

Ride like the Wind

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Hailed as the hottest new sports item to hit the streets and one of the best inventions of 1992, the Snakeboard is a next-generation skateboard which combines surfing, snowboarding and skiing. Consumer orientated and backed by a comprehensive marketing strategy, this product is rapidly expanding its export market.

The Snakeboard, a new recreational craze internationally, is an example of a product designed, developed and manufactured in South Africa which has been extremely successful in the world marketplace. Now patented in South Africa, the United States and 23 other countries, it is not only an example of innovative local design which has generated sizable export revenue, but a textbook case study of the importance of a unified approach to new product development.

This ingenious product, first marketed in November 1990, consists of two independently pivoting footplates joined by a crossbar. Each footplate stands on a pair of wheels. The rider propels the device forward with an alternating heels-together, toes-together movement of the feet on the footplates, combined with a twist of the hips and shoulders. It swivels forward with a serpentine movement, which led to the choice of its name.

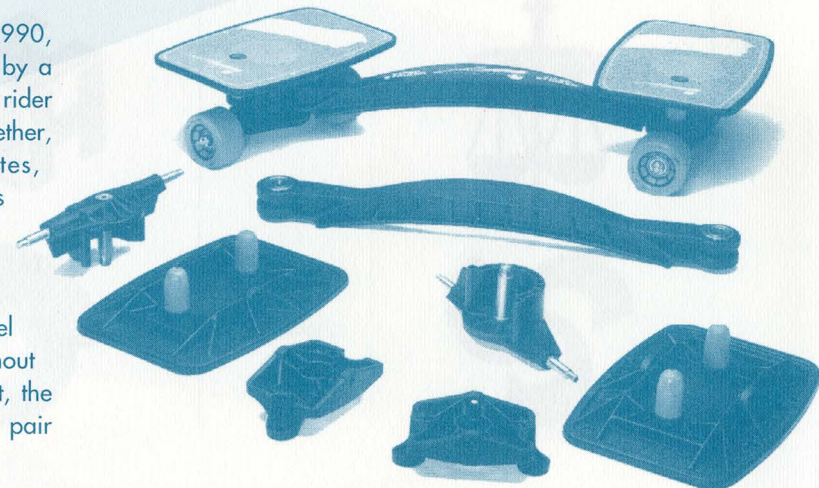
These simple body movements enable the rider to propel the Snakeboard along flat ground and even uphill, without having to push with one foot on the ground. In contrast, the better-known rival skateboard is a single platform with a pair

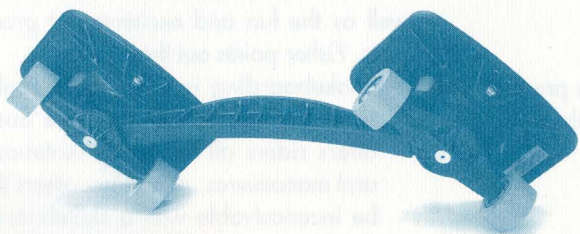
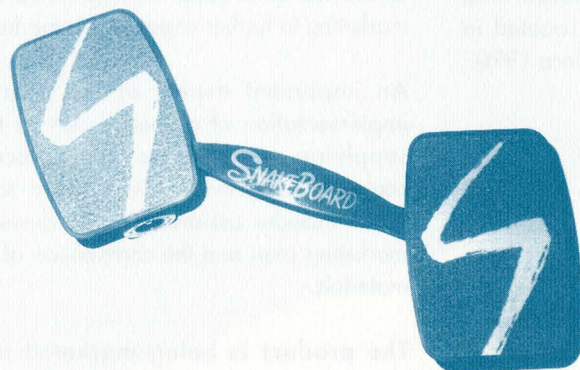
of wheels at either end. Steering is limited and the rider is only able to create forward movement by going downhill or by pushing with one foot on the ground.

Innovation and design

Inventor James Fisher, along with friends Oliver Macleod-Smith and Simon King, conceived the brainchild seven years ago when Fisher was a student of 18. Currently a director of Skatex International (Pty) Ltd., Fisher says he was looking for 'a way to simulate on land the effortless, gliding motion of surf-riding, skiing or snowboarding' (Daykin 1993:8).

