disa

South African Design Excellence Award

2004

Design Institute
SOUTH AFRICA
A division of the SABS

CELEBRATING SOUTH AFRICAN DESIGN EXCELLENCE

Contents

disa South African Design Excellence Award

Message from CEO of the SABS

Ten years of democracy and design promotion for South Africa

The ten years of democracy has seen remarkable growth in the appreciation and understanding of the important role design has to play in the building and development of our country. This has also been reflected in the work in which the Design Institute is involved. Some examples include:

- In 1996 the first black designer received an award in the main award scheme of the Design Institute. The number has since grown slowly but steadily for designers of products that are already in the market place. A growth in participation of 25% is recorded in the support programme for products in development.
- Although women seldom receive awards as product designers, it is clear that their numbers are increasing, as well as the variety of roles they play in the world of design. This is particularly apparent in the Design Institute's youth programme where an equal number of young men and women have received the Design Achievers accolade, culminating in 2003 with the first black woman winner. The awards ceremony was held on 16 June as part of Youth Day celebrations 2003. Dr Ben Ngubane, then minister of Arts, Culture, Science and Technology who was the guest speaker at this event, paid a particular compliment. He observed that this empowering programme was the correct way of celebrating Youth Day.
- Adrienne Viljoen, manager of the Design Institute was elected on the board of the International Council of Societies of Industrial Design (ICSID) in 2003. She is the only woman on the board of 11 members. Over and above the representative role she plays in design promotion bodies from developing countries, she also initiated a project called Women in Design. At the moment there is an international survey being conducted among the member countries of ICSID on the role of women in the world of design. The execution of the survey is based in South Africa.
- Awareness is on the increase of the role design can play in alleviating problems experienced in developing communities in rural, as well as urban areas. The Design Institute held a successful international workshop on product design for water-related products in 1999. A similar project on the development of sustainable rural transport is being planned with the full support of the national Department of Transport for April next year.
- Pride and interest are growing for products developed in South Africa. This is a most welcome change from the previous common perception and trend that South African products will always be inferior to imported products.
- A much greater appreciation for the value and importance of Intellectual Property rights is apparent, as well as the role it has to play when competing in the global marketplace.
- In meeting the challenges of a burgeoning new democracy, the SABS Design Institute award scheme, running since 1969, has been completely restructured to be in line with current industrial developments.
- The existing Design Institute activities have also been restructured in a new organogram of activities and a strategy for design promotion programmes has been developed as a nine-year plan, structured in three years intervals. It builds on the existing Design Institute projects. The plan was drafted to run from 2003 to 2011 and is now in its second year of implementation. It allows for growth in four clearly defined areas namely:
  - **Industry: Support for new product development**
  - **Education: Development of design leadership**
  - **Marketing of South Africa** as an innovative first world industrialised country
  - **Design for development**: Developing southern Africa through focus design projects for developing communities.

  Comprehensive information and liaison activities cut across programmes and service all projects.

There is clear evidence that design promotion adds to the economic and industrial success in developing economies. In South Africa with its unique circumstances, it is important to integrate a design promotion strategy with the overall South African System of Innovation.

Mr Martin Kuscus
CEO, SABS

Introduction to the disa South African Design Excellence Award

The brand new **disa South African Design Excellence Award** has been introduced this year under the 'Design for Excellence' scheme of the Design Institute of South Africa. It is not merely an extension of and an improvement on its predecessors – notably the **SABS/Design Institute Design Awards** of the past decade – but a completely new approach.

The **disa Award** scheme was developed over a period of three years and is the result of extensive research, wide consultation and thorough planning initiated by Ms Adrienne Viljoen, manager of the Design Institute of South Africa. The need arose for an awards scheme that complied with international trends in product design, that kept pace with recent and ongoing technological developments and that would be more relevant to current South African industry and society. In fact, it was envisaged that an awards scheme was needed to meet the demands of the 21st century, which could also serve as a stronger tool for marketing South African products and which would enjoy a higher popular public and industry profile.

The **disa Award** scheme naturally benefits from 35 years' experience of its predecessors and as in the case of previous schemes, serves to identify and honour excellent South African product design and designers. One of its main objectives is to make South African design a national imperative and to serve as a showcase to portray South Africa as an innovative, industrialised society.

We believe that it will soon become the yardstick for local consumers when selecting outstanding products.

Unlike its predecessors, where products were judged in only two categories (industrial design and engineering design), the **disa Design Awards** scheme has six adjudication panels, each serving a particular specialised industrial sector. The adjudication was done over a period of three days and the final evaluation was undertaken by a judging panel consisting of the convenors of each of the six specialist adjudication panels, plus others.

This year's adjudication panel included an eminent overseas designer as guest adjudicator, Satish Ghokale, who was elected 'Designer of the Year 2003' in India. His presence further enhanced the goal of ensuring that the **disa design awards** scheme would be of an international standard.

The awards scheme will no doubt be refined and improved upon to comply with the ever-changing demands of product design. We trust that the **disa South African Design Excellence Award** will in time become as prestigious in the design field as the Loerie awards are in the advertising industry, or even the Oscar awards in the international movie industry.

