

Inventions Listed by Date

1088	Movable type in Ancient China	1560	Floating Dock
1119	Mariner's compass in Ancient China	1605	Newspaper
1281	Mechanization of papermaking (paper mill)		
1300's	Floating crane		
1420	Brace		
1439	Printing Press by Johannes Gutenberg		
1470	Parachute		
1480	Mariner's astrolabe		

1800	Battery	1805	
1801	Jacquard loom controlled by punched card	1806	
1802	Arc lamp	1807	
1803		1808	
1804	Morphine Railway steam locomotive	1809	

1810		1815	
1811		1816	
1812		1817	
1813	Negatives (photography)	1818	
1814		1819	

1820	Electric/magnetism listed	1825	
1821	1 st Electric motor	1826	Fiction Match
1822	Photograph w fixed positive image	1827	
1823		1828	
1824		1829	Typewriter

1830		1835	Electric relay
1831	Telegraph; reaper Computer , stereoscope	1836	
1832		1837	
1833		1838	
1834	Electro-magnetic generator	1839	Rubber (vulcanization)

1840		1845	Rubber tire
1841	Standard screw thread	1846	Punch tape telegraph Sewing machine Smithsonian Inst founded Neptune discovered Ether used as anesthetic
1842	Picture transmitter & receiver	1847	Rotary & web printing presses
1843		1848	Communist Manifesto, Karl Marx & Frederick Engels
1844	Mechanical copying	1849	1 st Bombing raid (fr balloon) on Venice

1850	Teletype printer	1855	
1851		1856	
1852	Elevator Kerosene	1857	
1853		1858	
1854		1859	

1860		1865	
1861		1866	
1862		1867	
1863		1868	
1864		1869	

1870	Study of brain by electrical stimulation	1875	
1871		1876	
1872		1877	
1873		1878	1 st commercial telephone exchange Rayon developed
1874		1879	Saccharin Electric lamps Electric Railway

1880	Seismograph Germs, Pawsweur Bell, Telephone 1 st electric generator station	1885	3 Wheel automobile 1 st motorbike Key adding machines Dictaphone
1881	Rocket Bomb Bacteria Vaccuum 1 st electric streetcar 1 st color photograph	1886	Phonograph Aluminum Welding
1882		1887	Monotype setting machine
1883	1 st High speed engine	1888	Burroughs adding machine Air filled rubber tires Electric meter

1884	Ammeter Rayon Linotype typesetting Electric Alternator Roll film Fountain pen	1889	1 st dome for hydroelectric plant
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1890	Aircraft	1895	
1891		1896	
1892	Electric arc furnace	1897	
1893		1898	
1894	Radio Cinematograph	1899	

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1900	1 st offshore drilling oil Telephone transmission extends across & between major cities Kodak Brownie camera Sanitary & Ship Canal opens in Chgo	1905	Safety glass Submarine Radio antenna Dial telephone Special Theory of relativity Electric filaments improved
1901	1st electric typewriter patent Vacuum cleaner Transatlantic telegraph radio Airplane Telescope shock absorber 1 st Office bldg with air-conditioning	1906	1st Air-Conditioned Hospital
1902	Light bulbs Spark plugs Hearing aid Drum brake	1907	Bakelite
1903	Electric locomotive Airplane w powered control Electrocardiograph machine Lightweight electric iron Steam turbine generator	1908	Model T Introduced General Motors 1 st solar collector
1904	Ultraviolet lamps Stainless steel Offset printing Vacuum diode 1 st crawler tractor with tracks Self-contained mechanical refrigerator Thermionic valve or diode	1909	1st successful electric toaster Precipitation hardening discovered

