"A strong culture of innovation has propelled Sweden to the forefront of technological development", a new book says. Read the extract .

{loadposition inline ad}

- Sweden the most competitive EU nation
- Sweden ranked world's most networked economy

Swedes are some of the world's fastest people at adapting to new trends and ideas, and are constantly on the cusp of a groundbreaking innovation. Here's the chapter "Innovations" from the new book "Sweden — Up North, Down to Earth
"

.

A strong culture of innovation has propelled Sweden to the forefront of technological development. The transformation from poor agrarian to highly industrialized country took only a few decades, thanks to a rich supply of raw materials in combination with pioneering inventions like the steam turbine, the ball bearing, the gaspowered beacon and the adjustable wrench.

Our long history of ambitious research and development programs seems to indicate an insatiable thirst for knowledge. But it's not only about having clever ideas; it's also about turning them into commercial success. Many Swedish companies are good examples of this.

The founder of telecom company Ericsson, Lars Magnus Ericsson, started his business of developing telegraphs in a small mechanical engineering shop. Subsequently, he contributed to making Stockholm the world's most telephone-dense city in the late 1800s. The firm belief that communication is a basic human need has been a driving force in Ericsson's development into the global giant it is today.

The IKEA story begins in 1931, when five-year-old Ingvar Kamprad starts selling matches to his neighbors—with a profit. Just twelve years later, he founded a company that he decided to call IKEA, based on his own initials plus the first letters of Elmtaryd and Agunnaryd, the farm and village where he grew up. Six decades later, the company had developed from an entrepreneurial idea in the woods of southern Sweden to a major furniture retail brand present in 40 countries around the world.

Many other everyday items and services, as well as a range of life-saving equipment, are also Swedish innovations. Let's have a closer look at some of them.

Car safety

The three-point seat belt, invented by Vattenfall and developed by Volvo engineer Nils Bohlin, has saved a life every six minutes since its launch in 1959. It is acknowledged as one of the most important car safety innovations ever developed. More recent innovations for safer driving include a new generation of alcolocks and a body tracker that warns night-time drivers if people are walking in front of the car. Both were developed by Autoliv. Over the years, safety-focused Volvo and Saab have pioneered many life-saving innovations.

Koenigsegg's "Flower Power" car

Swedish supercar manufacturer Koenigsegg does not rush development. The Koenigsegg project was launched in 1994, but the first car was only delivered to its customer in 2002. In 2007 they released their CCXR model, which has been equipped with an engine that runs on ethanol—hence its nickname "Flower Power." The world's first environmentally friendly supercar saw the light of day.

Micro IP

Computer scientist Adam Dunkels has made a name for himself by shrinking the internet protocol (IP). Enabling wireless communication between devices as diverse as satellites, pipelines, electric meters and race car engines, his opensource micro IP is used by hundreds of companies, including NASA, BMW and BBC. Micro IP could also be used in the home: if radiators communicated with a central controller, temperature levels would be fine-tuned and energy consumption reduced.

The zipper

Two woven cotton bands with metal teeth and a pull that can join or separate the teeth—that was Gideon Sundbäck's brilliant idea in 1900.

In 1914, his patent was granted, and he had moved to the United States to produce his invention. The appearance of the zipper has not changed over the years, apart from the fact that plastic teeth started replacing the metal teeth in the 1970s.

Skype

In 2003, Swedish entrepreneur Niklas Zennström revolutionized telephone communication. Together with Janus Friis he founded the free internet calling service Skype. In 2009, Skype-to-Skype video and voice calls over the internet accounted for 8 percent of global international calling minutes, which made Skype a leading global internet communications company.

The ball bearing

In 1907, Sven Wingqvist first invented the modern ball bearing, then founded his own company, SKF. The ball bearing turned out to be vital to the development of machine technology, and the Swedish State Railways started using ball bearings for their rolling stock in 1923. SKF has grown to become the almost 45,000-employee worldwide industry it is today.

Black liquor

Swedish company Chemrec has found a way to make use of biomass that would otherwise have been lost, such as tree stumps left in forests or residue from chemical processes at paper mills. A unique black-liquor gasification technology can turn this biomass into fuel, which could potentially replace 25 percent of all petrol and diesel consumption in the country.

The first house on the moon

Imagine a traditional Swedish red cottage being wheeled out of a spacecraft onto the moon and then set down on a suitable spot between the craters. This is the task for a robot being constructed by a group of students at Mälardalen University in Västerås. This

solar-powered housebuilding robot is part of the Luna Resort project, led by artist Mikael Genberg. A prototype has been tested on the Ericsson Globe arena in Stockholm, and—with the help of NASA—the aim is to put the first house on the moon by 2012.

Written by two former Swedish expats, Rikard Lagerberg, Emma Randecker.
Sweden-Up North, Down to Earth gives an overall view of Sweden as it is today. It presents regular Swedes and astonishing Swedes, supercars and indie rock bands, vampires and royalty.

Order the book at Sweden Bookshop .