

MARCONI WIRELESS



Trevor Baylis
Trevor Baylis OBE

THE BEGINNINGS OF RADIO
THE CENTENARY OF GUGLIELMO MARCONI'S
CELEBRATED WIRELESS TRANSMISSION ACROSS
THE ATLANTIC OCEAN . . . 12 DECEMBER 1901

Bertram
Folkestone, Kent

GUGLIELMO MARCONI & THE WIRELESS

Guglielmo Marconi was born in Bologna, Italy on 25 April 1874, the son of a wealthy Italian and his Irish wife. The young boy's interest in physics developed initially from his friendship with a neighbour, the distinguished physicist Professor Righi, who taught him about electricity and, in particular, the work of Heinrich Hertz (for whom the units *hertz* and *megahertz* were named). Marconi became more and more interested in the possibilities of communicating via radio waves, or hertzian waves as they were known at the time. He repeated Hertz's experiments at home and was soon becoming fascinated with the concept of wireless telegraphy, managing to transmit signals from one end of his house to the other and then from his house to the garden using his own home-made equipment. In doing this he sowed the seed of practical wireless telegraphy, or radio, which was to change the way we live forever. Although it was accepted that Marconi could transmit signals across the garden, it was widely believed that a signal could not reach over the curve of the horizon, making the use of long-distance radio impossible. Marconi took the challenge and began experimenting with long-range transmissions. By 1899, Marconi had sent signals nine miles across the Bristol Channel and 31 miles across the English Channel, but public and scientific opinion still stated that a signal over the horizon would not be possible. Marconi sought to achieve the impossible – to send a wireless telegraphic signal across the Atlantic Ocean.

Guglielmo Marconi had a lot at stake when he took on the Atlantic challenge: he had borrowed more than £50,000 from banks in England in order to pay for this expensive experiment, and had major contracts with a number of navies to install transmitters in their ships, in addition to the fact that he had a business to run – the Marconi Wireless Telegraph & Signal Company at Chelmsford, established as the world's first radio factory in 1898.

Towards the end of 1901, Marconi set up transmitting stations at Poldhu in Cornwall and Signal Point in Newfoundland across the Atlantic, building antennae on towers to receive and transmit signals. Because of the exposed positions of both stations, antennae continually fell due to high winds and bad weather. Marconi and his team replaced the towers with kites and weather balloons, and soon the challenge was on to achieve his dream. On December 12, 1901, on a cold and blustery day, Marconi received the first signal from Poldhu to the transmitter at Signal Point. The signal, 'dot, dot, dot', meaning 'S' in Morse Code, came faintly from a distance of over 2100 miles – in itself probably the single most important achievement in the history of electronic communications and the event which opened the door to the development of radio, radar and computer wireless communications. Marconi and his assistant Karl Ferdinand Brun, whose modifications increased the range of Marconi's transmitters, went on to win the Nobel Prize for Physics in 1909.





TREVOR BAYLIS OBE

Trevor Baylis was born in London and brought up in Southall. At 20 he began his National Service as a physical training instructor, during which time he swam for the Army and Imperial Services. He then became a professional swimmer, stunt man and entertainer and went on to start his own aquatic display company, which led to performing in a Berlin Circus as an underwater escape artist.

In 1985 he invented and developed a range of products for the disabled called Orange Aids and in 1991, after seeing a programme about the spread of AIDS in Africa, he developed the Wind Up Radio. This was featured on *'Tomorrow's World'* and developed by corporate finance expert Christopher Staines and South African entrepreneur Rory Stear, who together acquired funding and set up BayGen Power Industries in Cape Town, employing disabled workers to manufacture the Freeplay Wind Up Radio.

In June 1996 the Freeplay radio was awarded the BBC Design Award for Best Product and Best Design. Trevor was awarded the Presidential Gold Medal by the Institution of Mechanical Engineers and addressed the Conference of Commonwealth Ministers in Botswana for the British Council.

In October 1997 Trevor was awarded the OBE. In May 1998 he toured African States, lecturing for the British Council, who, following this, arranged a tour of Australia, Cyprus, Slovenia and India. He has also toured Jerusalem and Bahrain and, at the end of June, walked 100km across the Namib Desert for the Mines Advisory Group whilst demonstrating his new invention, the Electric Shoes.

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