

Globalisation of the footwear industry is a fact of life; it is also a truism that China dominates the global business when it comes to production. In recent months, however, we have begun to detect more than just a groundswell among producers and politicians alike that this is a state of affairs that does not enjoy universal appeal.

Running ever faster

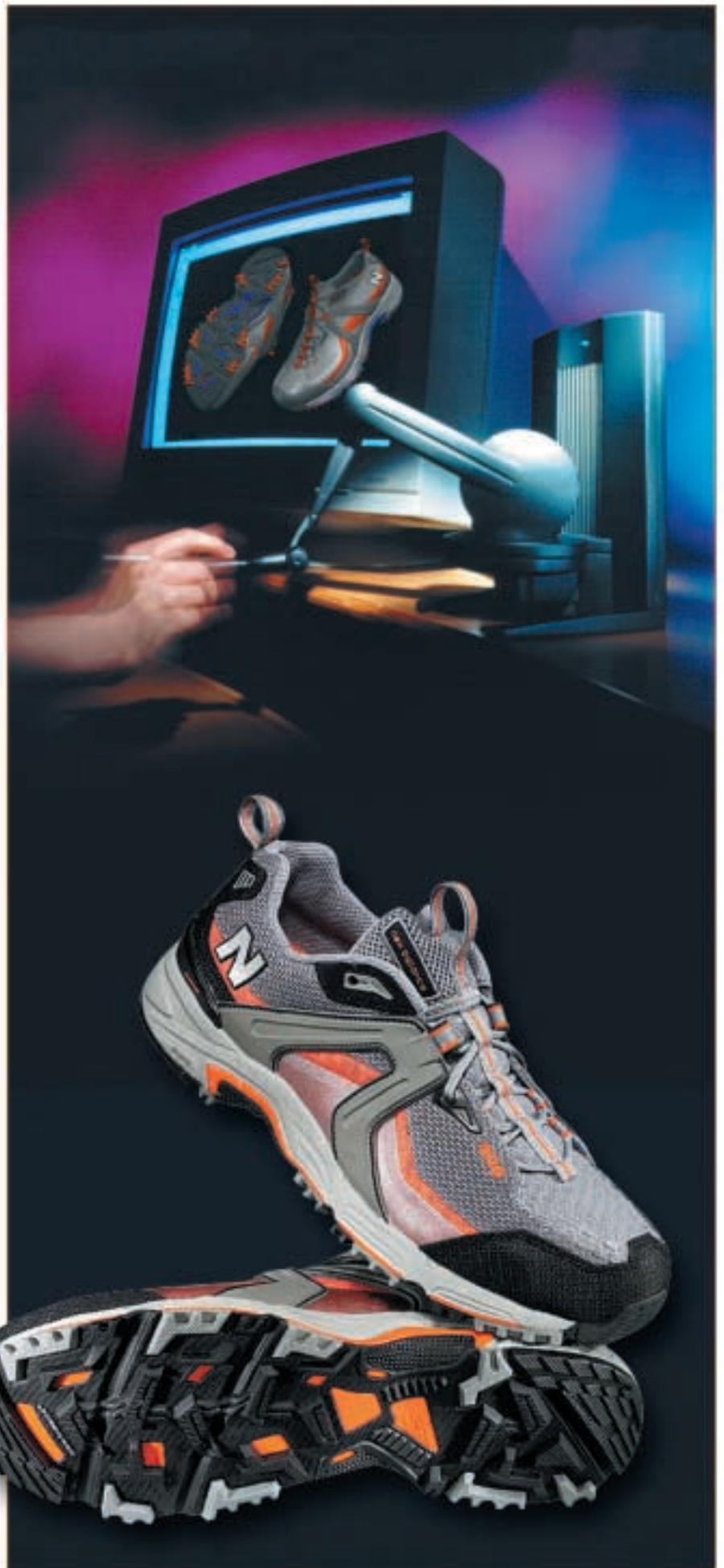
In September footwear workers appear to have taken to the streets in southern Spain, in the heartland of its shoe production area, to demonstrate violently against the flood of cheap imports from south-east Asia when they set fire to a warehouse containing imported footwear.

Nevertheless, in the view of Dr Ron Whittaker, the chief executive of SATRA, the international footwear technology centre with its headquarters in the UK, we are left with a modern and efficient production, marketing and sales operation which is a leader and can certainly be compared with any consumer product industry in the 21st century.

He admits that many people have suffered in the transformation of the footwear industry, particularly in employment losses in Western countries, and some will mourn the passing of the traditional craft image of the industry on which much of the heritage is based. Yet, as with many industries, we are seeing the forces of global economic change at work.

SensAble's FreeForm Modeling system is used by leading footwear companies and manufacturers including New Balance.