Prof. H Christo Viljoen
Chairperson: disa Adjudication Panel

disa
South African
Design Excellence Award

Introducing the adjudicators

The independent panel of adjudicators of the **disa South African Design Excellence Award** serve by invitation and give their time and expertise for free as a token of their commitment to the promotion of good design. This year's entries were adjudicated by a panel of 33 adjudicators:

Built environment, including components, urban furniture, equipment and tools
Ms Linda Mvusi (convenor), Mr Neville Naylor, Mr Tasos Calantzis & Mr Clive Govender

Education, leisure, sports goods and toys
Mr Kees Schilperoort (convenor), Mr Brian Steinhobel, Prof. Abel Toriola & Dr. Michael Hunt

Electronics, information and communication technology (ICT)
Prof. Cedric Smith (convenor), Dr Elsbeth Dixon, Mr Saurabh Sinha, Mr Roger Williams & Mr Bernard Smith

Home and office ware
Mr Pieter Dreyer (convenor), Mr Daya Naidoo & Mr Henry Kurowski

Mechanical and electrical engineering, transport, mining and machinery
Prof. Ian Jandrell (convenor), Prof. Andy Dickson, Mr Thiru Govender, Mr Shuttleworth Ntsie, Mr David van der Merwe, Mr Tristan Melland, Mr Roger Pitot, Ms Jelena Janjic & Ms Lizette de Vries Venter

Medical and healthcare
Dr. David Boonzaier (convenor), Dr Pierre Cilliers, Ms Nonkonzo Molai, Dr. Don Allen & Mr Roelf Mulder

Prof. Christo Viljoen
disa Chairperson

Prof. Viljoen retired as vice rector (Operations) of the Stellenbosch University after a long academic career. He was elected Engineer of the Year in 1992, and received the Order for Meritorius Service (class silver) in 1993. He served on the councils of the SABC, SABS, Eskom and Electricity Control Board.

Mr Tasos Calantzis
Industrial designer

Mr Calantzis is an industrial designer, founder and partner of Readymade (est. 1997). He holds a BTech Industrial Design degree from Technikon Witwatersrand and is a past winner of a SABS Design Award (2002).

Mr Pieter Dreyer
Industrial designer

Mr Dreyer is managing director and owner of Kitemark Product Design, a company specialising in the design of mass products (plastics and metals). Kitemark was the primary design company in five previous winning product designs in this award scheme.

Prof. Tana Pistorius
Assisting the Chairperson

Prof. Pistorius is a professor of Intellectual Property Law at UNISA. Her areas of specialisation include e-commerce and intellectual property law. She did her doctorate on design law and introduced design law as a separate discipline in the curriculum of both the diploma course on IP and the LLM degree with specialisation in IP law.

Dr. Pierre Cilliers
Biomechanical engineer

Dr Cilliers has 15 years' experience in teaching Electronic and Biomedical Engineering Design and Innovation at the University of Pretoria. He is currently with the Hermanus Magnetic Observatory, where he is responsible for innovative applications of GPS technology to ionospheric characterisation.

Mr Clive Govender
SABS Council

Mr Govender, vice president of ABB South Africa is involved in quality, safety, environmental and supply management issues for the ABB group. He is also responsible for sustainability issues for the sub-Saharan region.

Mr Satish Gokhale
International Adjudicator

Mr Gokhale hails from Pune, India and is a graduate of the National Institute of Design. He was voted 'Best Indian Designer' by *Businessworld* in 2003. He is the director of Design Directions, a company specialising in the design of capital and medical equipment, as well as electronic products.

Ms Lizette de Vries Venter
Electronics engineer

Ms De Vries Venter holds BEng (Hons) (Electronic) and MEng (Eng. Management) degrees from the University of Pretoria. She owns her own business, where she does consulting work in the intrinsic safety design field. She also assists clients in obtaining the CE-mark when exporting their products to Europe.

Mr Thiru Govender
Automotive engineer

Mr Govender has been involved in the automotive industry for over ten years, having worked for Nissan South Africa, Volkswagen South Africa and now in product development for Toyota South Africa. He is a past recipient of two SABS design awards. He studied Mechanical Engineering at the ML Sultan Technikon.

Dr Don Allen
Medical doctor

Dr Allen is a qualified dentist, who after being in private practice for many years, is now working for an organisation called Doctors for Life International, dealing with mainly HIV-orphaned children and terminally ill HIV patients.

Prof. Andy Dickson
Mechanical engineer

After 38 years' experience in the fields of mining, agricultural engineering, power generation and engineering education, Prof. Dickson has recently retired as ESKOM visiting professor of Engineering Design and head of the School of Mechanical, Industrial and Aeronautical Engineering at the University of the Witwatersrand.

Dr Michael Hunt
Mechanical engineer

Dr Hunt has undertaken the design of many new and innovative machines. In 2000 he won the State President/Technology Top 100 award, for design in the manufacturing sector. He won a Design Institute Prototype Award in 2002 and Design Awards in both 2002 and 2003. Previously, he held the post of chief director at the CSIR.

Dr David Boonzaier
Medical doctor

Dr Boonzaier is director of Diagnostic and Rehabilitation Research in the Human Biology Department, UTC's Health Sciences Centre. He specialises in developing medical equipment and has a particular interest in the ergonomics and human interface aspects.