1910	1 st take off from a ship Asphalt manufactured from oil-refining byproducts Vacuum light bulbs	1915	First transcontinental telephone call Pyrex Goddard establishes that it is possible to send a rocket to the Moon The hydrophone developed
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1911	Electric starter introduced	1916	Flash-freezing system for preserving food products developed
1912	Radio signal amplifier devised	1917	Theory of stimulated emission Wisconsin adopts road numbering system Superheterodyne circuit The Junkers J4, an all-metal airplane, introduced First long-distance high-voltage transmission line
1913	High-pressure hydrogenation process developed Stainless steel is rediscovered Hot cathode x-ray tube invented New method of oil refining Activated sludge process Southern California Edison brings electricity to Los Angeles First electric dishwasher on the market First moving assembly line for automobiles developed First refrigerator for home use Mammography research	1918	Airmail service inaugurated
1914	First car body made entirely of steel Sewerage Practice, Volume I: Design of Sewers Automatic gyrostabilizer demonstrated Automatic gyrostabilizer leads to first automatic pilot Aircooled, electric, self-contained household refrigerating unit is marketed 1914-1918-Dramatic improvements in structures and control and propulsion systems	1919	Formula for the chlorination of urban water U.S. Navy aviators make the first airplane crossing of the North Atlantic First single foot pedal to operate coupled four-wheel brakes First automatic pop-up toaster Passenger service across the English Channel introduced Switching systems and rotary-dial telephones

1920	Frequency multiplexing concept First scheduled commercial radio programmer Yellow traffic lights Windmills used to drive generators High-pressure steam power plants First Plant to Reheat Steam 1920s-1940s Nylon, acrylics, and polyester are developed New compounds derived oil-refining byproducts enter market	1925	18/8 austenitic grade steel adopted by chemical industry Uniform system of signs 18/8 austenitic grade steel adopted by chemical industry Televisor Numbering system for interstate highways 1925-1926 Introduction of lightweight, air-cooled radial engines
1921	First major aerial dusting of crops Lead added to gasoline	1926	First power steering system
1922	International Harvester introduces a power takeoff First American car with four-wheel hydraulic brakes	1927	First garbage disposal First iron with an adjustable temperature control First refrigerator to be mass produced

			<p>with a completely sealed refrigerating system</p> <p>First modern practical respirator Holland Tunnel Gas-fired household absorption refrigerators become popular</p> <p>All-electronic television system</p> <p>First nonstop solo flight across the Atlantic</p>
1923	Electrically refrigerated ice cream dipping cabinet is marketed	1928	<p>Chlorofluorocarbon (CFC) refrigerants are synthesized</p> <p>First electromechanical flight simulator</p> <p>Televisor system produces images in crude color</p> <p>Portable offshore drilling</p>
1924		1929	<p>First room cooler goes on the market</p> <p>Television camera and a cathode-ray tube receiver</p>

1930	<p>Synthetic rubber developed</p> <p>Hardy Cross method</p> <p>Smaller air-conditioning units appear on trains</p> <p>New process increases octane rating gasoline</p> <p>Glass fibers become commercially viable</p> <p>Artificial pacemaker invented</p> <p>Air-entrained concrete introduced</p> <p>Washing machine to wash, rinse, and extract water from clothes</p>	1935	<p>First generator at Hoover Dam begins operation</p> <p>Hoover Dam</p> <p>First research on conservation tillage</p> <p>First practical radar</p> <p>First transpacific mail service</p> <p>First clothes dryer</p> <p>Rural Electrification Administration bring electricity to many farmers</p> <p>Flashing turn signals introduced</p> <p>Rural Electrification Administration</p>
1931	<p>Caterpillar manufactures a crawler tractor with a diesel engine</p> <p>"Hot- Kold" year-round central air-conditioning system for homes on the market</p> <p>First modern independent front suspension system</p> <p>A heat pump air-conditioning system in Los Angeles office building</p> <p>Introduction of bulk-power, utility-scale wind energy conversion systems</p> <p>1931-1933</p> <p>Electron microscope</p>	1936	<p>"A Symbolic Analysis of Relay and Switching Circuits"</p> <p>Albert Henne synthesizes refrigerant R-134a</p> <p>Clear, strong plastic</p> <p>Catalytic cracking introduced</p>
1932	<p>First pickup baler manufactured</p> <p>Rubber wheels result in a 25 percent improvement in fuel economy for tractors</p> <p>First overnight train with air conditioning</p> <p>Neutron is discovered</p> <p>Autobahn opens</p> <p>Cockcroft teams Walton to split the atom</p> <p>Rubber wheels improve the tractor</p>	1937	<p>Golden Gate Bridge</p> <p>Route 66 completed</p> <p>Jet engines designed</p> <p>Delaware Aqueduct System</p> <p>5-million-volt Van de Graaff generator built</p>
1933	<p>Tennessee Valley Authority</p> <p>Douglas introduces the 12-passenger twin-engine DC-1</p>	1938	<p>First self-propelled combine</p> <p>DuPont discovers Teflon</p> <p>A window air conditioner using Freon</p>

