SECRETS OF SCIENCE

INVENTIONS THAT CHANGED OUR WORLD

10 x 48 min

SECRETS OF SCIENCE

INVENTIONS THAT CHANGED OUR WORLD

10 x 48 min

CONCEPT

The influence of scientific knowledge in contemporary societies is commonplace. Science is omnipresent. Today, more than ever, our lives are dominated by science. From the energy we consume to the way we travel and, from how we communicate with each other, entertain ourselves to how we understand our bodies. Secrets of Science will focus on modern inventions including both every-day and unusual objects from the worlds of science, technology and medicine through uncovering their history - which sometimes goes as far back as the Renaissance - examining their attributes and, demonstrating how they affect our lives. We will see that a mix of personal struggles, cultural shifts, national and even international events have acted as an impetus for scientists to develop new technologies. Secrets of Science will bring an entertaining mix of archival footage, stylised re-enactments and eye-popping CGI for an exciting and intriguing original series. Our team of experts and consultants are the real deal: They've either been designing, enhancing or producing these tools, actually used them in real life or are uber tech/history geeks who wish they had!

EPISODE STRUCTURE

In this series each themed episode will include seven wonders of science. A wonder is something which allows humans to function beyond our biological capacity. The story of each wonder will be presented in three stages, just like a scientific examination:

1. Display: A wonder is presented to the audience
2. Dissection: It is taken apart and its backstory is told
3. Discovery: We learn how it has changed how we decipher our world

VISION

Lenses have moved from hand held seeing appliances to contacts which can be placed in the eye and microscopes which reveal secret worlds normally hidden from the human eye. X-ray technologies also allowed the hidden to be seen. As man expanded his horizon maps became essential to tracking trade routes and deciphering the world. From crude drawings we can now see individual streets from space. The Nineteenth century saw the rise of new visual technologies from photography to cinema and then television, whilst in the late Twentieth century, digital imaging emerged to affect every aspect of our lives today.

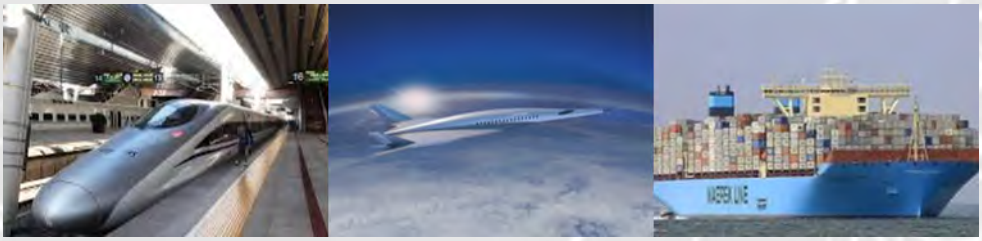
SECRETS OF SCIENCE

INVENTIONS THAT CHANGED OUR WORLD

10 x 48 min

TRANSPORT

The magnet utilising compass revolutionised the world but has largely been replaced by GPS. From walking and running and the domestication of animals, boats allowed humans to expand their influence across the globe and, modern day cruise-liners reveal boats at the height of sophistication as they function as floating cities. In the Nineteenth century trains connected cities and helped the success of the industrial revolution and now bullet trains are the envy of the world. As cities expanded, internal modes of transport were needed to bring workers to and from work and electric trams became a common feature. But it was the wheel which was a game changer in human civilisation's advancement as its influence reached from farming to war. Today, the wheel is still used most notably in bicycles and cars, which liberated travel for the family and the individual. From the dawn of time, humans have dreamt of flying, and it was the arrival of planes which provided an interconnectivity for trade and travellers to a scale beyond the human imagination, so much so that plans are now in place to fly individuals into space.



COMMUNICATION

From messengers and the postal system, the telegram became a way of making the world smaller: a kind of Victorian internet. The Victorians also invented the telephone and today we cannot imagine our lives without this technology. During the major wars of the Twentieth century, Morse Code became integral to sending coded messages and also deciphering enemy commands. Radio was also a major tool of communication during these periods, bringing news from the battle-front and disseminating government guidance to the masses. It was during the Second World War that super computers were used such as the Enigma Machine which was used by the British to break Nazi codes. Now the computer is used in every aspect of human life. Mass printing was allowed through the invention of the electronic printer. Now, mass communication profoundly affects our lives through the internet, connecting our huge world onto single pages on our computer screens.

WAR

The gun literally changed the world by allowing the execution of people from a distance and on a mass scale with the evolution of the machine-gun. The grenade allowed another form of mass attack from a distance. War particularly changed in the Twentieth century with the invention of the tank and the utilisation of flying technologies into the fighter-jet whilst the world's seas became infiltrated by submarines. That century also led to the development of the atomic bomb with the ability to destroy all humans on earth.

