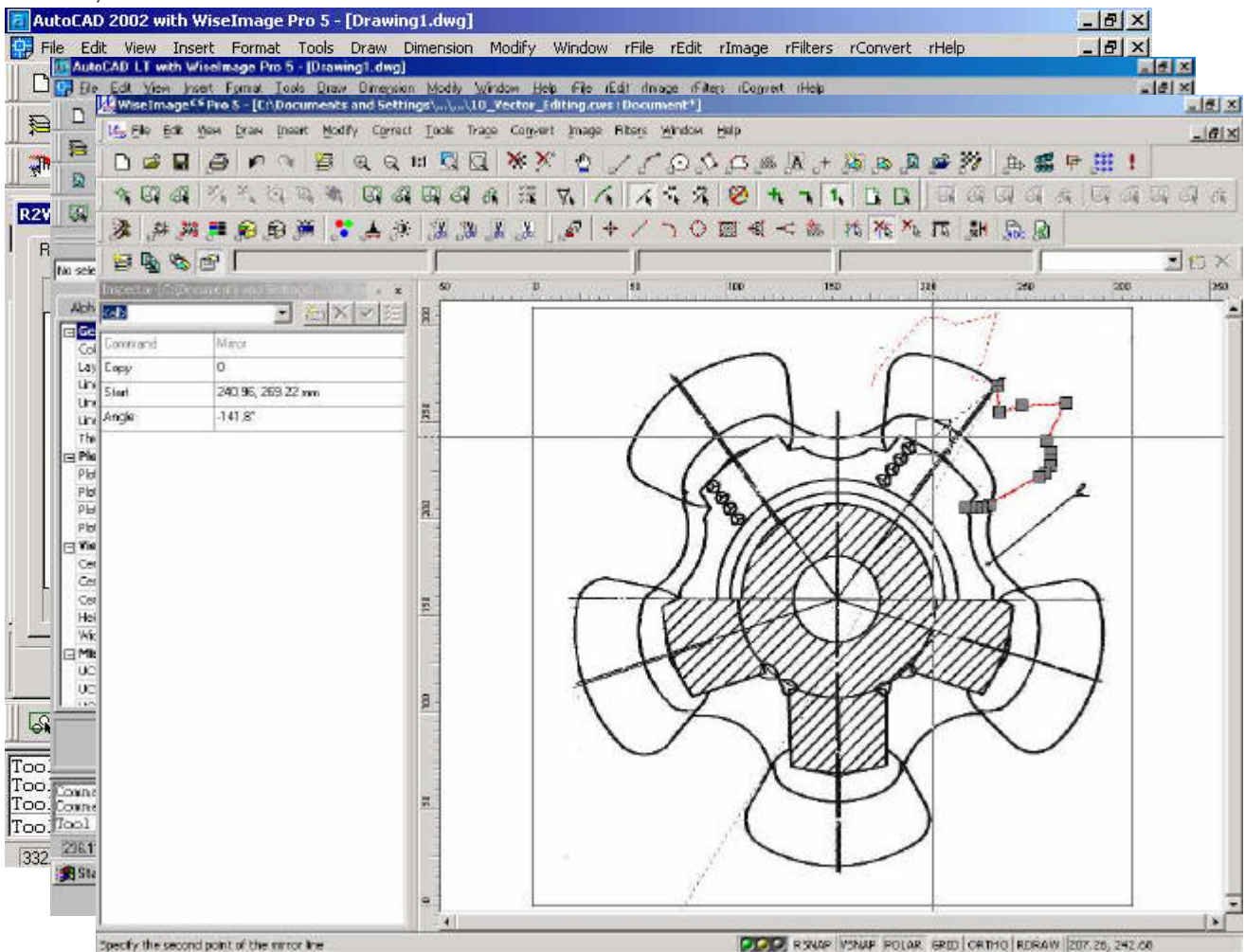
After a little investigation we finally see the whole picture. Although these products used to be marketed under their old names until last year by a “now” competitor of *Consistent Software*, the truth is that they have always been developed by *Consistent Software*. Also, with the introduction of the latest product with its new improved features and functionality, and a completely re-written source code from top to bottom, the natural progression was to introduce a new name. - *WiselImage*. With a name like *WiselImage* you need to show something exceptional, and as they say “*the proof is in the pudding*”.

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Platform compatibility.

Although we only tested the *WiselImage Pro* for Windows and its AutoCAD 2002 equivalent, *WiselImage* is the only product that offers a complete cross-platform functionality spread on AutoCAD, AutoCAD LT, AutoCAD Map, and Architectural Desktop, and as a stand-alone version for Windows. Competitors like Autodesk and GTX only offer full raster enabling in AutoCAD, not LT and others like Softelec cannot offer a full range of product functionality to all the platforms.

