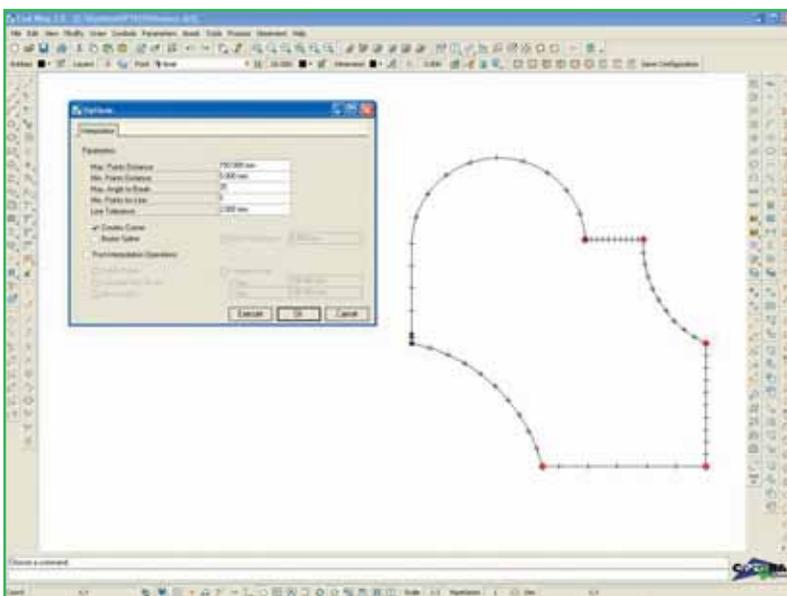# Optima: glass shapes - a solution for each and every need and demand - at high speed

In this article, Optima present two of its products – Cad-Way and Scan-Way – with which, the company says, all phases of glass production, from drawing the item right up to the finished product, are integrated and perfectly compatible with all its other software. With the possibilities of importing all the formats used in the sector and enabling free hand drawing by means of simple but complete functions, as well as parametrical modules, these programmes are enabling glassmakers to obtain shapes and enter sectors and applications that, until a few years ago, were not even though possible.

Cristian Zanca*

Creating profiles with Cad-Way and automatic interpolation

The evolution of the use of glass moves each day towards more and more sectors and applications that, until a few years ago, were not even though possible. Obviously, in order to face these new needs and demands, the shapes taken on by glass need instruments suitable for the acquisition, and treatment of data as well as interfacing with processing machinery.

DRAWINGS

Optima has always paid particular attention to the problems relative to shapes, supporting,

Optima: glass shapes - a solution for each and every need and demand - at high speed

with various tools, the need to draw the wanted shaped as fast as possible. *Cad-Way*, other than being able to import all the formats used in the sector and enabling free hand drawing by means of simple but complete functions, has now been further equipped with a series of dedicated tools.

The creation of profiles by means of automatic interpolation starting from points

This function enables to filter points that are too near or too far away from the outline of the profile. It automatically generates corners even when there are no points, as well as mitigating the curve of the profile as per each precise need. It also enables to call back functions in cascade mode to speed up the putting into production of the items.

TRUE TYPE FONT

True Type is important for etching, sandblasting or similar processes, and has the possibility of using all the fonts installed. For example, True Type enables the complete freedom of positioning of the text, its positioning, with a reference arch or a rectangle to write in, also increasing its height or width. Other characteristics include functions for character space, line spacing, direction and inclination. Another fundamental feature is the possibility of exploiting primary processing bases, which, while respecting the closure of the profiles, tangency and

order, enable many simple and fast operations with optimal results.

THE PARAMETRICAL CONCEPT

When possible, Optima has always tried to work in a parametrical way. This concept has led to the integration of a large library of shapes in the Cad-Way module. Created for simple figures, at present it consists of particular additional modules that enable to create drawings of doors, windows, Georgian Bars, and tops for kitchens and bathrooms at high speed. These modules, which allow to insert details
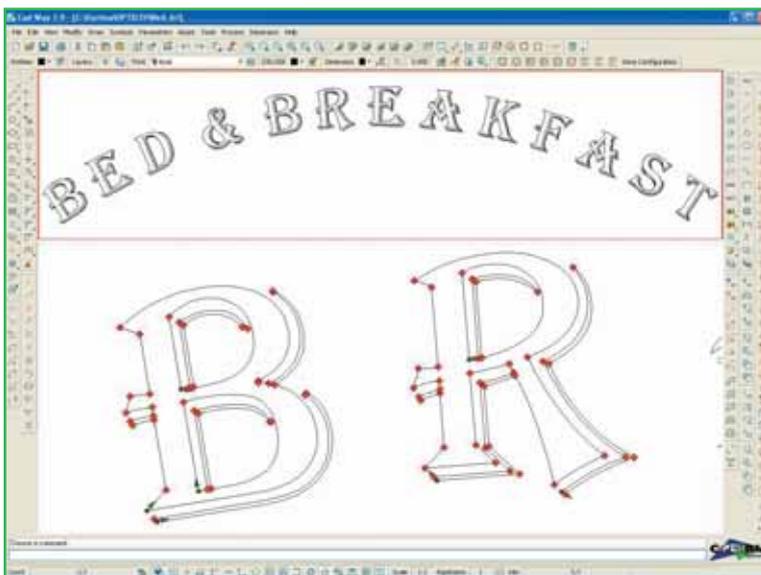