The original design began when the inventors hand-made the first models. The initial prototype was built from an old roller-skate, a length of plumbing pipe, two pieces of wood and various odds and ends. After a period of trial and error, an aluminium prototype was made but it soon became obvious that this material would prove too expensive for mass production.





The inventors then contacted a leading supplier of polymers who took drawings overseas. A report came back that the product, as designed, could not be manufactured in plastic. After contacting a number of local plastics manufacturers who informed him that they could not help, Fisher demonstrated the prototype to Robin Clausen, Managing Director of Clausen Plastics (Pty) Ltd., a company in Wadeville.

Clausen undertook to produce a working model of the Snakeboard which would be used to test the engineering design and the viability of manufacturing the board at a competitive price.

Development and manufacture

Hand sketches of the concept were converted to component drawings and a working model of the board was machined from solid blocks of nylon on the CNC facility at Clausen Plastics. The model underwent severe test trials which proved the design to be highly successful.

Detailed component and tooling drawings were then produced by a team at Clausen Plastics, and the production tooling was manufactured inhouse. Here the computer-aided programmes used for machining the prototype were used to cut the electrodes. The moulds were manufactured using computer-controlled milling and spark-erosion machines.

The design and choice of material for the board presented some challenges as it is usually ridden over rough terrain and subjected to very tough treatment. Watching a rider on a board in action demonstrates how much abuse and stress Snakeboards are subjected to.

Zytel ST801 Super-Tough Nylon from Dupont was the material finally chosen for the seven major components as it has outstanding impact, stress crack and shock resistance properties. It provides the flexibility that the design calls for and it is notch insensitive, which is extremely important as the Snakeboard is subjected to cuts and abrasions while being used. High rebound Polyurethane was used for the wheels and suspension.

Assembly techniques were chosen which allowed for a large portion of the assembly procedures to be carried out at the time of moulding of the various components, with final assembly, decoration, inspection and packaging done on a smooth flowing assembly line.

Apart from a change of wheels, decals and grip tape, the Snakeboard needs no servicing. Any repair or replacement of broken parts can be carried out with tools normally available in the home environment, for instance, a Phillips screwdriver and shifting spanner.



New models

Part of the success of the product can be attributed to manufacture and marketing company Skatex International's ability to identify consumer needs. The company has refined the product and its pricing to accommodate diverse needs in the marketplace. For instance, design changes to the original board led to the production of a board, targeted as the market entry model, at a price reduction of approximately R100. The resulting cost of this change to the manufacturer was minimal. In fact, component parts and tooling for the Snakeboard

were designed so that by utilising simple tooling changes, a range of models could be produced without further expensive tooling for each model.

The original concept has now been extended to a range of boards consisting of four models:

PRO - The original model is top of the range and offers the rider extremely high performance. Riders are able to utilize the selection of accessories which include footstraps, longer bar and soft suspension.

COMPETITION - The second model offers the rider a less expensive alternative to getting into the sport. This board has no suspension and has been designed so as to be lower to the ground for better stability and ease of learning.

JUNIOR - Is a board designed specifically for children aged four to eight years old. This model is much shorter and makes it easier for riders who are small to get the hang of snakeboarding.

VIPER - Is the latest edition to the range. This board is a fully functional, less expensive alternative to the Competition board and is essentially a model between the Competition and the Junior. It is targeted at ages seven to fourteen but can be used by riders of all ages.

A great deal of attention has been given to making the packaging for retail sales compatible with international standards in box design, layout design and strength. A reasonably priced, functional, full colour box has been developed for all models. The product is supported by the inclusion of instructional material which outlines in text and illustration the basic steps in learning to snakeboard.

Marketing

Skatex International (Pty) Ltd is the international manufacturing, marketing and licensing company for the Snakeboard as well as related products and accessories. It is a South African incorporated private company with two directors. Located in Johannesburg, it has been in operation since 1990.

The company philosophy is threefold:

1. To promote, develop and protect the internationally patented sport of Snakeboarding worldwide
2. To enable distributors to be successful in their territories by providing international promotional support, new products and accessories
3. To control quality and cost effective manufacturing as well as provide the product to international distributors as and when required.

Skatex is determined to make snakeboarding a huge phenomenon worldwide. By February 1994, distributors had been appointed in 26 countries and sales, with an export value of R14 million, had exceeded 110 000 boards. The company has embarked on a route of aggressive international marketing to further expand their market.

