
150
ITU
1865-2015
Get involved!

UIT 1792

The first modern network

The semaphore system invented by Frenchman Claude Chappe (and dubbed *the telegraph*) had moving arms to indicate letters of the alphabet, or coded words. A national network was installed in France, following the first signals sent in 1792.

Claude Chappe semaphore (Source: Wikimedia Commons) 1792

UIT 1832

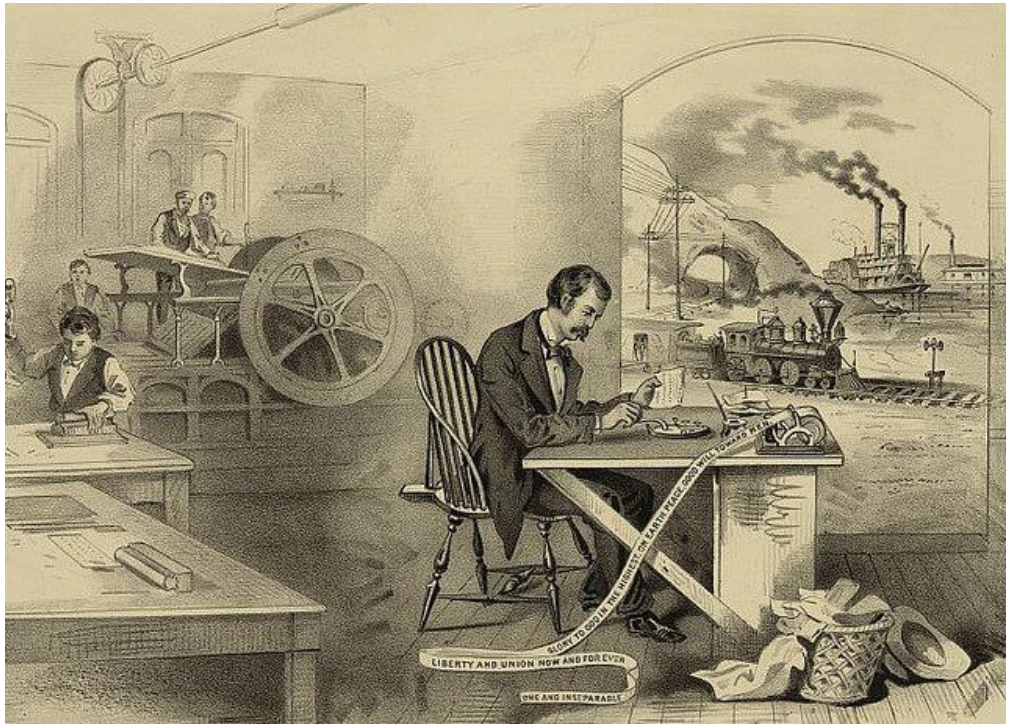
1832

The electric revolution

Natural electrical phenomena, such as lightning, have been observed since ancient times. Around 600 BCE, Thales of Miletus investigated the static electricity generated by rubbing pieces of amber.

Two millennia later, in 1600, the English scientist William Gilbert published the first modern study of magnetism and electricity. Based on the Greek for amber, elektron, Gilbert was the first to use the Latin word *electricus* to describe the effects he saw. But it was almost another two centuries before experiments with telegraphy took place – first with static electricity and electrolysis, and then, in 1832, with the electromagnetic system invented by Schilling.

