

#### 1840

World's first commercially successful use of electric telegraph on 5 miles of London and Blackwall Railway



© Science Museum, London Cooke & Wheatstone five-needle dial, 1837

# 1837

In the UK Cooke & Wheatstone patent the 5 needle electric telegraph

In the USA Morse files a 'caveat' with US Patent office for his system

# 1864

Maxwell publishes 'A
Dynamical Theory of the
Electromagnetic Field'
predicting the propagation
of electromagnetic waves

## 1880

High Court rules 'a telephone is a telegraph and a conversation is a telegram within meaning of Section 4 of Telegraph Act' thereby giving PMG control over public telephone systems

#### 1879

First UK manual telephone exchange opens in Coleman St, London, and others in Manchester, Birmingham, Edinburgh and Glasgow

#### 1888

Heinrich Hertz proves the existence of EM waves as predicted by Maxwell

#### 1868

Telegraph Act transfers private UK telegraph systems to the Postmaster General (PMG)



BT Archives: Coleman Street Telephone Exchange 1880

# 1876

Alexander Graham Bell patents the telephone

# 1878

Telephone Company Ltd est. in UK

#### 1894

Oliver Lodge demonstrates transmission and reception of Hertzian waves using a 'coherer'

## 1896

Marconi awarded wireless telegraphy patent

#### 1897

Marconi demonstrates radio transmission 14km across Bristol Channel. The 'Wireless and Signal Company Ltd' established later to become the 'Marconi Company'

