

WOMEN INVENTORS

From the dawn of computer programming to stem cell research, inspiring women have been behind some of the most groundbreaking inventions. While their share of total patentees remains low, the status quo is shifting in many high-tech industries such as biotechnology and chemistry. This infographic charts some of the most pioneering female inventors over recent history, and which sectors and countries are leading the charge in representation

1947

Mária Telkes
Biophysicist

THERMOELECTRIC POWER GENERATOR

Known as the "Sun Queen", she was considered one of the founders of solar thermal storage systems; she is also credited with the invention of a solar water-distillation system for making seawater potable



1942

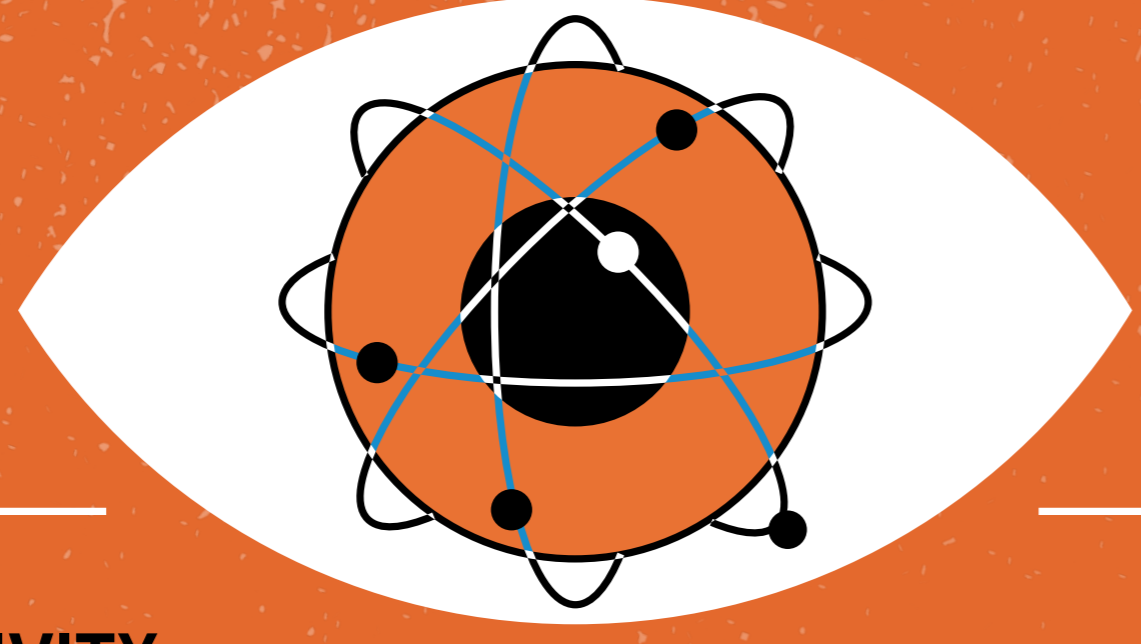
Hedy Lamarr
Actress

SPREAD SPECTRUM RADIO TRANSMISSION

Spread spectrum telecommunications are used to transmit a signal on a much broader bandwidth than the original; Ms Lamarr co-developed the jamming-resistant radio guidance system to help Allied to aid Allied torpedo systems in the Second World War. Her work also contributed to the development of GPS, Bluetooth and wifi

1900

Marie Curie
Physicist and chemist



THEORY OF RADIOACTIVITY

Developed the theory of radioactivity and discovered polonium and radium; her research was crucial in the development of X-rays. First woman to be awarded a Nobel prize; only woman to win one twice; only person to win one in two different sciences

1903

Mary Anderson
Property developer, rancher

WINDSCREEN WIPER

Came up with the idea after seeing someone reaching through their side window to clear snow from the windscreen by hand. She never profited from her design due to a lack of commercial interest; however, they became commonplace after the patent expired in 1920

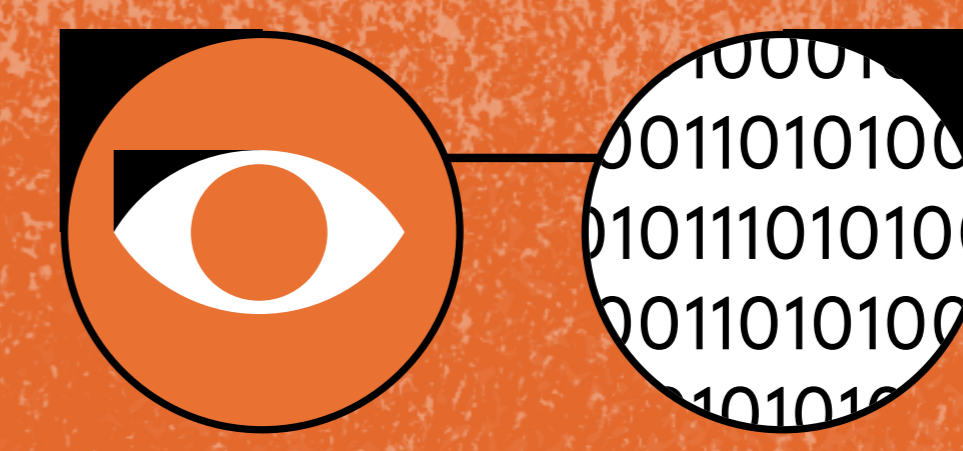


1935

Katharine Blodgett
Physicist and chemist

NON-REFLECTIVE GLASS

Invented low-reflectance "invisible" glass, used widely in cameras and movie projects, car windscreens and computer screens