UIT 1839

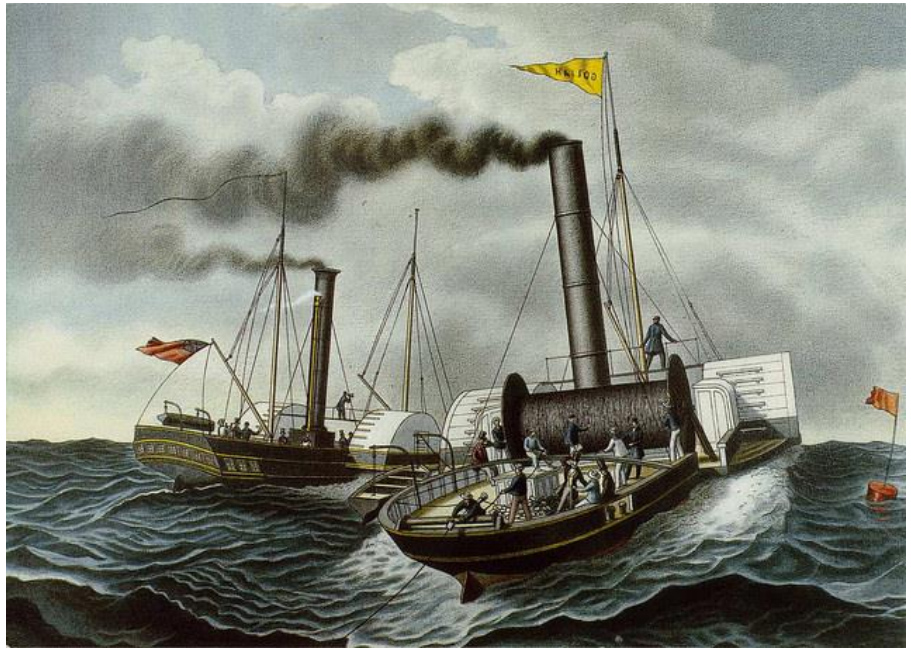


Inventors in other countries had also been working on ways to convey messages by wire. Samuel Morse, in the United States, opened a telegraph service in 1844.

First telegraph services

The development of electrical telegraphy meant that – for the first time in history – ordinary people could send complex messages across countries, with previously unimagined speed. The world's first commercial service was opened in London in 1839 by British scientist Charles Wheatstone, in partnership with businessman William Fothergill Cooke.

UIT 1851

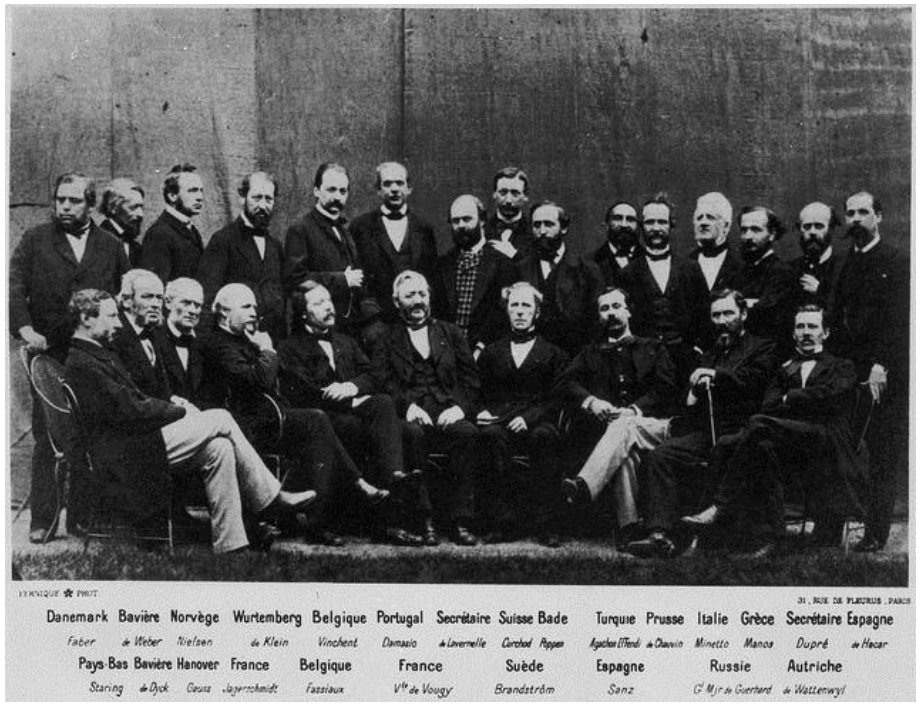


Once an effective way was found to insulate submarine telegraph cables, the first service went into operation in 1851, linking Britain and France.

Under the Sea

Electric telegraph systems quickly expanded after their invention. But in order to connect more of the world, they needed to overcome a difficult barrier: the sea. In 1842 in the United States, Samuel Morse sent messages through a wire submerged in New York Harbor, and Charles Wheatstone performed a similar experiment in Swansea Bay, Wales in 1843.