Dr Elsbeth Dixon
Technology management

Dr Dixon is executive director of Da Vinci Research Institute (Pty) Ltd. She holds a PhD from Cambridge University in the field of Operations Research. After spending 12 years at the CSIR, she now manages the adjudication of the prestigious Technology Top 100 Awards and the Age of Innovation and Sustainability awards.

Prof. Ian Jandrell
Electrical engineer

Prof. Jandrell is head of the School of Electrical and Information Engineering at the University of the Witwatersrand. He was the South African Institute of Electrical Engineers' Engineer of the Year in 1994 and is a C-rated scientist with the NRF.

Ms Jelena Janjic
Eurotype (SABS)

Ms Janjic is managing director of the Eurotype Test Centre at the SABS and member of the national committee of IEC/TC. She has been involved in the international accreditation of NETFA, the SANAS accreditation of SABS-Eurotype Test Centre.

Mr Henry Kurowski
Mechanical engineer

Mr Kurowski obtained a BSc Electronic Engineering degree at the University of Natal. At present he is managing director of Digital and Power Electronics and Control Systems.

Mr Tristan Melland
Industrial designer

Mr Mellard, trading as Generic Africa is recognised as one of South Africa's top innovators. He has won three Design Institute Awards, has represented the country at international design conventions and is a past president of SDSA. He has a signicant client base, both locally and overseas.

Ms Nonkonzo Molai
Department of Health official

Ms Molai is a director of Health Technology Policy in the National Department of Health. Her academic qualications includes degrees in Physics (Earlham College, USA) and Biosystems (UP). She is co-founder of the Global Alliance on Health Technology and has published an internationally recognised National Health Technology Policy Framework.

Mr Roelf Mulder
Industrial designer

Mr Mulder is managing director of ...XYZ, an industrial design company based in Cape Town. He is a past winner of the SABS Design Award, totalling seven awards. One of his passions is design for development projects, following from his experience with the Wind-up Radio and Flashlight and recently the Condom Applicator.

Ms Linda Mvusi
Architect

Ms Mvusi graduated from University of Science and Technology, Kumasi Ghana with a BSc Design Hons in 1980 and a Bachelor of Architecture degree from University of Newcastle upon Tyne, England in 1984. Her practice encompasses both architecture and urban design.

Mr Daya Naidoo
Interior designer

Mr Naidoo is managing director of Interstudio 2000, a company specialising in office facilities planning, interior design and project management. He has 34 years' design experience.

Mr Neville Naylor
Civil engineer

Mr Naylor is managing partner of Naylor Naylor & van Schalkwyk, Consulting Civil/Electrical Engineers and Project Managers. His qualications include Pr.Eng., C.Eng., B.Sc(Civil Eng.)., FSAICE, AIStructE.

Mr Shuttleworth Ntsie
Mining engineer

Mr Ntsie is the marketing manager: Zinc Business at Kumba Base Metal (Zincor). He has extensive experience in the mining sector. He has an MBA from the University of Pretoria and previously worked at the Department of Arts, Culture, Science and Technology where he was involved in technology development and transfer.

Mr Roger Pitot
(NAAMSA) SABS Council

Mr Pitot has worked in the motor industry for over 30 years. He is a chartered accountant and member of the SABS Council. He also serves in the Motor Industry Development Council and is chairman of the council's Vehicle Affordability Task Group.

Mr Kees Schilperoort
Industrial designer

Mr Schilperoort is creative chairman of Enterprise IG, the world's largest branding agency with 26 offices globally. He is responsible for coordinating the creative resources within each of the global offices.

Mr Saurabh Sinha
Electronics engineer

Mr Sinha is a lecturer in the Department of Electrical, Electronic and Computer Engineering at the University of Pretoria and a consultant in electronic engineering at Business Enterprises. He serves in the executive committee of the SA Section of the Institute of Electrical and Electronic Engineers.

Mr Bernard Smith
Industrial designer

Mr Smith is director of Artec Product Design which has won numerous design and technology awards, the highlight being presented an award by President Thabo Mbeki for contribution to the economy through product design excellence. He was recently appointed portfolio manager for design at the National Product Development Centre.

Prof. Cedric Smith
Electronics engineer

Prof. Smith is professor of Electronics and Clinical Engineering at the Tshwane University of Technology. He has more that 30 years' research experience and has owned and managed a number of high technology businesses. He is presently the CEO of Weavind Park Consulting.

Mr Brian Steinhobel
Industrial designer

Mr Steinhobel founded the Steinhobel Group of Companies, that does consultant and entrepreneurial product development with clients spanning Asia, Europe and the Americas. Mr Steinhobel is a recipient of several local and international design awards.

Prof. Abel Toriola
Sports scientist

Prof. Toriola holds a PhD Sport Science/Exercise Physiology and is head of the Department of Sport and Physical Rehabilitation Sciences at the Tshwane University of Technology. He designed the new Longer-Reach Table Tennis for the International Table Tennis Federation, based in Switzerland.

Mr David van der Merwe
Industrial designer

Mr Van der Merwe works for NamITech, a member of the Altech Group. He was a founding member of the National Product Development Centre at the CSIR and played a key role in their Stereolithography and Rapid Technologies operations. He has also designed abroad for clients like KODAK USA and Fujitsu Japan.