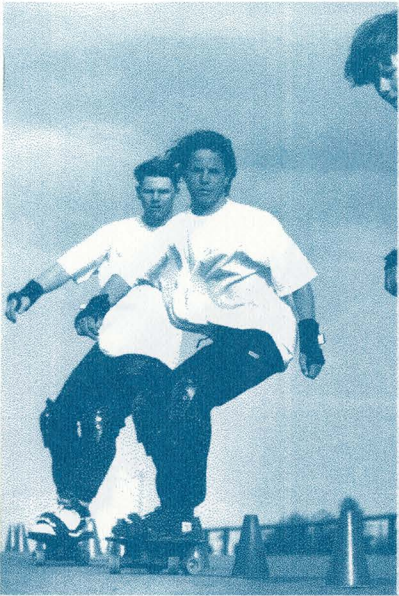
An important aspect of this strategy is the implementation of a special service to clients by supplying small orders where necessary. The company also provides clients with a 'total package' which includes assistance in the development of a marketing plan and the contribution of promotional materials.

The product is being marketed to potential consumers on the strength of its versatility, manoeuvrability, its function as a fitness device, as well as the fun and excitement it provides for all ages. Fisher points out that

Snakeboarding is a far more sophisticated sport than skateboarding. The Snakeboard offers riders all the usual skateboard tricks and manoeuvres, plus many others that would be inconceivable with a skateboard (Daykin 1993:9).

By mastering the serpentine body action, the rider is able to generate speeds of up to 12 kilometres per hour on a flat surface. Speeds of up to 22 kilometres per hour can be fully controlled whilst slalom downhill, and the Snakeboard's ability to wind its way in and out of extremely tight slalom courses at high speeds, demonstrates one of the main attractions of the product.

Although riding a Snakeboard might look fairly simple when undertaken by an experienced rider, learning to master the sport demands dedication and practise. To assist the learning process and to support sales, an instructional video and brochures





have been compiled for the training of unskilled riders

The sport is being promoted overseas through a series of activities. Training classes, demonstrations, team and individual competitions are organised by regional representatives. Games such as hockey, netball and soccer are now being played by snakeboard teams. Publicity and press coverage for all these events have resulted in the exposure of the product to a wide audience.

International developments

The United States is potentially the largest market for the product, with over \$1 billion worth of skateboards and rollerskates sold annually. Snakeboard USA are the authorised distributors for the United States, Canada and Mexico. So far all marketing has been concentrated in the western region of the United States, mainly California.

Ssnakeboard USA would like to market successfully across the whole of the United States. In order to raise sufficient funds to do this, they are in the process of offering a substantial portion of their stock to the public. They will proceed with an initial rights offering of \$6 million, and will follow with another offering for a further \$15 million. This stock will trade on the NASDAQ stock exchange. It is hoped that successful marketing across the whole of the United States will increase sales around the world, as anything which sells in America tends to sell elsewhere.

New markets in Korea, Ecuador, Norway, Chile and Egypt were broken into during 1993. Japan is another potentially huge market which the company would like to tap.



Recognition

The outstanding design and development of the Snakeboard has been recognised both locally and internationally. Accolades include it being:

- Winner of the *Popular Science Design Award of the Year* in the United States of America, November 1992
- Winner of the nationally syndicated CBS TV show *Why didn't I think of that* in August, 1992
- Filmed and shown worldwide by *Beyond 2000* who flew out to South Africa to film the insert
- Featured on BBC, CNN, ABC and ITV television shows and news reports
- Endorsed by the United States Olympic Ski Team as a cross-training device. They claim that as it simulates the body movements used in skiing; conditioning, mobility and flexibility are improved

- The recipient of extensive press coverage in popular sporting, scientific and business publications
- Winner of the 1993 *Chairman's Award for Excellence*. This award is given to an overall winner chosen from all the winners of the local Cullinan Design Awards for a particular year.

A winning combination

Tipped to follow the popular appeal of hula hoops, surfboards and frisbees, the Snakeboard has elicited an enthusiastic response from riders who describe the feeling of riding the board as incredible and unique.

This innovative product would not have succeeded without perseverance and sheer determination. Recognition of the crucial role of design, coupled to the integration of other aspects of product development, especially manufacture and marketing, have contributed to the international competitiveness and profitability of the product.

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