UIT 1865

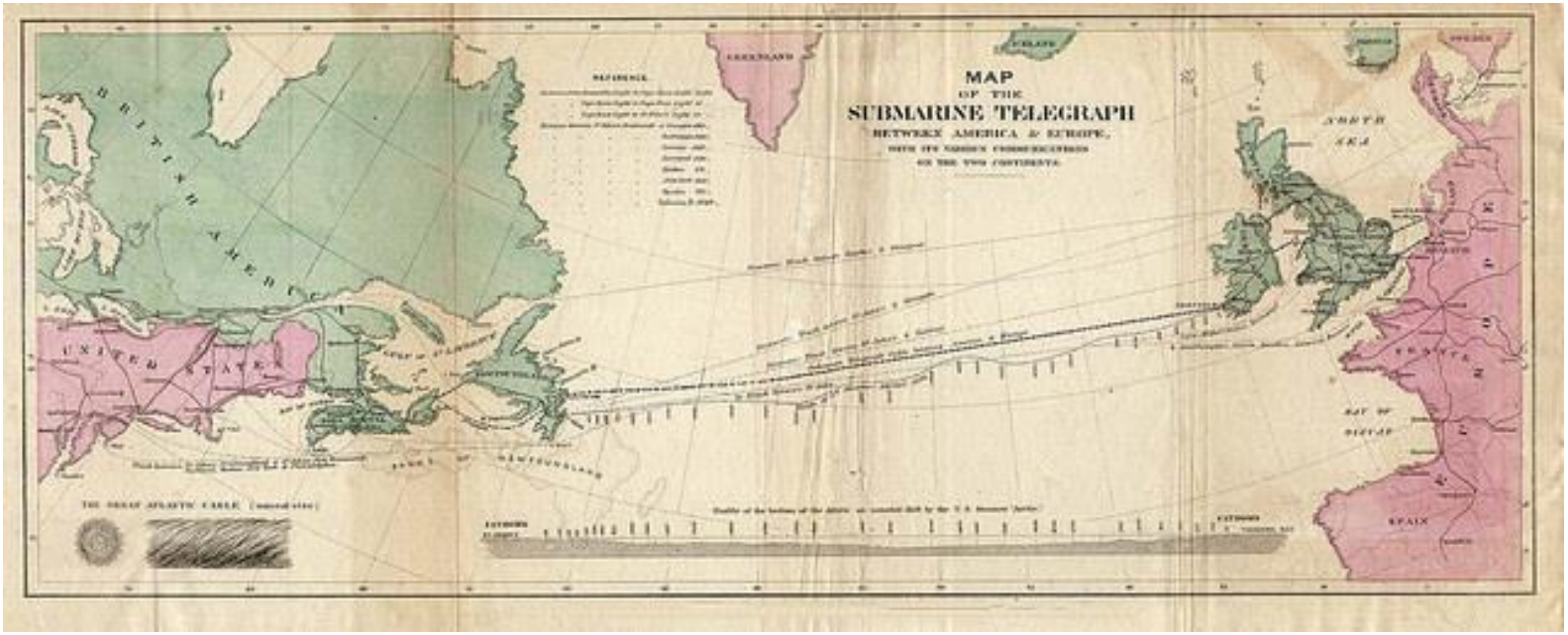


ITU is born

By the middle of the 19th century, the telegraph was transforming communications – and society – across Europe and North America, as well as extending its reach around the world. However, barriers and bottlenecks could occur when a message had to cross from one national jurisdiction to another.

To overcome this, agreements began to be made between countries, and, in 1865, twenty European States signed a treaty to harmonize telegraph services. This was the origin of ITU.