Mr Roger Williams
Industrial designer

Mr Williams is managing director of Design Matters (Pty) Ltd., a company that has achieved 16 South African product design awards. He obtained his BA(Hons) degree in Industrial Design (Engineering) in the United Kingdom.

disa South African Design Excellence Award

The Design Institute South Africa, a division of the SABS promotes design in South Africa through a variety of initiatives. For the past 35 years, one of the major vehicles used to reward design excellence has been the **SABS Design Institute Awards**, established in 1969. Its purpose has always been to recognise the achievements of South African industrial and engineering designers, to encourage local product design and manufacture, as well as to promote international competitiveness of local products. Since its inception, the award scheme has established a proud tradition of promoting indigenous design.

The design arena is changing, both nationally and internationally. In keeping with the emphasis placed on design worldwide, the Design Institute has conceptualised an evolved design award scheme as from 2004.

The objectives of the **disa South African Design Excellence Award** are:

- To make South African design a national imperative;
- to honour excellent South African design;
- to showcase South Africa as an innovative, industrialised country;
- to promote the capability of South African product designers to benefit local industry and manufacture and to increase international market share; and
- to be a yardstick for local consumers when selecting outstanding products.

Entries are adjudicated on merit and are not in competition with one another.

Categories

- Built environment, including components, urban furniture, equipment, tools, and more
- Education, leisure and sports goods and toys, including any range of sporting equipment and accessories, new materials, innovative ideas, and unique applications
- Electronics and Information and communication technology (ICT)
- Home ware and office ware, including domestic appliances and furniture
- Medical and healthcare, including preventive and promotive products
- Mechanical engineering, electrical engineering, transport, automotive, mining and machinery.

Adjudication criteria

- Innovation
- Appearance and tactile aspects
- Cost/value relationship
- Ease of maintenance and installation
- Performance
- Design choices made in materials, manufacture and assembly
- Safety and ergonomics
- Environmental impact

Chairperson's Award

The Chairperson's Award is presented annually to the most exceptional entry, based on a majority of votes from the panel of adjudicators.

Vesto stove – Winner of the 2004 disa Chairperson's Award

Category: Home and office ware

The Vesto stove is a highly innovative, low-cost, biomass burning stove. It uses about one third of the wood or dung normally used to cook a meal. Its efficiency results from the preheating of the primary and secondary air. The incoming air insulates the fire-box and the recycled heat energy is transferred to the fire. The grate is designed to swirl and mix the air, while the air control lever can create a wood gasifier. The Vesto stove can be used for both cooking and space warming.

Two features that set this product apart are its high speed lighting and its very low smoke emissions as soon as there are flames. Weighing only 5 kg, the stove can be lit outside and then carried inside to cook. The low smoke level reduces health risks. Smoke-related lung disease is prevalent in the stove's target market.

The Vesto stove is much safer than a paraffin stove or *mbaula* as it contains the fire within the gas-insulated tin. Even if the stove is knocked over, the fire does not come out of the container as the maximum fuel line is lower than half the firebox height.

The relatively low retail price brings the Vesto stove within reach of people at the lower end of the economic scale.

Company: New Dawn Energy Systems (Pty)Ltd
Designer: Crispin Pemberton-Pigott and Rina Joy King

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Body Glove Blue Sport

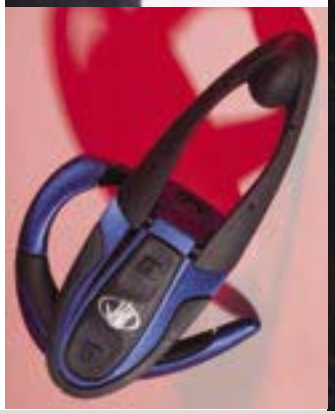
Category: Electronics and Information and communication technology (ICT)

The Body Glove Blue Sport is a Bluetooth mobile phone headset that can be used either in the car or the office. The Bluetooth circuitry eliminates the need for wires connecting the headset to the cell phone.

This product is innovative insofar as it has a microphone boom that can fold away for storage. The boom is made from a composite of Acetal and rubber that makes it flexible.

The headset charges via a fire wire port which means that future developments could include using the handset as a Bluetooth adapter for a personal computer. The functions are grouped in a five-button layout which is intuitive and easy to use.

The product is part of the Body Glove brand of sports and lifestyle accessories and therefore has an aggressive, sporty shape.



Company: Readymade
Designers (in-house): Tasos Calantzis, Frederick Kruger
Mechanical Engineer (external): Dieter Chelius
Electronic Engineer: Marcial Villaverde

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EA01 Railway Wagon mounted on Tread-Steer® Bogies

Category: Mechanical and electrical engineering, transport, mining and machinery

The EA01 Railway Wagon is a plate steel, laser-processed railway wagon kit that can be shipped in various stages of completeness to end-users. This easily assembled wagon requires no special tools or jigs for welding into final shape. The wagon design can be down-loaded via email onto any laser-cutting facility anywhere in the world, fully processed within 24 hours, assembled under supervision by four non-skilled labourers within two hours (using no special tools or lifting equipment), before being fully welded and painted.