	<p>First modern commercial airliner Hydraulic draft control system developed FM radio Polyethylene discovered Kouwenhoven cardiovascular research</p>		<p>is marketed</p> <p>1938-1957 Colorado–Big Thompson Project</p>
<p>1934</p>	<p>First successful mass-produced front-wheel-drive car Nylon</p>	<p>1939</p>	<p>Resonant-cavity magnetron developed Atanasoff-Berry Computer, the first electronic computer First binary digital computers are developed Air conditioning offered as an option in a Packard automobile First practical singlerotor helicopters Uranium atoms are split First air conditioning system added to automobiles</p> <p>1939-1945 World war again spurs innovation</p> <p>A world war again spurs innovation. The British develop airplane-detecting radar just in time for the Battle of Britain. At the same time the Germans develop radiowave navigation techniques. Then both sides develop airborne radar, useful for attacking aircraft at night. German engineers produce the first practical jet fighter, the twin-engine ME 262, which flies at 540 miles per hour, and the 600-mph, rocket-powered Messerschmitt 163 Komet. In the United States, the Boeing Company modifies its B-17 into the high-altitude Flying Fortress. Later it makes the 141-foot-wingspan long-range B-29 Superfortress. In Britain the Instrument Landing System (ILS) for landing in bad weather is put into use in 1944.</p> <p>World War II spurs innovation</p> <p>A world war again spurs innovation. The British develop airplane-detecting radar just in time for the Battle of Britain. At the same time the Germans develop radiowave navigation techniques. The both sides develop airborne radar, useful for attacking aircraft at night. German engineers produce the first practical jet fighter, the twin-engine ME 262, which flies at 540 miles per hour, and the Boeing Company modifies its B-17 into the high-altitude Flying Fortress. Later it makes the 141-foot-wingspan long-range B-29 Superfortress. In Britain the Instrument Landing System (ILS) for landing in bad weather is put into use in 1944.</p> <p>Manhattan Project</p> <p>The U.S. Army's top-secret atomic energy program, known as the Manhattan Project, employs scientists in Los Alamos, New</p>

			Mexico, under the direction of physicist J. Robert Oppenheimer, to develop the first transportable atomic bomb. Other Manhattan Project teams at Hanford, Washington, and Oak Ridge, Tennessee, produce the plutonium and uranium-235 necessary for nuclear fission.
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1940	Pennsylvania Turnpike Jeep is designed Ohl discovers that impurities in semiconductor crystals create photoelectric properties First mass-produced, fully automatic transmission 1940s Microwave radar systems Ceramic magnets Nickel-based superalloys	1945	Barium titanate developed Specifications of a stored-program computer Magnetron discovered to melt candy, pop corn, and cook an egg First kidney dialysis machine Hiroshima and Nagasaki
1941		1946	First nuclear-reactor-produced radioisotopes for peacetime civilian use First electronic computer put into operation Atomic Energy Commission Tupperware Nuclear-reactor radioisotopes for peacetime civilian use Radar-equipped air traffic control
1942	Successful launch of a V-2 rocket First catalytic cracking unit is put on-stream First controlled, self-sustaining nuclear chain reaction Grand Coulee Dam completed	1947	First commercial oil well out of sight of land Mass-produced, low-cost window air conditioners become possible First top-loading automatic washer Sound barrier broken Platforming invented North American Numbering Plan First pointcontact transistor Transistor is invented
1943	First commercially viable mechanical spindle cotton picker Radar storm detection First vacuum-tube programmable logic calculator	1948	Plastic contact lens developed A Mathematical Theory of Communication Plans to commercialize nuclear power Center pivot irrigation machine invented
1944	Federal Aid Highway Act	1949	First concrete pavement constructed using slipforms First jet-powered commercial aircraft First phone to combine a ringer and handset First stored-program compute is built