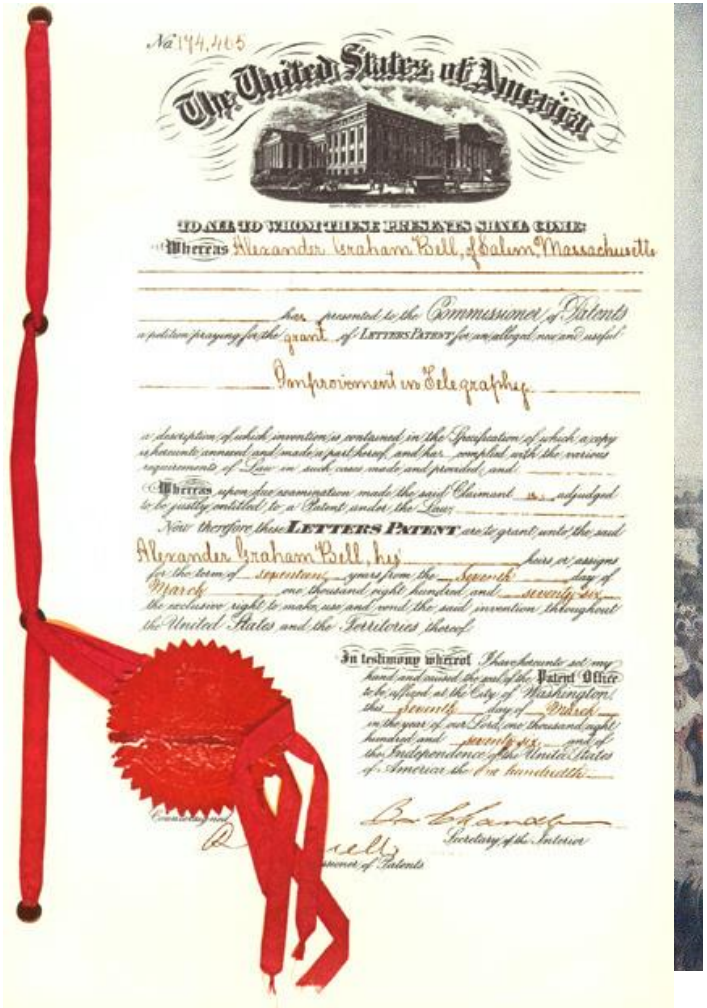
UIT 1866



Across an ocean

Following the success of the Britain-France link in 1851, various submarine telegraph cables soon began to connect island to mainland, and country to country. But the greatest challenge lay ahead: to cross the entire width of the Atlantic ocean. To achieve this, many technical difficulties were overcome, with the help of some of the best scientists and engineers of the day. After three attempts, the first permanent telegraph line was established in 1866, joining Europe to North America.

UIT 1876



The master telephone patent, awarded to Bell in March 1876 (Source: Wikimedia Commons)

Speaking by wire

Only a decade after the foundation of ITU, the next leap forward in communications occurred with the patenting of the telephone in 1876. Now, people could not only send telegrams using Morse code -- they could also speak directly to each other over long distances.