Parametrical shapes in Cad-Way

that are, in turn, also parametrical, result in a considerable number of combinations. With regards to the programme for doors, there are also libraries containing the processes needed for the assembly of the various types of frames, divided as per manufacturer.
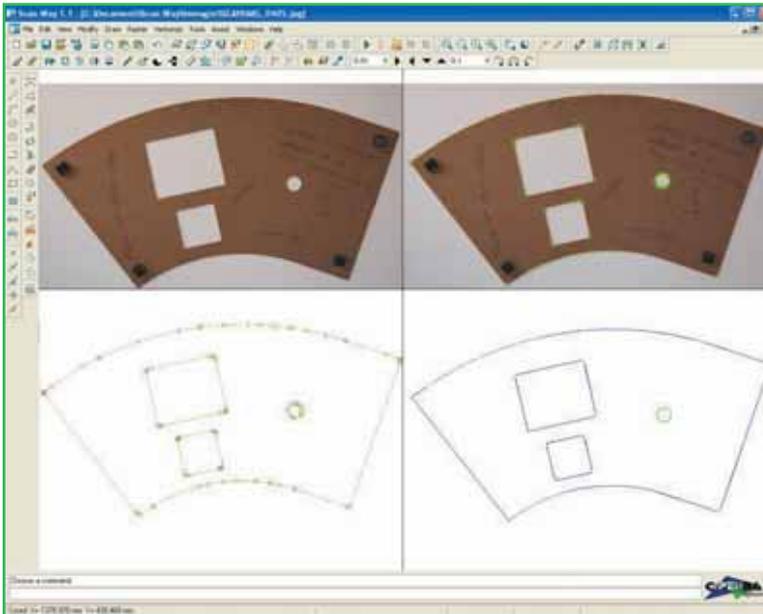
NEW ACQUISITION METHODS

Optima has always concentrated on solving problems regarding shapes, facilitating their acquisition by means of drafting machines and supplying algorithms of interpolation points so as to speed up drawings without compromising precision. Sometimes, however, this technology is not sufficient, and, for example, shapes that are too heavy, big or compressed cannot be read by the drafting machine, other than shapes that cannot be removed from their position. Today, Optima has a solution for these situations too: *Scan-Way*, that now uses an image to create the geometry of the profile.

This means that it is possible to start from a bmp, tif, jpeg file, as well as acquiring the data by scanner or digital photos.

Once the software has loaded the image, it

True Type Font for etching, sandblasting and more

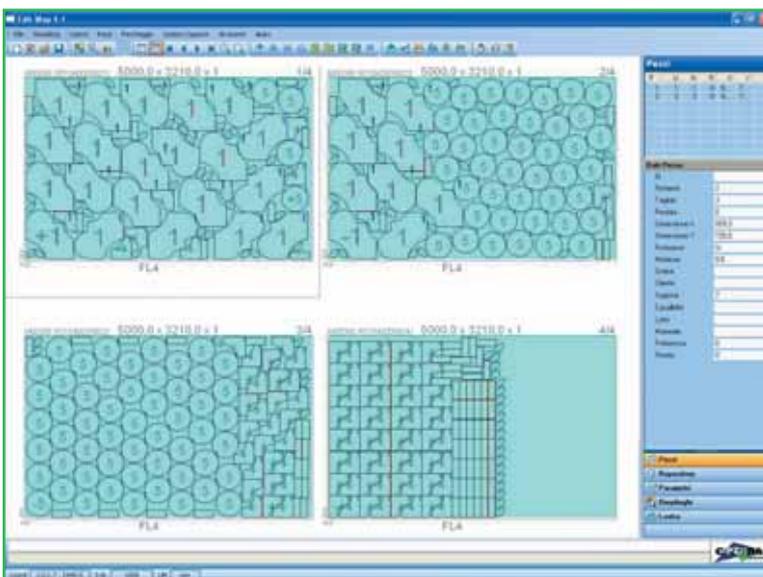**Scan-Way uses images to create the geometry of the profile**

contains the functions needed to correct the deformation caused by the optical system used. By means of fixed thresholds regarding colour contrast, it proceeds with vectorization that, in a short time, leads to the recognition of the profile. Last but not least, using reference points present in the image (from the noted dimensions), Scan-Way returns the geometry to the real measurements of the shape.

A further field of application of the Scan-Way software is that of the creation of cutting directions for which Optima can supply large image libraries created specifically.

CUTTING OPTIMIZATION

With savings in mind, Optima and when the material and cutting technology allow it, further reductions in waste material can be achieved with a nesting algorithm. As per specific needs

and demands, this software can handle the minimum distances between pieces, rotation possibilities, tool diameter, starting corner, serial pairing, as well as personalization possibilities.

CONCLUSION

All the described phases, from the drawing right up to the finished product, are integrated and perfectly compatible with all software manufactured by Optima, which is multi-lingual, it can operate in any unit of measurement, and has been designed to manage and pilot any numerical controlled cutting table and/or processing adapting to the various technologies present on the market. ■

Cutting optimization with nesting

IDENTIKIT OF THE COMPANY

Optima was founded in1994, and is headquartered in Italy. The company has since grown to have branches in France, Canada and Spain. Optima employs 15 people in Italy, and has a turnover of EUR 1.5 million, with 60 per cent of its production exported.
Software applications of Optima's products for glassworks range from client orders to shipping of the finished product, from surface optimization to CAD/CAM processing.

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