 SensAble Technologies / New Balance Athletic



If the labour cost is more than 10% then...

He argues that, in the world of 2004, any conventional product which has a labour cost greater than 10% of the final value cannot be economically manufactured in Western countries. In order to sustain the standard of living demanded in developed countries the working population in the West needs to be involved in higher value employment.

In footwear, he states, this scenario is seen most clearly as the 'knowledge-based jobs' of design, procurement, material selection, specification setting, quality assurance and logistics. It is remarkable that more than 80% of the shoes sold in the US this year will have been made in China. In the space of the last ten years highly sophisticated product supply chains have been developed that deliver high quality, well produced, attractive but low cost footwear to the Western world. As the public's appetite for appealing, innovative branded footwear increases, so does the sophistication and efficiency of the 21st century supply pipeline. It is difficult to argue with his views.

Niche or mass

Wherever one happens to be in the equation, the consumer is still going to expect to see new styles and producers will have to decide whether to continue producing at home or follow the route to low cost sourcing. Design is still going to be the starting point and turning that design into reality can take a great deal of time. In the leisure market sector in particular 'time to market' is often the make-or-break factor in continuing success for even the leading brands.

One consultancy which has placed itself quite comfortably in geographical terms is called Shoe in One Day. It is part of Road Ahead Technologies Consultant Corp., which was established in July 1997. It has five offices located in both Taiwan and mainland China with 80 employees. Headquartered in Taiwan, it can be seen as a supplier to the thousands of footwear producers on the Chinese mainland but equally it can offer a service to anyone wanting to turn out shoes in any quantity elsewhere in the world. The age of computers and the Internet has made design interpretation and analysis a matter of hours, not weeks and days.

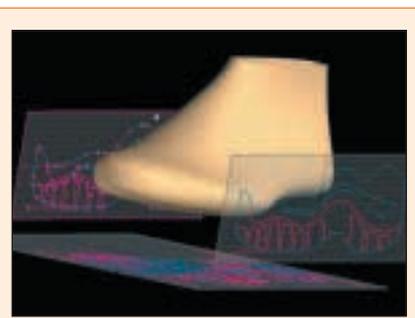
In an era that's flooded with competition from various parts of the world, owners of shoe brands are forced to develop better strategies that will shorten the time required for releasing a new model of shoe. The traditional method of

introducing a new shoe to the market has been and is fairly time-consuming. Often there is no direct communication between the designer and the manufacturer and graphic reviews and discussions can repeatedly go back-and-forth before reaching a conclusion.

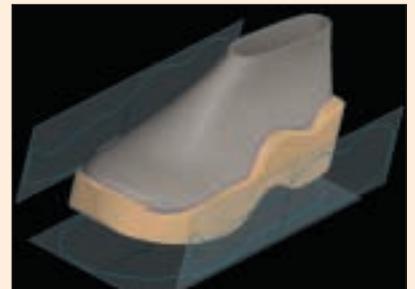
The 'Shoe in One Day' solution was launched in June 2004, created with a single goal in mind – offering the shoe designer an easy and timesaving service to turn his or her design concept into a 3D model with full colour renderings within 24 hours. The output data can also be transferred easily into a rapid prototyping machine to make a physical sample. Through 'Shoe in One Day' the designer can have direct access to its engineers and unnecessary, intermediate steps are eliminated, which makes the entire review process a simple task.

Everything is done online. The designer sends the company sketches, 2D drawings or pictures and the data of the last in 3D format—such as STL, Point Clouds, etc. At the other end, the Shoe in One Day expert turns the idea into a 3D digital model using the 'SensAble FreeForm Modeling Plus' system developed by Sensable Technologies of Woburn Massachusetts. The model data is then used to generate several photorealistic renderings and a QuickTime file, which enables the designer to view and rotate the virtual shoe on the screen of his or her computer monitor.

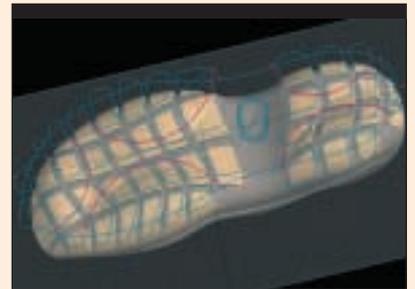
The company claims to dramatically shorten the design phase and reduce the cost of the development cycle. This should appeal to those who still wish to produce in traditional footwear regions around the world. 🌐



The first step is to import the 2D sketches and convert them to the gauge using the Draw function in the FreeForm Modeling system. Each gauge is then aligned to the plan.



The inside, outside and bottom gauges are used to cut the rough model of the sole and shape the side wall.



The bottom pattern is used to wire cut the lugs, the side wall is embossed and the final design is rendered.