## 1858

IET Archives: The Great Eastern

1851

Submarine telegraph

cable laid between

Nez

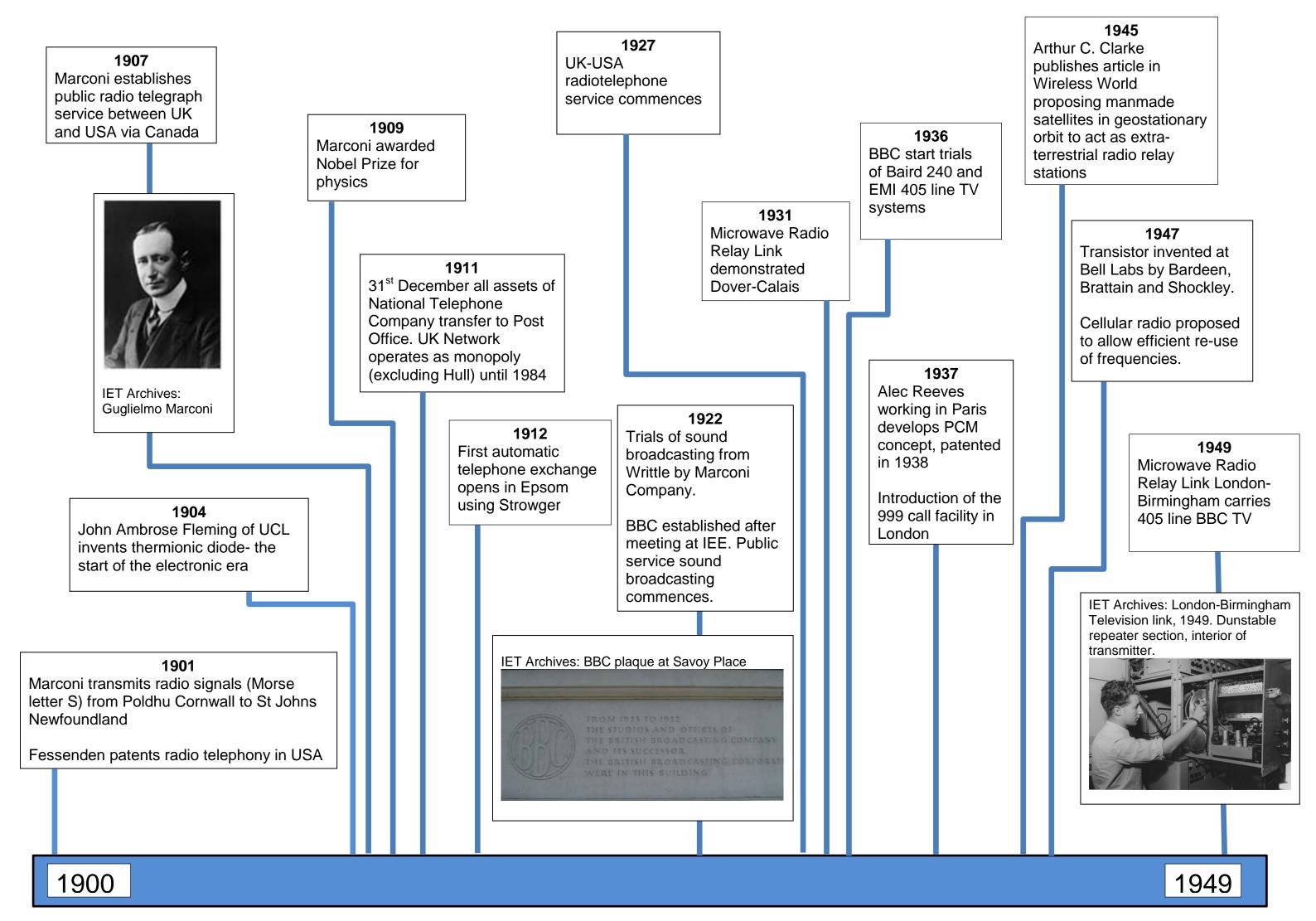
1857

Dover and Cap Gris

First transatlantic cable completed but fails after 3 weeks. In 1866 the first successful operational transatlantic telegraph cable was laid by the Great Eastern

1837

1899



## 1960

Paul Baron of USA Rand Corporation proposes 'distributed communications' a concept developed by Donald Davies of UK National Physics Lab as 'packet switching'

#### 1962

TELSTAR active satellite launched

network of interconnected computers to provide rapid data access (origin of the INTERNET)

Highgate Wood UK first digital exchange trial (using PAM/TDM)

## 1959

Laser invented

Car telephone service launched in UK

#### 1956

TAT 1 the first UK-USA/Canada transatlantic telephony coaxial cable with thermionic valve submerged repeaters completed

Joseph Licklider of MIT proposes a

BT Archives: Engineers working on

TELSTAR satellite, 1969

# 1965

Post Office Tower opened

**INTELSAT 1 geostationary** satellite commences service

# 1964

Trials of 24 channel PCM systems in UK

#### 1966

Kao and Hockham of **STC Laboratories** propose optical telecommunications through low loss glass fibres

#### 1969

**US** Defence Department creates ARPANET (advanced research projects agency network) using packet transmission and routing later forming the basis of the internet



Source: IET

# 1968

UK first digital PCM exchange opens in London (Empress)

#### 1971

Email systems created

Trials of 120 Mbit/s digital coaxial systems in UK

#### 1977

UK radiopaging service commences

UK trial multimode optical fibre systems between Martlesham-Ipswich 13km operating at 8MBit/s and Martlesham-Kesgrave 6km at 140MBit/s



BT Archives: BT Tower with original horn aeriels, 1966

BT Archives: Empress PCM Exchange

#### 1981

Government propose end of Post Office (BT) telecoms monopoly

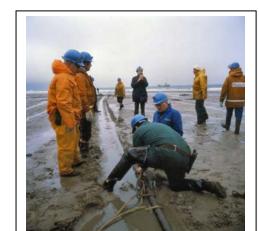
#### 1985

Analogue mobile cellular radio systems, TACS (Total Access Communications System) operating at 900MHz launched in UK

#### 1984

BT privatised

Single mode 140Mbit/s optical fibre system Milton Keynes-London



BT Archives: TAT 8 being brought ashore at Bude, Cornwall, September 1987

#### 1988

TAT 8 first transatlantic optical fibre cable completed

# 1990

IET Archives: Sir Tim

Berners-Lee

Tim Berners-Lee working at CERN devises the World Wide Web operating over the INTERNET

#### 1996

Field trials of ADSL on local loop copper pairs to provide broadband



IET Archives: Sir Charles K Kao

#### 2009

Charles Kao awarded Nobel Prize for physics

# 2011

100Mbit/s local broadband on optical fibre introduced

#### 1992

First UK public internet access provided

Digital (GSM) cellular radio commences in UK



BT Archives: optical fibres

#### 1980

BT Archives:

System X

First System X exchange opens at Baynard House, London

Sources used to compile this timeline: BT Archives website Events in telecommunications History; The Worldwide History of Telecommunications by Huurdeman, A.A.; A Century of Wireless, EBU Technical Review No.263 Spring 1995; History of Telegraphy by Beauchamp, K, 2001; various editions of the IPOEE Journal, selected websites. Due acknowledgement is made to all of these.