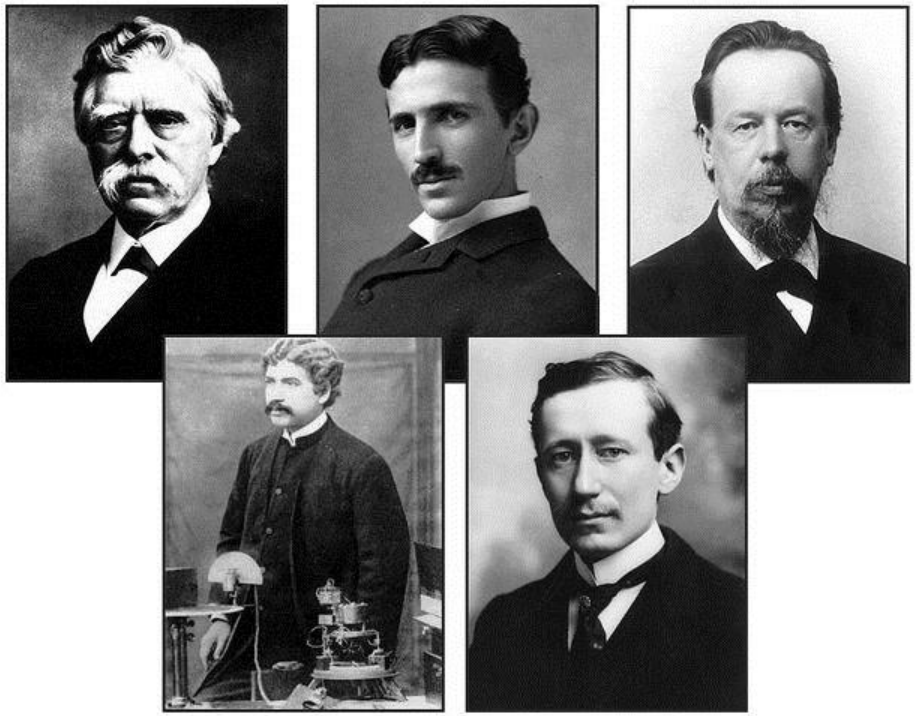
UIT 1885

ITU includes the telephone

At the International Telegraph Conference held in Berlin in 1885, ITU began to draw up international regulations governing telephony for the first time. Use of the new technology was spreading rapidly, helped by such inventions as the telephone exchange. In 1885, around 100 million calls were made within ITU member countries.

Bell on the telephone in New York (calling Chicago) in 1892 (Source: Gilbert H. Grosvenor Collection, Prints and Photographs Division, Library of Congress via Wikimedia)

UIT 1888

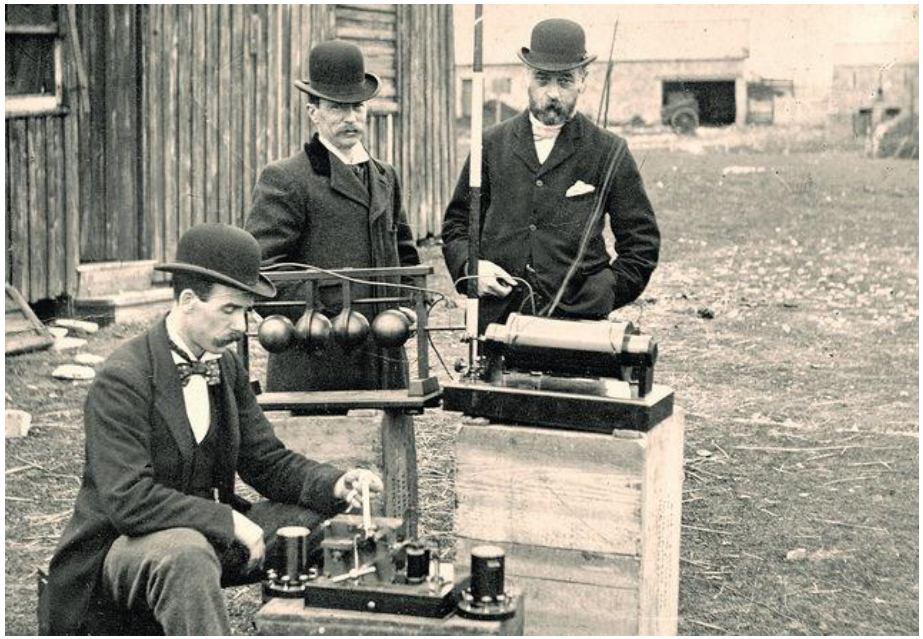


Radio Experiments

Sometimes, inventions are simply 'waiting to happen' because the technological time is ripe. This was the case with radio at the end of the 19th century. Fundamental research was conducted by a number of scientists, who wanted to explore the full potential of electricity and possible radiocommunications.

Inventors of 'wireless telegraphy' [clockwise from top left] David Edward Hughes, Nikola Tesla, Alexander Stepanovich Popov, Guglielmo Marconi, and Jagadish Chandra Bose. (Source: ITU)

UIT 1895



British Post Office engineers inspect Marconi's wireless telegraphy equipment, during a demonstration on Flat Holm island (Source: Cardiff Council Flat Holm Project via Wikimedia Commons)

Practical Radio Systems

Based on the fundamental research and experiments of such scientists as James Clerk Maxwell and Heinrich Hertz, efforts were soon made to create practical radio systems. In the 1890s, two men - at just about the same time and using similar systems - developed transmitters to provide the first radiocommunications. They were Popov and Marconi.