The design comprises three sub-assemblies that allow it to be containerised and shipped to its end-user. All components (valves, reservoir, and the like) are internal to the super structure, where they are protected against theft and vandalism.

The design also includes the Tread Steer® bogies which permit each wheel-set to rotate about its own vertical axis, thus enabling each wheel-set to find its own path around curves without wheel flange to rail contact. This is achieved by the rubber chevrons creating a pendular primary spring suspension. Stability at operating speed is ensured and wheel wear is minimal.

The design incorporates space-age polymers between otherwise metal-to-metal contact-ing surfaces. As a result, long-term maintenance is minimal and wheel life is many times longer than for conventional wagons.

Company: Kwik Fab Projects (Pty)Ltd
Designers (in-house): Murray Franz, Craig Penn-Clarke
Designers (external): Kobus Pansegrouw, Wim Nienhuis

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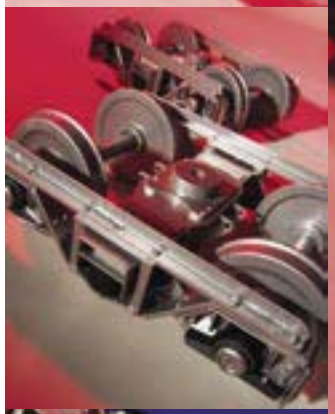

Ford J97 Centre Console – 4.0L Ranger

Category: Mechanical and electrical engineering, transport, mining and machinery

A centre console is located between the driver and front passenger seat, largely influencing the vehicle's overall interior appeal. It is a product more prevalent in top of the range commercial vehicles of which the Ford 4.0L Ranger is an example. One of its many functions is to harmoniously integrate the dashboard into the gear lever, armrest and floor plan. It serves as an aesthetic housing for storage compartments, switches, drink holders and hides an unsightly transmission tunnel.

The Ford J97 Centre Console boasts many unique features. Aesthetic details include leather grained main plastic body, with a darker toned insert for manual or automatic levers and a soft touch leather covered armrest. An integrated push button accesses a dual-lid within the armrest, which stores five CDs, a pen and coins. A gentle pull on the lower lid reveals a manually adjustable, air-conditioned storage compartment with a foam insert locating six drinking cans.

The Centre Console functionally and decoratively completes the luxurious interior of the Ford 4.0L Ranger to the highest standards.

Company: Envizij
Designers (in-house): Jonathan Fundudis, Renko Nieman, Andre Veenstra
Designers (external): Gary Easter (RDT)

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Golf Training Glasses (ProAim)

Category: Education, leisure, sports goods and toys

ProAim is a golf training aid that instantly reveals the hidden flaws in the golfer's stroke and helps to correct them within seconds. It features a light collector that projects a virtual grid, consisting of horizontal and vertical lines, into the golfer's field of vision. These gridlines enable the golfer to 'see' a virtual track to align the stroke to the target. He/she can then practice the perfect stroke and commit it to muscle memory.

ProAim gives instant feedback and immediately reveals previously hidden flaws in both set-up and putting stroke. These swing flaws have been virtually impossible for the golfer to detect up to now.

The right hand lens of the training glasses fullfils the function of projecting and image into the field of vision of the golfer, whereas a dummy lens is placed on the left-hand side to balance light, to create symmetry and to enhance aesthetics.

Company: Inventec
Designers (in-house): Willie van Straaten
Designers (external): Retief Vorster, Clayton Cunningham

Contact: Willie van Straaten
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Hydrabolt

Category: Mechanical and electrical engineering, transport, mining and machinery

The Hydrabolt is designed to support rock in mining, tunnelling or civil engineering operations. It is a roof support tendon hydraulically inflated with water to provide an easily installed verifiable roof support for underground excavations.

A check valve in the Hydrabolt maintains the internal pressure, which generates 300% better grip than similar friction anchors. This check valve also incorporates a pressure indicator, which allows post-installation inspection of the roof support to ensure that the bolts have been installed to the correct pressure. In addition, the pressure indicators are colour coded to provide visual confirmation that the correct length of Hydrabolt has been installed to conform with the specific roof support standards.

Company: New Concept Mining
Designers: Brendan Crompton, Paul McKelvey, Dave Tyrer and Dave Gravett

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Long-Hole Rig

Category: Mechanical and electrical engineering, transport, mining and machinery

The Long-Hole Rig (LHR) is an entirely water-powered drilling system designed to drill large holes accurately and quickly in the mining environment. While primarily intended for the pre-development of ore-passes from the cross-cut in gold and platinum mines, it can drill any long hole, such as water pilot holes, drain holes, cut holes and even travelling-way blast holes.

The LHR uses the proven Wassara water-powered hammer developed in Sweden and is able to drill 95 mm holes at up to one metre per minute in quartzite. This translates to one ore-pass per week, including set up and relocation.

The hammer feed and rotation is mounted on a rigid base slide that ensures adjacent holes are parallel. Key to the design was the need to accurately collar the hole and control all the drilling parameters such as torque, thrust and rotation speed. To this end, a unique water-powered motor and control valves were developed. These designs have attracted international attention.

The rig is modular and disassembles into a tool-and-base car; a valve console and a drill feed car for easy transportation. All the modules fit into a mine cage, eliminating the need for slinging.

