



SVERIGES AMBASSAD

**Embassy of Sweden
Pretoria**

**THE SWEDISH CHALLENGE AWARD FOR INVENTION AND INNOVATION
Innovations for Development in Eastern and Southern Africa (IDESA)**

The Launch of the South African competition

In December 2002 a decision was taken by the Swedish International Development Co-operation Agency (Sida) to support the project, Innovations for Development in Eastern and Southern Africa (IDESA). The project comprises eight countries; Kenya, Malawi, Mozambique, Namibia, South Africa, Tanzania, Uganda and Zambia.

The project is monitored by the International Foundation for Science (IFS) in Stockholm. The IFS provides resources for the co-ordination of the project in the region, supervise the implementation of IDESA, and participate in the evaluation of the entries in the participating countries.

The organisation responsible for the competition in South Africa is the Institute of Inventors and Innovators, Research and Development (IIIRD) in Saxonwold. The IIIRD is a private organisation with 25 years of experience. The organisation has several times arranged various kinds of competitions, giving medals and diplomas.

A national committee, chaired by the Ambassador of Sweden, Dr Helena Nilsson, heads the South African IDESA. Members to the committee are representatives from the South African public and private sector. Sida has earlier provided support for the organisation of similar competitions open to inventors and innovators in five African countries (Botswana, Mozambique, Namibia, South Africa and Zimbabwe). The events have been arranged two times, 1998-1999 and 2000-2002 in collaboration with local organisations.

The sum of the 2001 Swedish Challenge Award amounted to R165 000. This sum was divided as follows; 3 awards of R25 000; 6 awards of R10 000; a special award of R10 000, 7 honorary awards of R2 500, and one “Mother of all invention” award of R2 500.

The overall objective of IDESA is to encourage an innovative, entrepreneurial spirit in selected African countries. The immediate objective is to identify and reward individuals exhibiting creativity and entrepreneurial spirits. Technical innovations as well as innovations which provide a solution to a problem, will be selected in a competitive process and rewarded within the framework of the project.

The innovations should, directly or indirectly, contribute to an increased and/or a more efficient use of available resources, or provide other benefits of a similar kind. The purpose is to recognise the need for support of innovations well before their commercial value has been established.

The immediate objective will be accomplished through a series of competitions, launched nationally in the eight countries, starting 2003. The selection of award winners will be finalized in the 4th quarter, this year.

The total sum of the award amounts to SEK 250 000, a jury will decide on how this sum should be divided. The Swedish Challenge Award is open to all South Africans, young and old. Members from former disadvantaged groups and women are encouraged to participate.

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For further information please, contact The Institute of Inventors and Innovators, Research and Development, IIRD at tel 011-880 7300, fax 011-327 5973 or e-Mail at inventww@global.co.za

Swedish Inventors

Flashes of Genius that built Sweden

The computer mouse

As early as the late 1960's civil engineer Hakan Lans invented the computer mouse. He sold the rights to the US firm Houston Instruments, who in turn sold the mouse on to the various software manufacturers. Hakan Lans is also the mind behind forty more patented inventions in the computer field. Among other projects, he has developed a system for colour graphics and a satellite navigation system, GPS, which is now well on the way to becoming the international standard in aviation.

The ball bearing

Engineer and industrialist Sven Wingquist worked in the early 20th century to improve the bearing machinery at Gammelstads Fabriker AB in Gothenburg. A few years later the work resulted in a new invention - the self-regulating ball bearing. Today the ball bearing is the fundament of the giant international company SKF, "Svenska Kullager Fabriken".

The Pacemaker

Rune Elmquist developed a tiny battery-driven pacemaker in 1958 designed to be surgically inserted beneath the skin of a heart patient. On 7 October that same year, Professor Ake Senning completed the world's first successful pacemaker operation. Today more than one million people live a normal life thanks to this machine.

The AGA flashing apparatus

Gustav Dalen began his working life as a gardener, but took another course and became a physicist. He won a Nobel Prize in 1912, but before that he managed to develop the automated AGA flashing apparatus. The same year Gustav Dalen won the Nobel Prize he was blinded by an explosion. He continued. Nonetheless, to develop his ideas and see them through to success.

The automatic switching system with 500 line selectors

Telephone Director Axel Hultman invented a telephone exchange system for automated telephone switchboards in the 1940's. The system was developed by David Lienzen, an engineer at the telecommunications firm Ericsson, into a completely automated telephone system - the 500-selector system. Over one million 500-selectors have been installed today and they are still one of Ericsson's most important products.

The "Monkey Wrench" or "Adjustable Spanner"

Johan Petter Johansson was born in 1853, and showed an early talent for mechanics. In 1886 he opened a mechanical workshop in Enköping north of Stockholm. Here he invented and produced his first innovation, the "monkey wrench", or the adjustable spanner. He is also the father of the pipe wrench.

The Hasselblad Camera

For six years Victor Hasselblad and his associates worked on a camera system built around the one-eyed, or single lens, reflex camera. The camera was presented in New York in 1948 and created a major sensation. Among other innovations, it had an image format of 6by6 centimeters, differing from earlier cameras whose negatives were much smaller. The camera was subsequently used in the US lunar expeditions.