1950	1950s Cathode-ray tube (CRT) for television	1955	Nuclear power plant power entire town First nuclear-powered submarine
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	<p>monitors improved Silicones X-ray crystallography reveal helical structure of DNA Cruise control is developed X-ray crystallography helps solve mystery B-52 bomber Medical fluoroscopy and night vision First artificial hip replacement</p>		<p>BORAX-III provide an entire town with electricity New York draws power from nuclear power plant Ductile cast-iron pipe becomes the industry standard First jack-up oil-drilling rig First disk drive for random-access storage of data High molecular weight polypropylene developed Silicon dioxide discovery</p>
1951	<p>Experimental Breeder Reactor 1 First hard rock tunnel-boring machine built Direct long distance calling first available First computer designed for U.S. business Artificial heart valve developed</p>	1956	<p>First transatlantic telephone cable Lake Pontchartrain Causeway opens New Federal Aid Highway Act The Gyral air seeder is patented</p>
1952	<p>First computer compiler Discovery of the area rule of aircraft design Glass into fine-grained ceramics Chesapeake Bay Bridge First commercial device to apply Shockley's junction transistor Walk/Don't Walk signal First automatic coffeepot First successful cardiac pacemaker</p>	1957	<p>FORTTRAN becomes commercially available International Atomic Energy Agency Sputnik I</p>
1953	<p>Seven-state power grid RCA's new system for commercial color adopted Dacron First of a series of Boiling Reactor Experiment reactors First successful open-heart bypass surgery High-density polyethylene</p>	1958	<p>Integrated circuit Imaging device to detect tumors Concept of a laser introduced United States launches its first satellite</p> <p>1958-1959 Integrated circuit invented</p>
1954	<p>"Maser" developed First truly consistent mass-produced transistor is demonstrated Corn head attachments for combines are introduced Synthetic diamonds First coast-to-coast color television transmission Atomic Energy Act of 1954 Synthetic zeolites First human kidney transplant First transistor radio First all-transistor radio</p>	1959	<p>Luna 3 probe flies past the Moon First large geothermal electricity-generating plant "Float" glass developed Ultrasound</p>