Company: Hydro Power Equipment (Pty) Ltd
Designers (in-house): Rudolph Buhrman, Peter Fraser, Etienne Labuschagne, Errol Morse, Udo Sachse.
Designer (external): Hennie Rothmann

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MapTrix

Category: Education, leisure, sports goods and toys

The MapTrix Kit comprises learner support material for geography, designed to improve competence in map reading. This self-instruction programme is used to teach learners to read the 1:50 000 topographic map of South Africa, an important geography learning outcome for general, further and higher education and training (GET, FET and HET).

The organising structure is based on a pack of playing cards to make learning fun. MapTrix incorporates important features of a computer-based training programme (such as active learning, learner focus, self-pacing and immediate feedback) but is presented in hard copy format on thin board and paper. The programme comprises 52 full-colour work cards each with a different map extract, 52 answer cards, learner's booklets, a poster, educator's guide and video; all packed in a durable cardboard box.

Although MapTrix was designed with secondary school geography learners in mind, it can also be used as an extension activity for fast learners at primary school or to skill first-year university students in map reading. The loose-leaf format makes it accessible to novice topographic map readers, at any level, in a range of learning environments from distance learners studying at home to classes of up to 40.

Company: MapTrix Services
Designer (learning programme): Lorraine Innes
Designer (graphic): Graham Arbuckle

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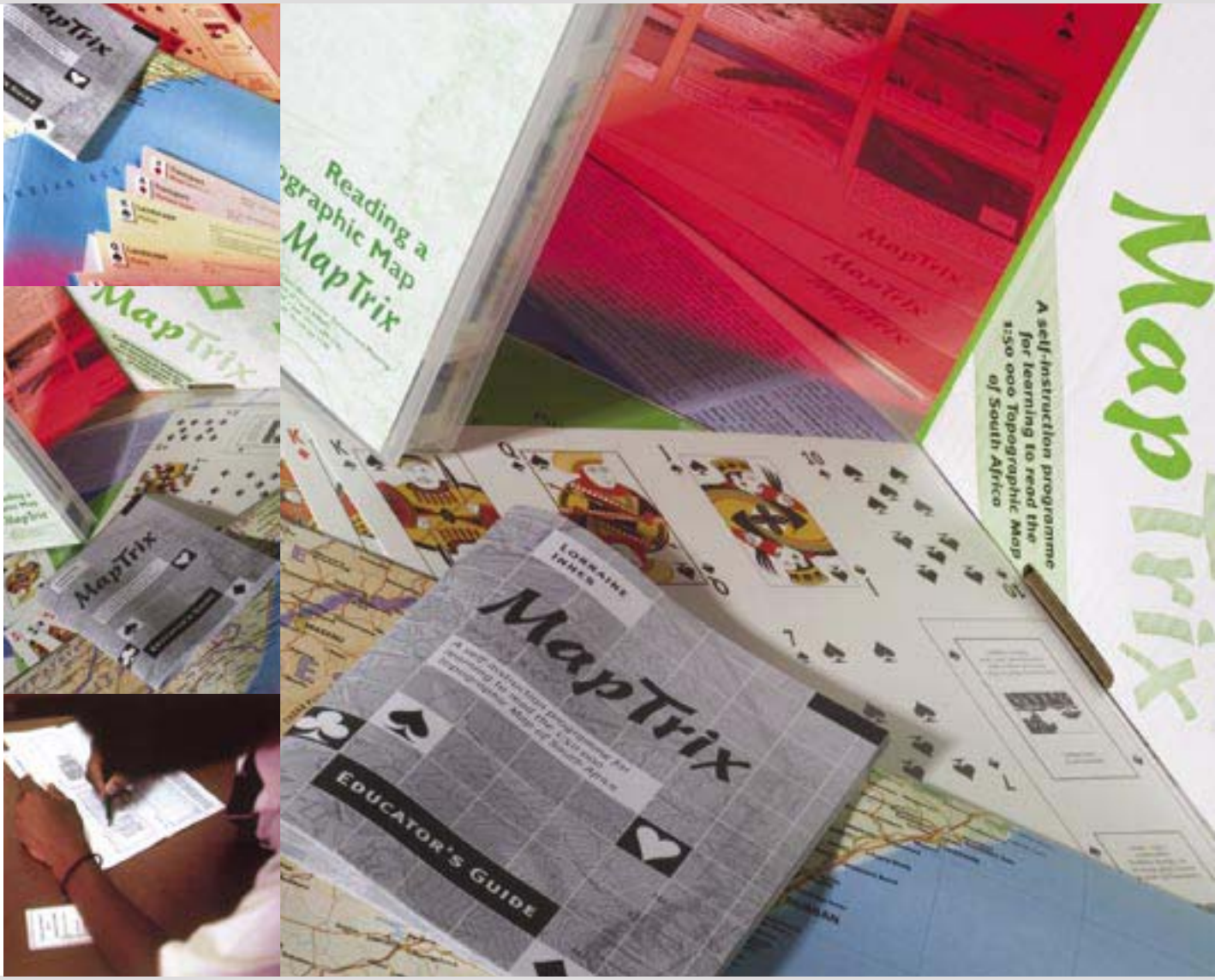

Multi-player Video Gaming Machine (TableMAX)

Category: Electronics and information and communication technology (ICT)

The TableMAX is a multi-player video table gaming machine that is the video equivalent of a live casino table on which to play popular card games such as Blackjack and Poker. With this interactive table, one to five players can play on a common screen against an electronic dealer.