1952

Grace Hopper
Computer programmer

COMPILER

Credited with the invention of the compiler, a system that was able to translate instructions into machine code, enabling quicker programming; she coined the terms "bug" and "debugging" after removing moths from the device



1978

Barbara Askins
Chemist

PHOTO-ENHANCEMENT

Developed methods of enhancing underexposed photographic negatives, used in particular for examining Nasa's deep-space images and developing underexposed X-rays, enabling patients to receive lower levels of radiation



1957

Mary Sherman Morgan
Rocket scientist

HYDYNE

Invented the liquid fuel that powered the Jupiter-C rocket to boost Explorer 1, the US's first satellite

1988

Patricia Bath
Ophthalmologist

LASERPHACO PROBE

As a co-founder of the American Institute for the Prevention of Blindness. She patented a laser-technology device for the less painful, more precise treatment of cataracts; she was also the first African-American female doctor to receive a medical patent

1991

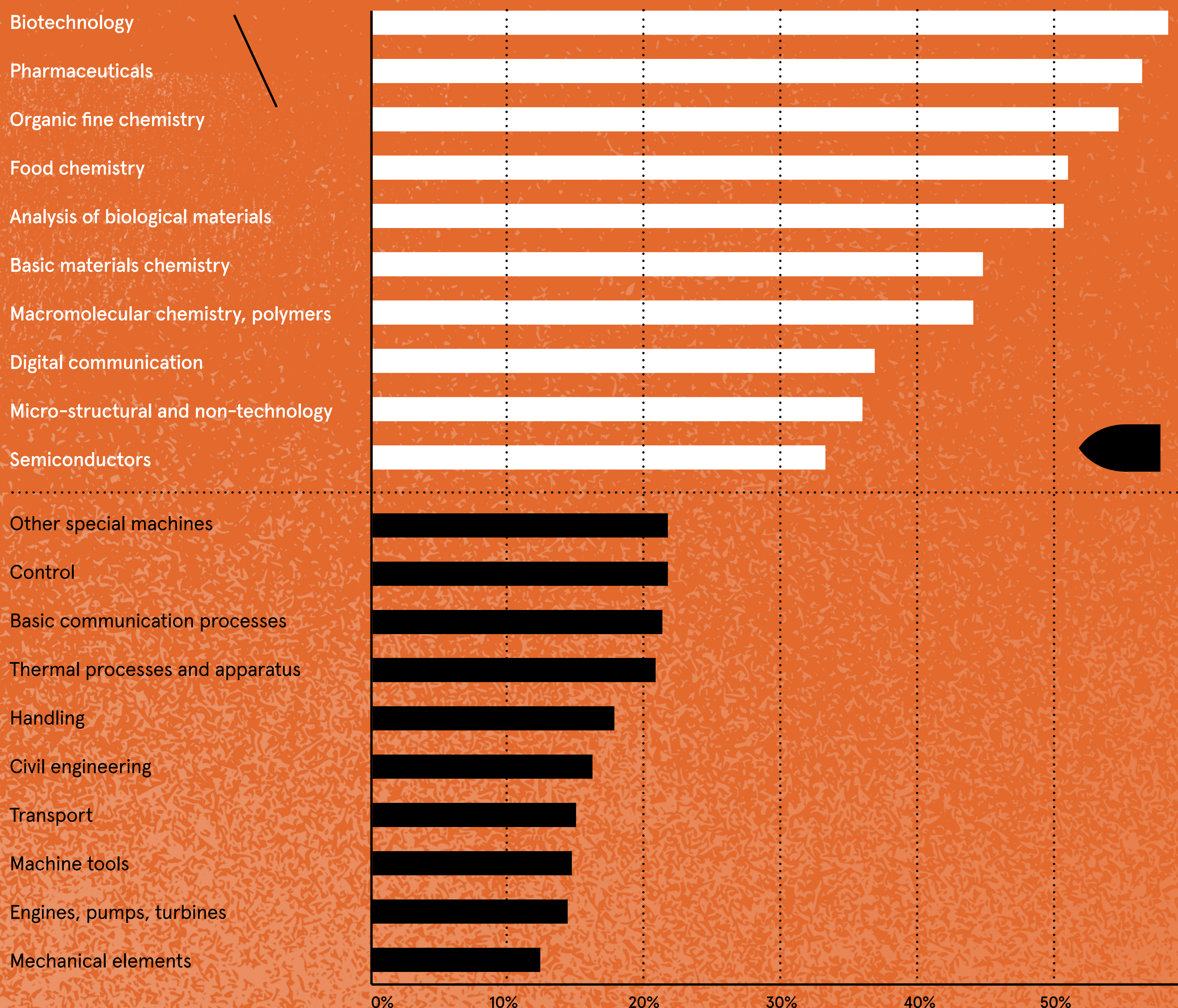
Ann Tsukamoto
Cellular biologist

STEM CELL ISOLATION

Co-patentee of a process to isolate the human stem cell, which has proved vital to cancer research and understanding the blood systems of cancer patients, she is co-patentee on more than seven other inventions