The zip

In Swedish literally called the "lightning lock", the zip hit the world in 1914 like a flash of lightning. Gideon Sundback had developed a "lock without hooks". It's predecessor, the so-called "slide fastener" had been launched in the United States twenty-one years earlier, but the "fastener" had the unfortunate habit of opening unpredictably. Gideon' lightning lock did not suffer from this flaw.

Dynamite

In the mid 1860's, Swedish explosives manufacturer Alfred Nobel burst onto the scene with a bang - he had invented dynamite. By combining the strong but unstable nitroglycerine with kieselghur he created a new, stable explosive which came to be used in mines and warfare worldwide.

The three-phase AC system

Jonas Wenstrom is the father of the three-phase AC system, and the man who laid the foundation for the industrial mega-firm ABB. His AC concepts for generators, transformers and motors are still classic.

Tetra Pak

In February 1944, the Tetra Pak six-sided packaging, a tetrahedron, was invented by Erik Wallenberg. He later developed the format together with Ruben Rausing. Tetra Pak is a packaging used for liquids, most known for juice and milk. Tetra Pak laid the foundations for a global company that today has more than 18 000 employees.

Inventiveness and Natural Resources

Two Cornerstones of Swedish Export Growth

The rich natural resources of northern Sweden helped lay the foundation for the Swedish economic miracle. However, the real miracle actually took place mainly in the engineering industry. As indicated above, many companies established during the decades before and after 1900 are still competing successfully in the world market and form the historical base of today's Swedish engineering industry, which accounts for half of total Swedish exports.

Electrolux, Ericsson, Atlas Copco, ASEA/ABB and Alfa Laval are among these companies. The mere fact that two of Europe's strongest car trademarks are Swedish - **Volvo and Saab** - say something about the country's industrial clout.

Sweden's manufacturers are more export-dependant than those of other countries, due to their limited domestic market. This dependence is both a weakness and strength. **It makes Swedish industry vulnerable but has meanwhile forced companies to embrace constant change, innovation, restructuring, efficiency-raising measures and globalisation, thereby giving them important competitive advantages in a longer perspective.**

In recent years, this long heritage of industrial innovation has been especially evident in two industries: information technology and the chemical/ pharmaceutical sector. These research-intensive sectors include two companies that have almost dominated the Swedish stock market for a number of years: Ericsson (mobile phones) and Astra (pharmaceutical)

Alfred Nobel and the Nobel Prizes

The Nobel Prizes, awarded annually in Stockholm, Sweden, and Oslo, Norway, are internationally recognised as the world's most coveted civic honours. They were created by Alfred Nobel, tireless Swedish Inventor and global industrial magnate, linguist, philosopher and humanist.

Nobel has gone down in history as the inventor of dynamite (patented 1867), the explosive which has played such a central role in the industrial development of the world. By the end of his life Nobel had a staggering total of 355 patents registered in his name. Through his inventions and other activities Alfred Nobel was a benefactor of mankind, just as he stipulated that the winners of the prizes established by his will should be.

Nobel's Life and Personality

Born in Stockholm in 1833 of Swedish parents, Alfred Nobel moved with his family to St. Petersburg, then the capital of Russia, at the age of nine. There his energetic father soon acquired an influential position as an inventor and industrialist. Nobel subsequently lived in several countries and ultimately came to regard himself as a citizen of the world. Even so, he never gave up his Swedish citizenship.

By virtue of the education he received in a number of countries, Nobel read, spoke and wrote fluently in five European languages: Swedish, Russian, English, French and German. Throughout his life he suffered from poor health and often took cures at watering places, "less to drink the water than to rest". But he expected great improvements in medicine, and the profession has since realised many of them. Once he employed a young Swedish physiologist in Paris to test his own theories on blood transfusion. Although these efforts were not successful, problems related to transfusions were later solved by an Austrian, Karl Landsteiner, who won the 1930 Nobel Prize in Physiology or Medicine. The Nobel Prize in Literature, too, reflects the donor's personal predilections. From his early youth he had been a writer as well as an avid reader, but he later destroyed many of his adolescent poems written in Swedish. He did, however, save a long autobiographical poem in English and occasionally gave copies of it to close friends. He was always an omnivorous reader of books in all languages he knew.

Nobel's fortune

Alfred Nobel's great wealth can be attributed to his ability to combine the qualities of astute scientist and inventor with those of the farsighted and dynamic industrialist. Alfred Nobel's fortune was founded on his inventions. At his death in 1896 he held 355 patents, and it was around these that he had established companies in some ninety locations in twenty countries. Most of Nobel's capital came from his industrial activities in Great Britain, France, Germany, Sweden and Russia.

In his will, Nobel stipulated that the major part of his estate was to be converted into a foundation and invested in "safe" securities. Accordingly SEK 31.5 million (corresponding to some SEK 1.5 billion today) was used to establish the Nobel Foundation. The Foundation is not connected with the companies around the world, which still today bear Nobel's name.

Bibliography: Fact Sheet on Sweden, Published by the Swedish Institute, April 2000 Sweden and the Swedes, The Swedish Institute, 1999