SECRETS OF SCIENCE

INVENTIONS THAT CHANGED OUR WORLD

10 x 48 min

SPACE

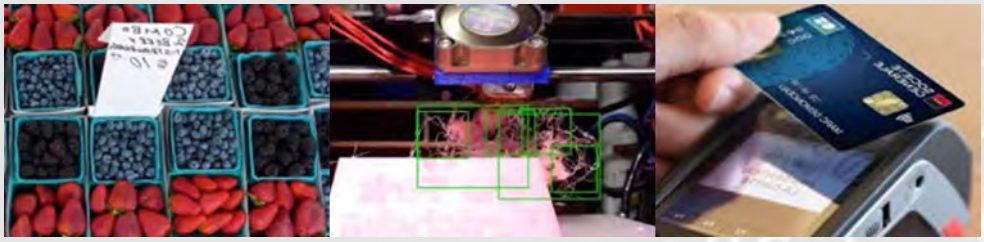
Since the beginning of time, humans have looked to the heavens to understand their place not only on earth but also in the universe. Early astronomers and scientists mapped the stars by drawing constellations, often based on characters from myths and legends, a tradition which still continues today. From the Renaissance onwards, the orrery became popular items for the learned to keep and, Galileo invented the telescope, a game changer in the ways in which people viewed the position of earth in the wider galaxy. The Cold War saw a battle between the USA and Russia to send a satellite into space and then a man to the moon, achieved through rocket technology and the development of the space shuttle. These achievements have allowed humans to go deeper into space from the establishment of the international space station, the mars rover and probes, sending back images of the darkest corners of our galaxy.

BUILDINGS

Construction technologies made a massive leap during the industrial revolution with the invention of steel which revolutionised the way we work through the establishment of factories and offices. Steel also allowed man to build high and create the first skyscrapers. We will visit the Burj-Al--Khalifa of Duabi. Here we also find the Palm-Jumeirah, the manmade islands which can be found off the coast of Dubai. Steel meets glass in the greenhouse. These humble Victorian buildings set in the gardens of the well-to-do have now become megastructures, revolutionising the way in which we grow the food needed to sustain the ever-booming populations. But they can also be a source of pleasure as demonstrated by the Gardens by the Bay in Singapore, a harbinger of vertical farms. Building for pleasure has become synonymous with the modern age with the creation of massive pleasure-domes such as arcades, shopping centres, casinos and sports stadiums, the latter of which finds its blueprint in the grand colosseums of the ancient world.

LIVING

GM Food is a hugely controversial topic but it may be what is needed to sustain the planet's population. Other technologies like refrigeration help the preservation and storage of food. Commerce allowing the purchasing of food and other goods has seen purchasing methods become more and more sophisticated. This was first seen through the checkout till which has moved from a serviced point to self-service. Contactless payments have become more widely used and even encouraged in the age of the coronavirus pandemic. Oil has become essential to the maintenance of the global economy. The products made from it include plastic which has infiltrated our lives in every possible way and led to the scourge of plastic pollution. However, plastic also has benefits and this is being seen more and more through the use of 3D Printing.



SECRETS OF SCIENCE

INVENTIONS THAT CHANGED OUR WORLD

10 x 48 min

ENERGY

Wind technologies include eco-friendly wind farms. Hydropower such as watermills eventually led to steam technology, a key fuel for the industrial revolution. But it was the invention of electricity which truly revolutionised the world. Future sources of fuel range from the increasingly popular and environmentally friendly solar energy and increasing use of biofuels to the controversial use of nuclear power.

MEDICINE

The history of surgery has seen advances from setting broken bones to the amputation of infected parts of the human body. Most recently medicine has seen great advances in prosthetics allowing people to regain their movement and mobility. The development of vaccination allowed the mass immunisation of people and the prevention and sometimes eradication of certain diseases from society. The development of hygiene led to practices ranging from regular handwashing with disinfecting soap to the development of antibacterial treatments and anti-biotics medications such as Penicillin. The discovery of DNA revolutionised our understanding of ourselves and has led to the new technologies of cloning.

LIFE & DEATH

Modern advances in medicine led to birth control through the contraceptive pill, the first time an oral medication could be safely taken to prevent a pregnancy. Biotechnologies such as IVF and Genetic engineering promise the design of ideal humans to demand and without flaws. If existing humans have flaws anti-ageing technologies, be they just topical or intrusive, promise to pause time. Death has become increasingly sophisticated in the modern age and the electric chair is still used in countries which have capital punishment. The idea of living forever has fascinated humans since the dawn of time. Now, Cryogenics promises the freezing of bodies in time to be woken in the future. But what survives without the threat of death? The robot.

PÍCASSfilm

for

KM+BM MEDIA

www.kmplusmedia.com

www.bigmedia.tv