UIT 1900

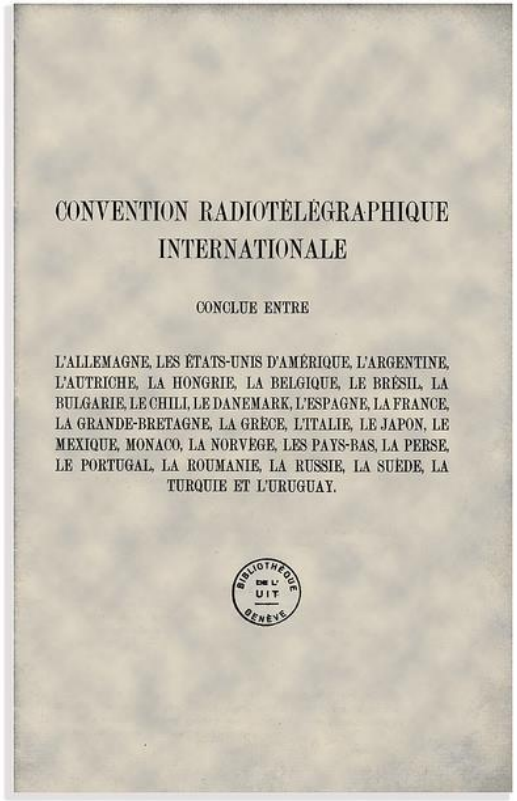
Inside the Brant Rock station - Fessenden is seated on the right (Courtesy of the North Carolina State Archives

Voices over the air

On 23 December 1900, Alfred Thiessen heard the following words: *'Hello test, one two, three, four. Is it snowing where you are Mr. Thiessen? If it is telegraph back and let me know.*'

The message had been sent by Canadian inventor, Reginald Aubrey Fessenden, to Thiessen his assistant, by means of what was then called wireless telephony. It was the first time that speech had ever been transmitted by radio, and led to the start of the broadcasting era.

UIT 1906



CONVENTION RADIOTÉLÉGRAPHIQUE INTERNATIONALE

CONCLUE ENTRE

L'ALLEMAGNE, LES ÉTATS-UNIS D'AMÉRIQUE, L'ARGENTINE, L'AUTRICHE, LA HONGRIE, LA BELGIQUE, LE BRÉSIL, LA BULGARIE, LE CHILI, LE DANEMARK, L'ESPAGNE, LA FRANCE, LA GRANDE-BRETAGNE, LA GRÈCE, L'ITALIE, LE JAPON, LE MEXIQUE, MONACO, LA NORVÈGE, LES PAYS-BAS, LA PERSE, LE PORTUGAL, LA ROUMANIE, LA RUSSIE, LA SUÈDE, LA TURQUIE ET L'URUGUAY.

The first International Radiotelegraph Convention was produced in 1906 (Source: ITU)

First International Radio Conference

Radio equipment was rapidly adopted on ships in the opening years of the twentieth century, and radio stations were constructed along coasts. But if two or more stations used the same radio frequency to communicate with ships, interference could occur. To ensure an efficient international service, an agreement had to be made on what frequencies could be used, as well as rules for the operation of radio stations. Such an agreement was forged at the first International Radiotelegraph Conference, held in Berlin in 1906.

UIT 1925

The first International Radiotelegraph Convention was produced in 1906 (Source: ITU)

Television on the Scene

It is not easy to give a precise answer to the question *'who invented television?'* Many people contributed the elements of a system for *„seeing at a distance."* But, after its first demonstration in London in 1925, the new technology captured the public imagination. Following a move to electronic systems in the 1930s, modern television was born.