Available and ready to play 24 hours a day, with no down time, no disputes, no scams and zero dealer error, the video table offers the ultimate in comfort and entertainment, combined with high security and low operating cost.

Due to the modular nature of the TableMAX design, it can be configured in a quarter circle (five player stations), a half circle (ten stations) or a full circle (20 stations).

Company: Inventec; Novacor (Pty) Ltd.
Designer (in-house): Willie van Straaten
Designer (external): John Malan, Rhyan Bridle, Jamey Kennedy, Tim Price.

Contact: Willie van Straaten
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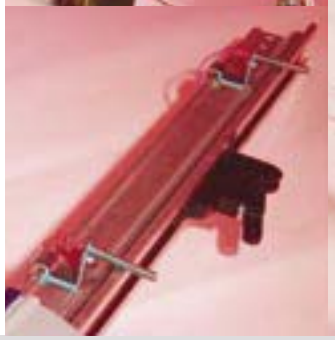
‘Pro-Alpha 2000’ Garage Door Operator

Category: Home and office ware

The Brano ‘Pro-Alpha 2000’ is a garage door operator for domestic garage doors and has been engineered to ensure safe and reliable operation. It provides a powerful 260 N lifting force and the operator is of a strong, robust construction that ensures durability and minimum maintenance. It may be fitted to most types of garage doors without the need for modications.

The unique feature of this garage door operator is the overload sensitivity mechanism. The mechanism can be set to be extremely sensitive, dramatically increasing safety. This feature is achieved by a patented system of measuring the actual force on the door-towing assembly. It is unaffected by variations in the supply voltage – a short-coming in amperage sensing systems.

The machine is equipped with a 220-volt, 190-watt single-phase fan-cooled electric motor that is thermally projected against overload.



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Designers: Brian Patrick Roach

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‘Pro-Rola’ Roll-up Door Adaptor System

Category: Home and office ware

The Brano ‘Pro-Rola’ system is an adaptor kit for the automation of steel roll-up type garage doors, which have a fixed axle shaft. This system has been specifically designed to overcome the problems normally encountered with side-mounted motor systems for roll-up garage doors.

The ‘Pro-Rola’ operates by attaching towing assemblies to both bottom corners of a steel roll-up door and then driving these towing assemblies using a single operator. The towing assemblies are attached to the operator by a cable, which is guided by a series of pulleys fitted to pre-manufactured motor and extrusion support brackets, as well as to two pulleys at the bottom of the door that are fixed to the garage floor.

The unique design feature of the ‘Pro-Rola’ is the fact that neither the garage door nor the operator need to be modified to work effectively, which is not always the case with other systems on the market.

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Designers: Noel J Otten and Noel Channing

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Rediflo

Category: Medical and healthcare

The Rediflo is an integrated multi-functional valve. It consists of a cylinder shutoff valve, positive pressure valve, contents pressure gauge, filling port, pressure regulator and orifice flow meter.

The system is designed to supply medical gases at pre-determined controlled flow rates for use in home medical care, hospitals or emergency services. It is mounted to various sized gas cylinders, depending on portability and transport requirements.

Specifications:

- Gas cylinder pressure – 30 000kPa
- Flow rates – 0; 1; 2; 3; 5; 9; 12; 15 litres per minute
- Gas pressure regulator – 400 kPa
- Pressure gauge range – 0 – 40 000 kPa; 0 – 31 500 kPa
- Safety valve relief pressure – 800 kPa
- Minimum pressure retention
- Valve closing pressure – >300 kPa

Company: Afrox-G.E.F

Designers (in-house): Thomasz Gawryjolek, Herman Bakker, Tom Clifford, Walter Travisan, Len Wright, Don Balaam

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RoVa-4

Category: Medical and healthcare

The RoVa-4 wheelchair is a fully adjustable, rigid-frame wheelchair, individually hand-made to a dedicated prescription for each user within an affordable price range.

The design incorporates an articulated front suspension, height and angle-adjustable seat, angle and height-adjustable backrest and tension-adjustable backrest upholstery. The adjustability is achieved without using tools, but through spring-loaded adjustment tools and quick release clips.

The front suspension enables users to move smoothly over rough terrain and the chair is maintenance-free and durable.

The 'tilt-in-space' seating structure is ergonomically correct and is maintained throughout the lifecycle of the chair, preventing pressure sores, joint deformities and injury to extremities.

Company: FastPulse Trading 77 (Pty) Ltd
Designers (in-house): NP Grobler, JH Franz, JH de Beer, DG Roux and BC Janse van Rensburg.

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SolarAid Battery Recharger

Category: Medical and healthcare

A major problem in developing countries is not only the cost of hearing aids for hearing impaired people, but also the operating costs in the form of hearing aid batteries. The SolarAid Battery Recharger recharges hearing aid batteries through solar power and is aimed especially at developing countries. A hearing aid battery which lasts for four to 12 days costs R7, or R200 to R600 annually. The SolarAid battery size #13 and #675 costs the same, but lasts for two years.