1960	<p>Operable laser invented First totally internal pacemaker Radioisotopes for research, diagnosis, and treatment of disease</p>	1965	<p>Edward H. White, Jr. is the first American to perform a spacewalk Automatic adaptive equalizer invented by Robert Lucky</p>
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	<p>Continuously operating helium-neon gas laser invented TIROS 1 launched Digital Equipment Corporation introduces the "compact" PDP-1</p> <p>1960s Kuwait begins using seawater desalination technology Optical lithography Large single crystals of silicon grown Reflective paint for highway markings developed Synthetic oils Efforts begin to reduce harmful emissions</p> <p>1960s and 1970s Space-based imaging begins</p>		<p>First electronic central office switching system</p>
1961	<p>Alan B. Shepard, Jr. becomes the second human in space France and England connect electrical grids First medical use of the ruby laser Yuri Gagarin becomes the first human in space Glass fiber demonstration</p>	1966	<p>Advanced Testing Reactor Electronic monitoring devices allow farmers to plant crops more efficiently Highway Safety Act Self-aligned gate process for fabricating field effect transistors ARPANET project Electronic fuel injection system developed Landmark paper on optical fiber</p>
1962	<p>MOSFET is invented First PET transverse section instrument Nickel-titanium (Ni-Ti) alloy shape memory Spray mist added to iron ARPA Information Processing Techniques Office First commercial digital transmission system Telstar 1 John Glenn is the first American to circle Earth First advanced gas-cooled reactor Pavement standards Kleinrock thesis describes underlying principles of packet-switching technology Telstar 1 transmits the first live transatlantic telecast Gallium arsenide laser developed</p>	1967	<p>Packet switching First handheld calculator invented 750,000 volt transmission line developed</p>
1963	<p>Self-cleaning electric oven First small jet aircraft to enter mass production Syncom communications satellites launched GE introduces the self-cleaning oven Laser treatments to prevent blindness Heterostructures Touch-tone telephone is introduced</p>	1968	<p>Bell Labs team develops molecular beam epitaxy Interface message processors Apollo 8 flight to the Moon views Earth from lunar orbit. Computer mouse makes its public debut First 911 call is made 200 million television sets</p>

1964	<p>Chesapeake Bay Bridge- Tunnel opens On Distributed Communications Networks Carbon fiber developed First large-scale magnetohydrodynamics plant BASIC Acrylic paints</p>	1969	<p>Boeing 747 Dynamic random access memory</p> <p>More than half of new automobiles (54 percent) are equipped with air conditioning, which is soon a necessity, not only for comfort but also for resale value By now, most new homes are built with central air conditioning, and window air conditioners are increasingly affordable</p> <p>Zero Power Physics Reactor Neil Armstrong becomes the first person to walk on the Moon</p>
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1970	<p>Initial ARPANET host-to-host protocol The first CD-ROM patented Optical fibers that meet purity standards Palo Alto Research Center (PARC) UNIX operating system</p> <p>1970s Digital seismology Airbags become standard Mud pulse telemetry Aswan High Dam Amorphous metal alloys created Fuel prices escalate, driving demand for fuel-efficient cars Arthroscope introduced</p>	1975	<p>First commercial semiconductor laser U.S. military begins using fiber optics First home computer is marketed to hobbyists Initial testing of packet radio networks NASA launches two Mars space probes</p>
1971	<p>First soft contact lens Intel introduces "computer on a chip" First space station, Salyut 1</p>	1976	<p>Common channel interoffice signaling TCP/IP incorporated Concorde SST introduced into commercial airline service</p>
1972	<p>First percolator with an automatic drip process First public demonstration of the new network technology Home video game systems become available Pioneer 10 sent to the outer solar system First e-mail program CAT or CT scan is introduced MRI adapted for medical purposes</p>	1977	<p>Voyager I and Voyager 2 are launched Apple II is released Demonstration of independent networks to communicate Theorynet Telephone companies fiber optic trials Electrically conducting organic polymers discovered</p>
1973	<p>Paper describes basic design of the Internet and TCP Chemical vapor deposition process Interstate 70 opens west of Denver First portable cell phone call is made</p>	1978	<p>First electronic sewing machine First cochlear implant surgery Public Utility Regulatory Policies Act Public tests of a new cellular phone system</p>
1974	<p>Energy Reorganization Act of 1974 Texas Instruments introduces the TMS 1000</p>	1979	<p>Internet Configuration Control Board USENET First laptop computer is designed</p>