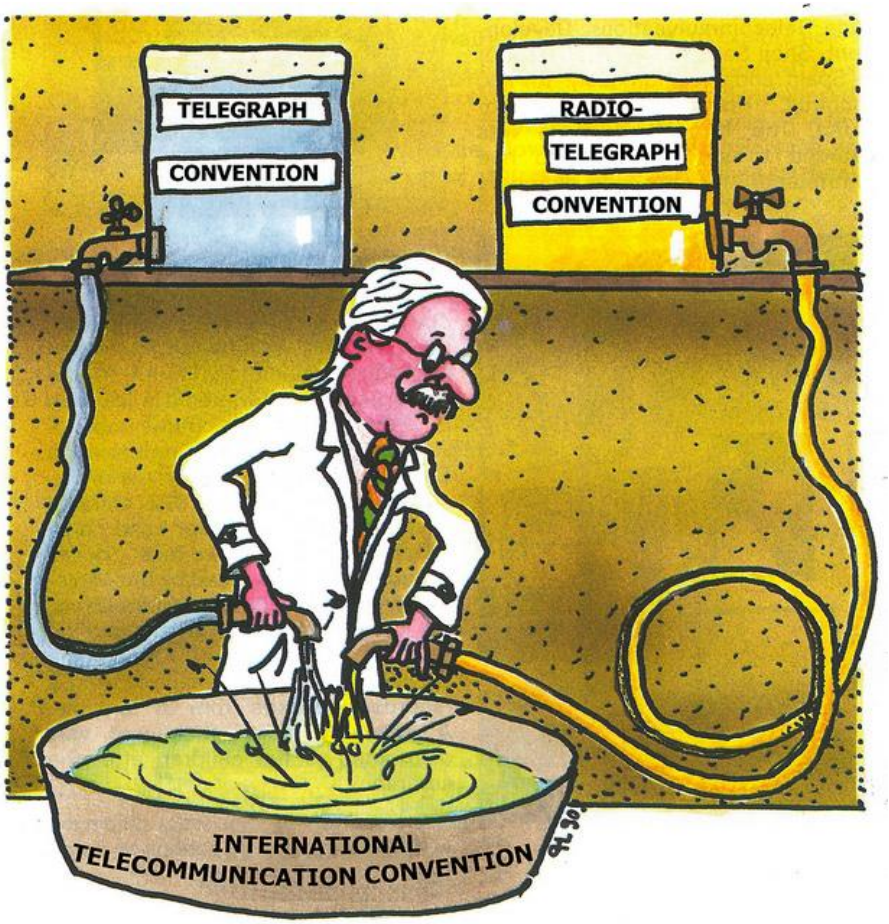
UIT 1927

ITU Takes Shape

The huge technological advances of the early 20th century meant that a unified approach was needed for communications - from telegraph to radio. In 1925, dealing with telephone services, as well as telegraphy, officially became part of ITU's remit. Then in 1927, an *International Radio Consultative Committee* was established.

Coordination of technical studies could now begin in all fields of telecommunications, as well as the drawing up of international standards and the monitoring of how radio-frequency spectrum was used.

UIT 1932



In 1932 ITU's Telecommunication constitution was a merger of the Telegraph and the Radiotelegraph Convention (Source: ITU)

New Name for ITU

One of the most decisive events of ITU's history occurred in 1932. In Madrid, an International Telegraph Conference and an International Radiotelegraph Conference met simultaneously. They decided to merge into a single entity and - reflecting its mission for all communication technologies -- to give ITU the modern name that it still has today.

UIT 1933

ALMA radio telescope and the Milky Way
(Source: ESO/B. Tafreshi)

Signals from Space

One of the most exciting applications of radio technology is in astronomy. Stars and other celestial objects that do not emit visible light cannot be detected by optical telescopes. But they can be observed by their emissions in another part of the electromagnetic spectrum - radio waves.

In 1933, this discovery was detailed in a scientific paper.

It heralded the field of radio astronomy, which later became part of ITU's responsibilities in supervising the use of spectrum.

UIT 1947

United Nations flag (Source: UN Photo)

ITU in the United Nations Family

The Second World War caused immense destruction to lives, homes and societies' infrastructure - including telecommunications.

A healing process was started with the foundation of the United Nations in 1945. Two years later, an ITU conference in Atlantic City, United States, voted for the Union to become part of the UN family.

UIT 1952

In 1952 ITU senior officials were: Secretary-General: Léon Mulatier; two Assistant Secretaries-General: Gerald C. Gross & Hugh Townshend (Source: ITU)

Leaders of ITU

The International Telecommunications Conference in 1947 decided that ITU should have an Administrative Council, a Secretary-General and two Assistant Secretary-Generals. The next conference, held in Buenos Aires in 1952, defined in detail the duties of the senior officials, and stressed the principle of representing as wide a geographical spread as possible among ITU staff.