The SolarAid Battery Recharger is left on a window ledge during the day. Through a solar panel on the top of the charger, the sun charges 2 AA Ni-Mh batteries located in the solar charger. It takes six to eight hours to fully charge the batteries and the re-charged batteries last up to a week.

The Recharger is manufactured from a high grade UV-resistant ABS material and is ergonomically shaped to fit into an adult's hand.

Company: Godisa Technologies Trust (non-profit)
Designers (in-house): Tendekayi Katsiga, Ron Brouillette, Deaf Staff, (Dwililane Keathlosetswe, Clement Bagwasi, Akanyang Keloatswe, Sarah Phiri, Botsile Ntshekisang)
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The Care Chair

Category: Home and office ware

The Care Chair is a baby feeding chair that folds up to the size of a file and fits into a convenient nappy bag. It also opens into a change mat or a rest mat. Two straps enable The Care Chair be fitted into any normal chair, but it also has suction cups to adhere to any smooth surface, enabling it to be free-standing.

Babies aged six to 20 months can safely use the chair. A five-point harness secures the baby – in line with the industry standard. The chair is covered in brightly coloured PVC plastic and has a soft sponge inner to cushion the baby while sitting or lying down. The chair has its own tray that clips onto the front that is dishwasher-safe and drop-proof.

One of the greatest advantages of The Care Chair is that it is mother-friendly. It is easy to assemble and no strength is needed. It weighs just 2.2 kg and it folds up into a backpack, with additional space for other necessities.

The Care Chair is suited to use in the home, while travelling, at restaurants, on the beach or out shopping.

Company: Geppetto's World
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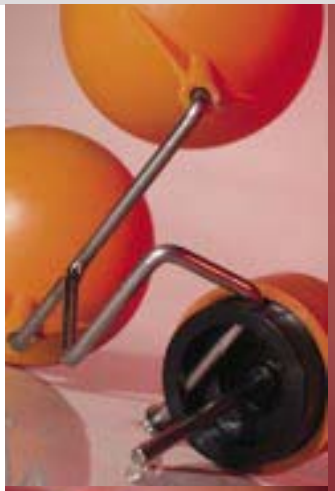
The Eduan Float Valve

Category: Mechanical and electrical engineering, transport, mining and machinery

The Eduan Float Valve controls the water level in a container and is mainly used in agricultural applications. In the valve, the float is partly filled with water to such an extent that it still floats. As the water level decreases, the weight of the water in the float is used to open the water valve, which otherwise is kept closed by the water pressure in the supply line. Thus, if the float is broken, the valve will stay closed and no water waste or overflow will occur. Because of this feature, the Eduan Float Valve uses less space and also allows a greater flow rate than similar products. This is an innovation on existing float valves where the water flow is closed off whenever the water level rises above a certain predetermined level.

The complete valve is manufactured from non-rust and durable material: Stainless steel 304 for the actuator and the fulcrum component, ABS for the lock nut and the valve body, polypropylene for the float and the spigot and neoprene for the seal.



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The Design Institute South Africa promotes the benefits of good design in order to stimulate economical and technological development in South Africa, with the ultimate aim of creating prosperity for all its people.

The Institute's initiatives focus on education, industry support, marketing South African design and supporting the development of southern Africa.

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the dti
THE DEPARTMENT
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The Design Institute South Africa, a division of the SABS has a working relationship with the Department of Trade and Industry through their Export Marketing and Investment Assistance (EMIA). EMIA undertakes to offer assistance for exporting, to **disa South African Design Excellence Award** winners, that meet the qualifying criteria.

A business-support incentive programme of **the dti**, managed by its Trade and Investment South Africa division, Export Marketing and Investment Assistance (EMIA) partially compensates exporters for certain costs incurred in developing export markets for South African products and services and recruiting new foreign direct investment into South Africa.

EMIA assists exporters through

- Marketing assistance to develop and grow new and existing export markets through individual exhibitions and National Pavilions.
- Facilitating matchmaking, equity, joint ventures and technical transfers for companies under Missions.
- Identifying new export markets through primary market research (PMR).
- Increasing competitiveness by supporting patent registration, quality marks and product marks.
- Facilitating growth of foreign direct investment (FDI) through Mission and Foreign Direct Investment Research assistance.
- Subsidising exporter readiness assessment, training and development to increase exporters' competency and skill levels.

EMIA schemes available

National Pavilions; Mini National Pavilions; individual participation in exhibitions; Outward Selling Trade Missions; Outward Investment Trade Missions; Inward Buying Trade Missions; Inward Investment Missions; Primary Market Research; Registration of patents, trademarks and quality marks; Foreign Direct Investment research; sector specific assistance; exporter readiness assessment; exporter training.

Who can qualify?

South African manufacturers, including SMMEs, PDIs and other owned businesses; SA exporting houses; SA commission agents representing at least three SMMEs or PDI-owned businesses; SA Export Councils; Industry Associations; and, Joint Action Groups.

Qualifying criteria includes

Export and production performance; export and marketing competence; potential and available and accessible production and export product capacity; extent of export marketing planning; type of product for export and local sales performance; level of labour absorption, location, and technological requirements; and, industry in which venture operates or is planned.

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