Add to this that *Consistent Software* sell *WiselImage V* for AutoCAD as a triple license, which enables users to choose their platform of preference from the purchase of one product. A user may even install all three versions, and run them one at a time.



The picture shows WiselImage for Windows, for AutoCAD 2002 and LT 2002.

Wiselimage offers the same functionality on all platforms, but the interaction is slightly different when you use the Windows version as opposed to the AutoCAD versions. In the windows version *Wiselimage* is in charge of its own vectors. It is not a CAD system, but it offers a lot of native CAD entities, actually more than any of the competitors. When it comes to the AutoCAD environment, *Wiselimage* is the product that completely abides by all the Autodesk rules when the application is loaded into AutoCAD. This allows the user to call and manipulate all functions from the command prompt, just like native AutoCAD commands.

Wiselimage is the product that completely abides by all the Autodesk rules

Raster is objects

How *Wiselimage* recognizes the different objects is not wizardry, what seems to be magic however is the way that *Wiselimage* enables raster to become so much like vector that it defies logic. *Wiselimage* allows you to select entities intelligently like lines, circles and arcs. These entities come with knowledge on entity type, marker start and end, entity width, entity start, middle and end point, delta length, center, bulge, radius, start and end angle, sector and more, just like any normal vector. The selection of raster is done using the widest array of selection tools of any product in the market. You can even select and manipulate blocks of recognized entities in one go. Again this is done just like you would with a CAD system. You can Group, Ungroup, move, copy, snap, rotate, mirror, flip, array and other standard vector manipulations.



an Array onto a vector line.

The software even allows you to manipulate raster objects relative to existing vector objects and vice versa. The example shows a raster rectangle duplicated four times as

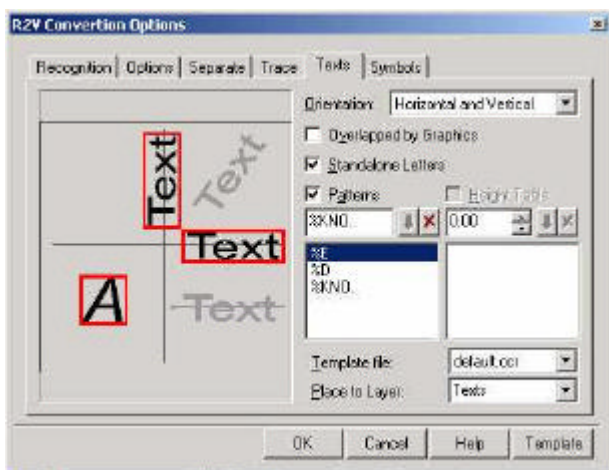


OCR and Symbol recognition

Included with the pro version of all products are an OCR engine, and a tool for symbol recognition. For any serious work these tools are very handy. Also as you will see discussed further down in this article the symbol recognition allows users from all different vertical markets to make predefined or even use imported symbol templates for very fast and accurate recognition.

OCR

Consistent Software has developed the OCR engine in-house. This engine is specifically designed for recognition of drawing text and not document text. Thus the focus of *Wiselimage* is to allow you to train the OCR for pattern recognition rather than bundling a dictionary for pattern recognitions. Mastering set up of OCR patterns is simple. The different available definitions are, D for digits (numbers) and E or e for English alphabet upper and lower case letters. For National alphabets like Cyrillic, Greek or Scandinavian, and more, the character N or n defines upper and lower case. Finally the letter K allows you to input Keyword patterns that will not be part of the recognition. You can also use any specific character to define a template. Add to this the fact that you can also specify the number of digits or characters in a template, or any variation of these, and you will recognize that you have an extremely customizable and powerful template builder available in this solution.



As seen in this template example, there are three different template types.

1. %E = Any number of Uppercase English alphabet characters
2. %D = Any number of digits
3. %KNO. = Keyword (label) with exact pattern matching "NO."

You could also define a template with %D%E = any number of digits before any number of capital letters, or %D%e1 = any number of digits plus one lower case letter.

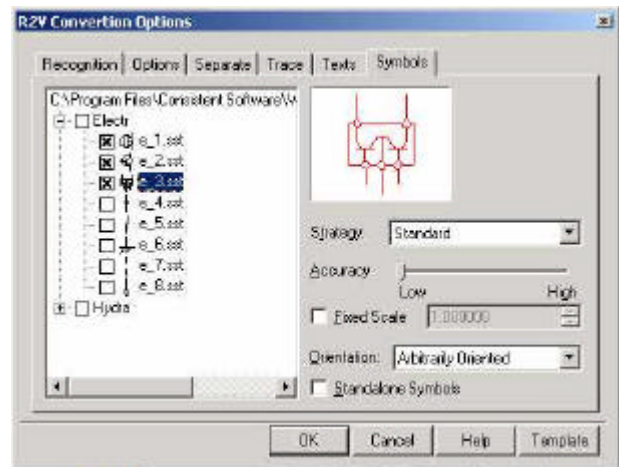
Although the *Wiselimage* built in OCR module was capable of an almost perfect result by accurately specifying templates, the result was totally acceptable when we did nothing to specify the templates. "Remember that no matter what percentage a SW supplier offers you as accuracy of recognition of text, the fact remains that there is no tool available that can tell you what 10% or 0.001% is in error. During the OCR