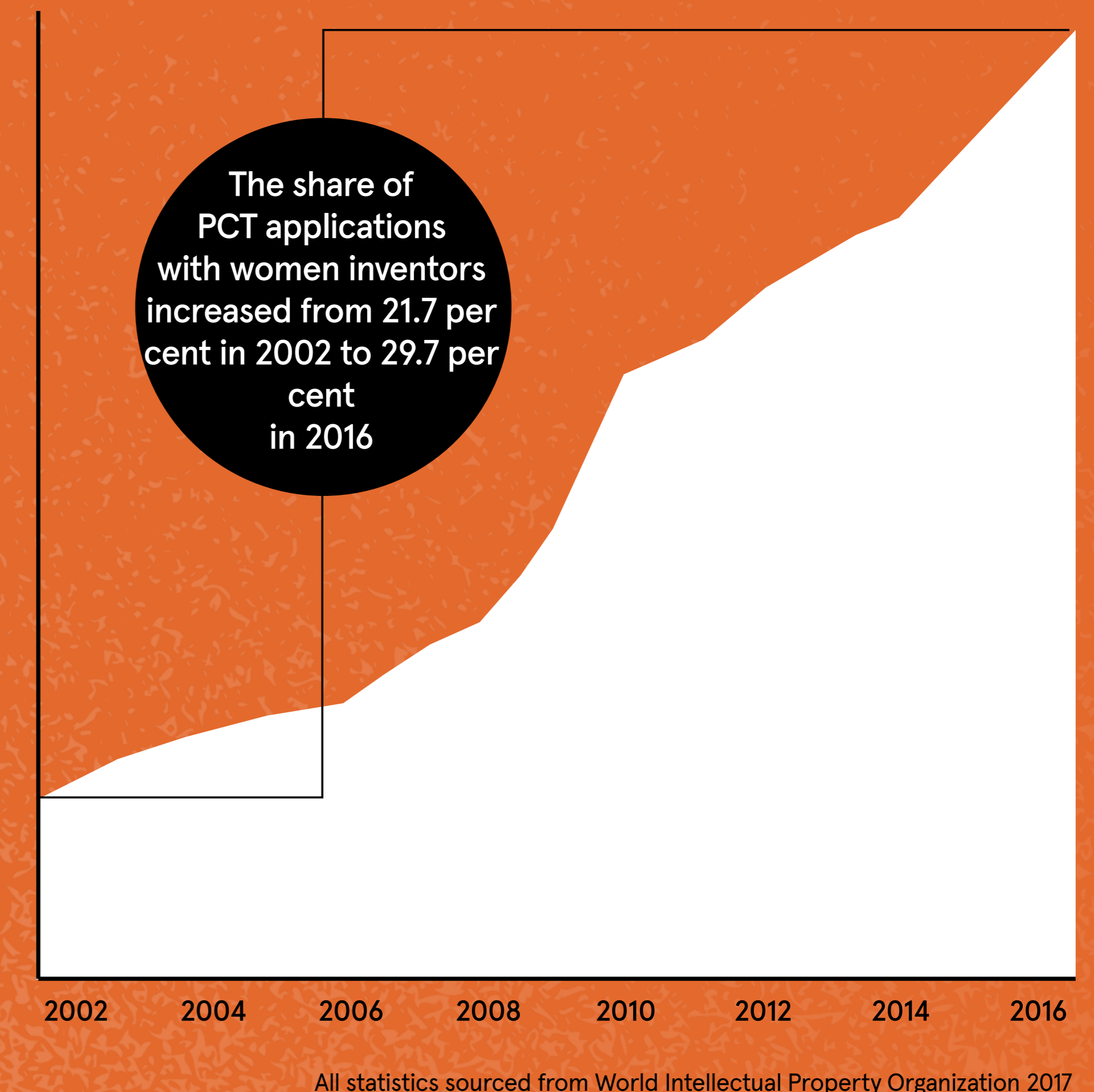
BEST/WORST SECTORS FOR FEMALE PATENT APPLICATIONS

Share of Patent Co-operation Treaty (PCT) applications with women inventors, by field of technology



PATENT APPLICATIONS BY GENDER

Share of PCT applications with women inventors



3 in 10 200%

PCT applications have women inventors

increase in the number of PCT applications with women investors between 2002 and 2016