			Three Mile Island First commercially successful business application
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1980	<p>First circuit boards that have built-in self-testing technology Fiber-optic cable links major cities</p> <p>1980s California wind farms Japanese popularize "just in time" delivery of auto parts ROVs developed for subsea oil work Controlled drug delivery technology developed Rare earth metals Bardenpho process "just in time" delivery introduced in auto manufacturing</p> <p>1980s and 1990s Introduction of the open-graded friction course</p>	1985	<p>Implantable cardioverter defibrillator (ICD) approved NSF links five supercomputer centers across the country Windows 1.0 is released Antilock braking system (ABS) available on American cars</p>
1981	<p>MRI (magnetic resonance imaging) scanner introduced IBM Personal Computer released NSF and DARPA establish ARPANET nodes Space Shuttle Columbia is launched First scanning tunneling microscope</p>	1986	<p>Fort McHenry Tunnel in Baltimore opens Internat Engineering Task Force expands Space Shuttle Challenger destroyed during launch Chernobyl Senator Gore proposes new legislation for using fiber-optic technology Voyager circumnavigates the globe (26,000 miles) nonstop in 9 days</p> <p>1986-1990s Synthetic skin</p>
1982	<p>ARPANET hosts convert to new TCP/IP protocols First permanent artificial heart implant</p>	1987	<p>Deep-brain electrical stimulation system Minimum energy efficiency requirements set The Montreal Protocol High-speed national research network Echo-planar imaging (EPI) UUNET and PSINET are formed First laser surgery on a human cornea "Doped" fiber amplifiers Sunshine Skyway Bridge completed Internet of administratively independent connected TCP/IP networks emerges</p>
1983	<p>Internet Activities Advisory Board The Internet Solar Electric Generating Stations UNIX scientific workstation introduced</p>	1988	<p>Sony "Watchman" NSFNET contract awarded First transatlantic fiber-optic cable</p>
1984	<p>Macintosh is introduced Advent of Domain Name Service CD-ROM introduced</p>	1989	<p>Interconnection of commercial and federal networks</p>

1990	<p>Human Genome Project Hubble Space Telescope FCC sets a testing schedule for proposed all-digital HDTV system</p> <p>1990s U.S. Naval Nuclear Propulsion Program U.S. bulk power system evolves into three major grids B-2 bomber developed Big Dig begins Environmentally friendly washers and dryers New tools and techniques to reduce the costs and risks of drilling Voice Over Internet Protocols</p> <p>1990s to Present Nanotechnology</p>	1995	<p>First aircraft produced through computer-aided design and engineering</p>
1991	<p>World Wide Web World Wide Web software developed Optical Amplifiers</p>	1996	<p>All-optic fiber cable that uses optical amplifiers is laid across the Pacific Ocean TPC-5 loops across the Pacific Ocean UV Waterworks</p> <p>1996-1998 Joint research program to develop second-generation supersonic airliner</p>
1992	<p>Personal digital assistant Internet Society is formed Minimum energy efficiency standards set for commercial buildings Operational 7.5- kilowatt solar dish prototype system developed Energy Policy Act of 1992 encourages alternative-fuel vehicles Energy Policy Act</p>	1997	<p>First American carmaker offers automatic stability control Fiber Optic Link Around the Globe First prototype of a robotic vacuum cleaner IBM develops a copper-based chip technology</p>
1993	<p>Network Solutions manages domain names Distribution of a browser accelerates adoption of the web Interstate system praised</p>	1998	<p>Coordination of Internet domain names transitions from federal to private sector Plastic transistors developed International Space Station</p>
1994	<p>Farmers begin using Global Positioning System (GPS) receivers</p>	1999	<p>Palm VII connected organizer</p>

2000	<p>Expedition One of the International Space Station</p> <p>100 million cellular telephone subscribers The number of cellular telephone subscribers in the United States grows to 100 million, from 25,000 in 1984. Similar growth occurs in other countries as well,</p>	2006	
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	<p>and as phones shrink to the size of a deck of cards, an increasingly mobile society uses them not only for calling but also to access the Internet, organize schedules, take photographs, and record moving images.</p> <p>Semiconductor switches enable long-range DC transmission</p> <p>World record reliability benchmarks</p>		
2001		2007	
2002		2008	
2003		2009	
2004			
2005			

2010		2016	
2011		2017	
2012		2018	
2013		2019	
2014		2020	
2015		2021	