tests we also used the external OCR engine, FineReader. Although the FineReader engine was superior on large quantities of text, the built in OCR seemed to be easier to adapt to the job at hand. The big difference being that FineReader uses a library of words to compare against when recognizing text, and the *WiselImage* default OCR uses its own built in templates to recognize the text. Obviously there is normally more jitter and jazz on the title-block of a drawing than normal words and phrases. As any added OCR will increase the cost of the system, it seems to us that the SW offers ample OCR support as it is delivered.

Symbol recognition

Many raster solutions in the market today are capable of recognizing symbols. What sets *WiselImage* apart from its competitors is that this ability is expanded to enable very complex patterns of recognition. Even though the symbol might be complex, the capability of *WiselImage* allows you to set a parameter for the accuracy of the recognition. By reducing the accuracy of the recognition, symbols of varying size and alignment were added to the recognition as long as they conformed with the exact pattern specified.

Using this kind of tool on architectural drawings of buildings, for example, will allow you to replace old hand drawn windows on a building façade with new windows from a pre-defined template. This template may be imported from AutoCAD standard libraries.



The symbol recognition is absolutely the most powerful tool we have ever seen. For anyone working with floor plans, old house drawings, schematics, process drawings or other drawings where symbols are repetitive, this tool will speed up conversion or recognition. Architects, plant managers, facilitators and more could easily justify the investment of owning *WiselImage*.

More functionality

WiselImage is a very complex product. There seems to be almost no limit to its capabilities when it comes to raster editing. This is probably the worst feature of the product; it may be too advanced. However, any user of AutoCAD will have no problems becoming productive with this product. They will feel right at home with all the functionality and probably forget that they are using a third party product in AutoCAD when they are manipulating raster or hybrid data.

Users of *WiselImage for Windows* will have to learn all the capabilities of the SW from scratch. The user interface, and the logic of functionality are complex, but intuitive. It even enables a user to build personal toolbars, and menus to speed up or streamline usage of the product.

Repro houses and copy shops dealing with large quantities of drawings will benefit from the built in batch generator that enables predefined series of actions to be performed on sets of drawings without operator assistance. You can select to have *WiselImage* do automatic alignment, filtering (despeckle, hole filling, thinning and many more), crop to frame, fit to paper size and other functions. You can even do batch OCR and symbol recognition.

Raster to vector conversion allows the user to define layer by width and type. *WiselImage* even has a WYSIWYG pre-process viewer allowing the user to interactively verify the intended process. R2V is not the fastest around, but the quality is very good. We have seen faster conversions done on comparable drawings in other products, but the result is often so that time saved in the automatic conversion is more than lost in the preprocessing cleanup of the vectors in the end. What you need when you convert is useful information. If your result is a bunch of stupid vectors, you are better off with just a stupid raster image. The best is however to have an intelligent hybrid image, and this is exactly what *WiselImage* offers, intelligent raster and hybrid imaging.

Intelligent raster is faster and less expensive than stupid vectors.

There are too many functions to cover in detail in a short article like this one, so here is a list of some of the functions that are not covered. Color filtering and layering. Color conversion and line tracing. Multipage TIFF creation and management. VB-Script enabled, OCX module available, OLE compliant and tons of other useful tools.

The only way you, as a potential user, can verify if this product will help your production needs, is to request a demo, or download a fully working demo copy for your own personal trials. If you do, and are not an

AutoCAD user, you will save time if you read parts of the user manual before you start. This will familiarize you with the product and how it functions.

Summary

As the author has previous knowledge of both the *WiselImage* predecessors *AutolImage* and *Spotlight*, as well as with other competitor's products, it is safe to say that *Consistent Software* have earned their name. *WiselImage* offers the most impressive, powerful and *consistent* solution available in the market at present!

**Consistent Software
have earned their name**

Pros

- Cross-platform availability
- AutoCAD compatibility
- Excellent OCR recognition tools
- Symbol recognition
- Batch capabilities
- OLE compliant
- OCX module available

Cons

- Non significant

Overall

- If you have drawings and / or an AutoCAD system, you probably need this product to fully utilize your existing and future paper drawings.

Article by Gregg Olsen.

Gregg Olsen SW engineer with 20 years experience in the computer business. He has worked with IBM and Digital, but switched focus to IBM PC's when they emerged in the eighties. Currently Gregg Olsen is focusing on industries and products related to Collaboration, Document management, imaging, CAD and Repro as a freelance writer. Comments and requests can be sent to gregg_olsen@hotmail.com