

THE 7 WONDERS OF INNOVATION 'MADE IN LUXEMBOURG'

(non-exhaustive list)

ULTRA-RESISTANT GLASS FOR RECORD-BREAKING TOWER

The *Guardian Luxguard* factories, located in Bascharage, supplied over 600,000 m² of low-emissivity coated glass for the construction of the 206-storey *Burj Khalifa Tower* in the United Arab Emirates. At 828 metres, this tower is the tallest in the world.

STEEL BEAMS FOR ONE WORLD TRADE CENTER

The *One World Trade Center*, also known as the *Freedom Tower*, in New York City is constructed with giant beams made of recycled steel. The only manufacturer capable of producing steel this strong is *ArcelorMittal* in Differdange. Ranging from 9 to 17 metres in length, *ArcelorMittal's* beams were shipped to the United States and used to support the 541-metre-tall tower, one of the most iconic structures in the world.

BALLS FOR BALLPOINT PENS AROUND THE WORLD

If you write with a ballpoint pen, there's a good chance the ball was made in Luxembourg. Hard materials manufacturer *Cerazit* produces more than 12 billion ballpoint pen balls each year, counting for 40-45% of global production.

FOUNDATIONS FOR THE FIRST ZERO-EMISSION POLAR STATION

Prefalux played an important role in the creation of the *Princess Elisabeth Antarctica* station, the first and only polar base to run solely on renewable energy. The Luxembourg-based company developed, produced and constructed the structure's wooden frame, the exterior walls of its facade and its roof.

SATELLITES FOR 99% OF THE GLOBE

Founded in Luxembourg in 1985, *SES* manages a fleet of 40 satellites, making it a global leader in satellite communication and television broadcasting today. *SES* satellites cover 99% of the world's population, connecting billions of people around the globe.

MINING ON ASTEROIDS

Scientists are enamoured by the idea of sending vessels into space, landing them precisely on the surface of an asteroid, and extracting minerals or even water. Although it may sound crazy, international interest in this visionary project is quite real. Even if we are still far from mining on asteroids, there are many specialised companies and space technologies from around the world looking to Luxembourg to join in on this adventure.

HUGO GERNSBACK, THE FATHER OF SCIENCE FICTION

Born on 16 August 1884 in Luxembourg, Hugo Gernsback emigrated to the United States in 1904, where he held numerous patents and launched a series of scientific reviews and novels. In 1926 he published *Amazing Stories*, the first periodical entirely devoted to science fiction, thus giving rise to a literary genre that endures to this day. In his visionary novels, Gernsback foresaw an entire series of innovations, from radar to audiovisual equipment and other teletechnologies.